MINES STATEMENT.

CONTENTS.

APPENDICES TO THE MINES STATEMENT—*continued.*

1925.

NEW ZEALAND.

MINES STATEMENT

BY THE HON. G. J. ANDERSON, MINISTER OF MINES.

MR. SPEAKER,—

I have the honour to present to Parliament my fifth annual statement on the mining industry of the Dominion for the year ended the 31st December, 1924.

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 1924 and 1923 :—

Mineral.	1924.		1923.	
	Quantity.	Value.	Quantity.	Value.
		£		£
Gold and silver*	652,855 oz.	607,253	692,090 oz.	737,170
Tungsten-ore	3 tons	126	$5\frac{9}{20}$ tons	218
Iron	630 „	4,725	..	..
Stone	..	373,827	..	370,995
Pumice	1,629 „	4,956	3,716 tons	10,029
Coal	2,083,207 „	2,083,207	1,969,834 „	1,969,834
Totals	..	£3,074,094	..	£3,088,246

* 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 £3,237,331, as compared with £3,423,927 during 1923. The total value of such minerals exported to the end of 1924 amounted to £156,505,515.

GOLD AND SILVER MINING.

The following statement shows the quantity and value of bullion-production, the dividends paid by registered companies, and the number of productive claims and gold-dredges during 1924 and 1923 :—

Class of Gold-mining.	Production of Bullion.				Dividends paid by Registered Companies.		Number of Productive Claims and Dredges.	
	1924.		1923.		1924.	1923.	1924.	1923.
	Oz.	£	Oz.	£	£	£		
Quartz	625,162	490,850	661,468	609,993	50,790	24,795	23	22
Alluvial ..	14,357	57,863	14,834	59,174	6,180	2,266	273	130
Dredging ..	13,336	58,540	15,788	68,003	6,566	3,283	5	8
Totals ..	652,855	607,253	692,090	737,170	63,536	30,344	301	160

The quantity of gold bullion produced during the year was 39,235 oz. less than in the previous year, and the value less by £129,917. This reduction was principally due to the diminished returns from quartz-mining in Waihi Borough and Tauranga County, though decreases were also shown in the gold got from dredging and from alluvial mining.

KAWARAU FALLS DAM.

During the year the Kawarau Gold-mining Company (Limited) made a commencement with the damming of Lake Wakatipu. That work is to be effected by means of ten stony sluice-gates, each having an effective waterway 40 ft. in width by 7 ft. 6 in. in height, and each being supported at its end by massive concrete pillars, of which there are eleven, including the abutments. The object of this work is to keep back the water in Lake Wakatipu during certain months of the year, and thus enable mining operations to be carried out as far as possible in the Kawarau River. It must not be overlooked that the erection of the gates referred to will not lay bare the bed of the Kawarau River, as there are other streams and rivers from which water flows into the Kawarau River. The company has, it is understood, arranged to sublease, under tribute agreements, portions of the mining rights held by it in the Kawarau River. Substantial sums of money have been raised by the subsidiary companies for the purpose of carrying on mining operations in the river. It is, in my opinion, a matter for serious consideration by all those concerned to meet one another, before the gates are closed, for the purpose of devising and carrying out systematic mining operations, so that the most beneficial results may be obtained. I am sorry to say that misleading statements have been made in some of the prospectuses which have been issued by the promoters of several subsidiary companies in Australia. It was stated that the Kawarau Gold-mining Company (Limited) had obtained a license from the New Zealand Mines Department, issued by the Warden at Queenstown and sanctioned by the Minister of Mines, to dam Lake Wakatipu, which statement is not correct. The dam license was issued at the discretion of the Warden under the statutory powers conferred upon him, and the license did not require my consent or sanction as stated in the prospectus. It was also stated that the company's undertaking had for its purpose the shutting-off of Lake Wakatipu from the Kawarau River to lay bare the bed of the river. This statement is greatly exaggerated, as the damming of Lake Wakatipu could not by any stretch of imagination lay bare the bed of the river, for the reasons already mentioned above.

It was also stated in prominent lettering that the scheme had been hall-marked by the New Zealand Government, which statement is also contrary to fact. The New Zealand Government has not in any way guaranteed the success of the scheme, and, although it wishes those who are finding the money every success, and would be glad to see their efforts amply rewarded, it cannot in any way take any responsibility therefor.

MINERALS OTHER THAN GOLD AND SILVER.

The market price for scheelite was too low to permit the scheelite-mines to be operated during the year.

The blast furnace at Onakaka was in operation for about a month, and 630 tons of pig iron were produced. Work was stopped pending the construction of a better means of transport between the wharf and the blast furnace.

The search for petroleum in the Taranaki District is again being prosecuted. A well is being drilled at Tarata, and another at Moturoa, and expert oil geologists are searching for a favourable structure or structures in the vicinity of those localities. Similar field-work is being carried out in the Gisborne - East Cape district.

COAL-MINING.

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

Class of Coal.	Output of Coal during 1924.				Total Output to the End of 1924.
	Northern District (North Island).	West Coast District (South Island).	Southern District (South Island).	Total.	
	Tons.	Tons.	Tons.	Tons.	Tons.
Bituminous and sub-bituminous	129,927	955,077	...	1,085,004	36,938,671
Brown	507,598	35,173	296,246	839,017	18,990,027
Lignite	...	362	158,824	159,186	3,675,650
Totals for 1924 ...	637,525	990,612	455,070	2,083,207	59,604,348
Totals for 1923 ...	633,865	849,029	486,940	1,969,834	57,521,141

There were 2,083,207 tons of coal produced during 1924, as against 1,969,834 tons during the previous year, an increase of 113,373 tons. This increase was wholly of high-class bituminous coals, of which the output was 149,307 tons greater than in 1923. There were small decreases, 21,343 tons and 14,591 tons, in the outputs of brown and lignite coals. During the year the coal-mines in the Dominion have been free from any serious industrial trouble, and ample supplies of coal have been available for all the requirements of the country. Many of the mines are finding difficulty in marketing their outputs ; on this account, and as 674,483 tons of coal were imported from abroad, mostly from Australia, a Board has been appointed to investigate and report as to how far imported coals can be replaced by New Zealand coals on the Government railways.

My attention has from time to time been called by my staff to serious losses of coal as the result of the bad methods which were followed years ago when the mines were being opened out. The number of fires which have occurred in coal-mines has been rather alarming, and steps were taken last year to obtain parliamentary authority to require the owners of coal-mines to take suitable steps in future so as to more effectively control fires which may arise from time to time. There is still, however, a necessity for strengthening the existing law so as to enable more effective means to be taken to ensure that coal-mines shall be worked by such methods as to enable a very much larger quantity of coal to be extracted in future than has been the case in some of the mines in the past. Suitable provisions will be drafted, and I hope to be able to introduce same during this session of Parliament, in order that they may be considered during the recess and passed into law next session.

INVESTIGATIONS, NEW ZEALAND COALS.

With a view to the utilization of much of the slack from our collieries, for which at present there is no profitable market, an experimental briquetting-press was purchased from Yeadon and Son, Leeds, and installed at the Dominion Laboratory early in 1924. A series of preliminary tests showed that New Zealand brown coals cannot be briquetted without a binder, but that the lignites and possibly some of the bituminous coals can be so briquetted. A large amount of work has been carried out on the brown coals to determine the most suitable binder

or combination of binders, and the best conditions of working—pressure, temperature, &c. Very promising results have been obtained, but it will be necessary to continue the investigations for some time longer until the best conditions for manufacture have been determined. When that stage is reached it is intended to commence systematic tests on the briquetting of bituminous coals and finally on lignites. In order to expedite the work Mr. W. H. A. Penseler, B.Sc., B.E., was appointed in December last to carry out the investigation under the direction of the Dominion Analyst.

At the present time the most satisfactory means for preventing explosions in coal-mines is the use of stone-dust for underground roadways. In order to acquire reliable information as to the relative inflammability of New Zealand coals and the amount of stone-dusting required to render the mines safe from the dangers of coal-dust explosions, arrangements were made with the British Mines Department in 1923 to carry out a series of tests on representative New Zealand coals at the Eskmeals Experimental Station. Seven samples of 10 tons each were sent, and were tested during last year. The report is now to hand, and with other data which is being obtained will be considered with a view, if necessary, to amending the present law in order to provide greater security against coal-dust explosions.

PERSONS EMPLOYED IN OR ABOUT MINES AND STONE-QUARRIES.

The following table shows the number of persons employed in each inspection district during 1924 and 1923 :—

Classification.	Inspection District.			Totals.		
	Northern (North Island).	West Coast (of South Island).	Southern (rest of South Island).	1924.	1923.	Increase or Decrease.
Gold, silver, and tungsten ore	963	535	332	1,830	2,027	Dec. 197
Ironstone and cinnabar ..	4	24	..	28	7	Inc. 21
Coal	1,347	2,480	1,042	4,869	5,000	Dec. 131
Stone-quarries under the Stone-quarries Act	1,179	234	335	1,748	1,644	Inc. 104
Totals	3,493	3,273	1,709	8,475	8,678	Dec. 203

MINING AND QUARRY ACCIDENTS.

In metalliferous mines, at which 1,858 men were ordinarily employed, there were three fatal accidents, and three persons were seriously injured.

At stone-quarries under the Stone-quarries Act, employing 1,748 men, there were four persons killed, and four persons met with serious injuries.

There were 4,869 persons ordinarily employed about the coal-mines, and there were ten persons killed and twenty-five persons seriously injured. The most marked features of the fatalities for the year were that 70 per cent. were haulage accidents, this cause usually accounting for only 25 per cent. of the fatal accidents during any one year, and, secondly, that five of the fatal accidents were to men over sixty-five years of age. All the fatalities for the year were purely accidental, and unavoidable in the sense that they were due to causes which could not be forseen or provided against by law or otherwise. Of the twenty-five serious but non-fatal accidents a large proportion, as formerly, were eye accidents to miners at the coal-face. It is expected that as a result of the rapidly increasing use of eye-shields by the miners in the Northern District that this class of accident will be considerably reduced in future.

GEOLOGICAL SURVEY.

During the field season ended 31st May last the geological survey of the Rodney district was completed, and a detailed report on this and on the adjoining Dargaville district is now in course of preparation. The survey of the Motueka district has been carried on under considerable difficulties, due mainly to the mountainous nature of much of the country and to the lack of suitable labour. It will not be

finished until next season. The survey of the Kaitangata district was extended westward to include most of the northern part of Clutha County, and north-eastward toward the Green Island coalfield. This survey also at the end of the field season was unfinished.

The old fossil collections of the geological survey and those made during later years are being examined as rapidly as circumstances permit. In addition to the work done by the Palæontologist, help is being given by outside scientists, both in New Zealand and abroad.

During the year a detailed geological report (Bulletin No. 27) on the Whangarei - Bay of Islands Subdivision and palæontological reports on Cretaceous and Tertiary foraminifera and on Triassic fossils were sent to the printer. Detailed reports (with map) on the Egmont Subdivision, the Tongaporutu-Ohura Subdivision, and the Waiapu Subdivision are nearly ready for publication. Since each of these reports deals with possible petroliferous areas it is hoped that the important information contained in them will soon be available to the public, and more especially to those who are now endeavouring to develop the petroleum resources of this country.

The only official publication of the Geological Survey issued during the year was its annual report, but several papers by officers of the survey have been published in the "Transactions of the New Zealand Institute" and elsewhere.

STATE AID TO MINING.

As in previous years, considerable use was made of the Government prospecting-drills. They were hired by nine parties, and a total of 5,948 ft. was drilled.

For the year a total of £15,411 11s. 11d. was expended in subsidies for prospecting, and 105 persons were employed in connection therewith.

£4,126 was expended by way of direct grants and subsidies for roads and tracks.

The expenditure on schools of mines amounted to £3,501 11s. 3d., against £3,172 10s. 4d. during the previous year.

The cash received for water sold from the Waimea-Kumara and Mount Ida Government water-races, constructed to assist alluvial gold-mining in the Kumara and Naseby districts, amounted to £1,434 19s. 9d. (including royalty on timber), and the expenditure to £1,635 14s. 1d. Gold to the approximate value of £3,544 was obtained. The control of the Mount Ida water-races was transferred to the Public Works Department on the 1st September.

MINER'S PHTHISIS ACT, 1915.

The benefits under this Act are administered by the Pensions Department, and the following is a statement supplied by the Commissioner of Pensions showing the amount payable and the number of pensions in force and granted to the 31st March, 1925:—

	£
Amounts paid since inception until 31st March, 1925—	
From 1st November, 1915, to 31st March, 1924 ..	180,493
For year ended 31st March, 1925	38,506
	£218,999
Number of new grants for year 1924–25	111
Annual value of new grants	£7,800
Number of pensions in force at 31st March, 1925 ..	607
Annual value of pensions in force at 31st March, 1925 ..	£37,934
Average pension payable per annum	£62½
Total number of pensions granted to 31st March, 1925..	1,163
Total number of pensions granted to 31st March, 1925, includes the following:—	
To unmarried miners	219
To married miners	441
To widows of miners	503
	1,163

STATE COLLIERIES.

Working Portions of State Collieries on the Co-operative Principle.

As honourable members are no doubt fully aware, an effort was made during the past twelve months to work three portions of the State collieries under co-operative agreements. Two of the sections so worked were isolated from other portions of the State collieries, but the third and remaining section formed a part of the James Colliery. One of the sections was worked under the co-operative system for a period of about six months and the other sections for shorter periods. The results obtained demonstrated clearly that the men obtained material benefits when compared with what they would have gained under the old system, and that such benefits were obtained by the good spirit and fine team-work that prevailed in carrying out mining operations. It was also manifest that under the co-operative principle the relationship established between the men and the Department's officials was of a most cordial nature. One and all concerned did their best to make the new system a success; but, unfortunately, those members of the Miners' Union who were not working on a co-operative system went out on strike as a protest against portions of the mines being worked under such a system, and by pressure from them the members of the co-operative parties were compelled to cancel their contracts with the Department, thus bringing to a termination for the time being an honest and earnest endeavour to better the conditions of the miners employed at the State collieries.

Output and Sales.

The operations of the State coal-mines and State coal-depots for the year ended 31st March, 1924, are briefly reviewed hereunder.

Liverpool Colliery.—The gross output for the year was 116,175 tons, as compared with 134,320 tons for last year, a decrease of 18,145 tons.

James Colliery.—The gross output for the year was 28,995 tons, as compared with 25,797 tons for last year, an increase of 3,198 tons.

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

Mine.	Output in Tons, 1924–25.		Output in Tons, 1923–24.	
	Gross.	Net.	Gross.	Net.
Liverpool	116,175	111,487	134,320	129,663
James	28,995	26,445	25,797	24,036

Note.—The difference between the gross and the net output is the allowance for mine consumption and waste. In addition to the above 1,291 tons of coal were purchased for resale, of which 195 tons were purchased from co-operative parties on the West Coast.

The disposal, inclusive of stock on hand at the beginning of the year, was as follows: Supplied to—Depots, 36,507 tons; railways, 5,760 tons; other Government Departments, 8,092 tons; shipping, 21,924 tons; gasworks, 63,324 tons; other consumers, 4,317 tons: total, 139,924 tons.

The total sales of State coal from the Liverpool Mine for the year amounted to 112,197 tons, value £168,600, as compared with 129,329 tons, value £204,176, for last year—a decrease of 17,132 tons, with a decrease in value of £35,576.

The average price realized by the mine on the total sales for the year was £1 10s. 0·65d., a decrease of 1s. 6·24d. on last year's average. This decrease is due to sales to Christchurch depot being changed from a c.i.f. Lyttelton basis to f.o.r. Rewanui consequent upon the opening of the Otira Tunnel.

The total sales of State coal from the James Mine for the year amounted to 27,727 tons, value £41,219, giving an average of £1 9s. 8·78d. per ton, a decrease of 2s. 8·59d. on last year's average.

The sales of coal, &c., through the medium of the depots totalled 104,486 tons, value £210,619, as against 119,387 tons, value £246,976 for last year.

The losses at the mines were £3,390, and the profit at the depots, &c., £4,211, making a net profit of £821. £4,552 was applied to the Sinking Fund Account out of the General Reserve. There was keen competition in the sale of coal during the year, owing mainly to large importations of coal by private enterprise from Australia.

Losses on coal sold to miners, concessions in the form of special railway facilities, and of allowances for railway fares to miners and workmen amounted to £5,458, and this sum was allowed for in arriving at the net profit for the year.

Tree-planting—State Coal Areas.

As advised in my last Statement, the question of obtaining supplies of suitable timber for use at the State collieries is a most important one, and in order that requirements may be assured in future an area of about 84 acres has been planted at Waikokowai. An area of about 45 acres has also been planted on the State Colliery Reserve at Dunollie, and arrangements have also been made for the planting, this year, of an additional 50 acres adjoining that already planted.

In addition, arrangements have also been made to plant up the blanks in the areas at Waikokowai planted in 1923 and 1924.

The trees planted at Waikokowai consisted mainly of *Pinus radiata* and *Eucalyptus*. Five different varieties of trees were, however, planted at Dunollie —viz., Oregon pine, *Eucalyptus viminalis*, *E. Macarthuri*, *E. eugenioides*, *E. Gunnii*.

Unfortunately, during the recent summer the trees on an area of approximately 3½ acres in the Dunollie Plantation were destroyed by fire, but how it originated was never ascertained.

Items from Balance-sheet.

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

	£
The amount written off for depreciation for the year was	38,390
The payments for interest totalled	9,252
The payments for sea carriage of coal amounted to	59,727
The cost of railway haulage amounted to	28,497
The total wages paid for coal-winning were	79,684
The amount paid for management and office salaries (Head Office and mines) totalled	3,908
The gross capital expenditure on the whole undertaking to the 31st March last was	578,411
The total depreciation written off to date (equal to 58 per cent. on the gross capital expenditure) amounts to	335,824
The debenture and loan capital stands at	227,601
The net profits of the State Coal-mines Account from inception to the 31st March, 1925	106,017
The net profit for the year ended 31st March, 1925, was	821
The sinking fund is in credit	41,669
General reserve stands at	67,360
The amount at credit of Profit and Loss is	821
The cash in hand and in the Public Account at the 31st March last was (last year £17,389)	12,888
The present net book value of permanent or fixed assets is	242,587

Tables and Reports.

The usual statistical tables and departmental reports are appended.

TABLES TO ACCOMPANY MINES STATEMENT.

No. 1.

TABLE SHOWING THE QUANTITY AND VALUE OF GOLD AND OTHER MINERALS EXPORTED DURING THE YEARS ENDED THE 31ST DECEMBER, 1923 AND 1924, 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, 1924.		For Year ended the 31st December, 1923.		Total from the 1st January, 1853, to the 31st December, 1924.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Precious metals—	Oz.	£	Oz.	£	Oz.	£
Gold*	133,631	551,788	169,512	698,583	23,176,091	91,414,828
Silver	578,217	71,981	514,655	62,851	24,632,908	2,904,651
Total gold and silver ..	711,848	623,769	684,167	761,434	47,808,999	94,319,479
Mineral produce, including kauri-gum—	Tons.	£	Tons.	£	Tons.	£
Copper-ore	..	..	..	..	1,504	19,390
Chrome-ore	..	..	..	..	5,869	38,002
Antimony-ore	..	..	..	..	3,781	55,045
Manganese-ore	6	36	8	43	19,380	61,994
Hæmatite ore	..	..	..	..	77	469
Tungsten-ore	14 19/20	1,156	13	875	2,340 3/20	301,870
Quicksilver	..	..	..	..	16 1/20	8,336
Sulphur (crude)	..	..	..	..	4,927	13,241
Mixed minerals†	1,971 1/20	12,692	4,018 6/20	16,622	72,306 1/20	306,807
Coal (New Zealand) exported	88,981	161,432	95,636	173,833	5,469,660	5,685,099
Coke exported	182	444	298	700	17,304	26,852
Coal, output of mines in Dominion (less exports)	1,994,226	1,994,226	1,874,198	1,874,198	54,134,688	34,553,610
Oil-shale	..	..	..	..	14,444	7,236
Kauri-gum	5,261	443,576	6,598	596,222	389,052	21,108,085
Total quantity and value of minerals	2,090,642 17/20	2,613,562	1,980,769 6/20	2,662,493	60,135,349 8/20	62,186,036
Value of gold and silver, as above	..	623,769	..	761,434	..	94,319,479
Total value of minerals, including gold and silver	..	3,237,331	..	3,423,927	..	156,505,515

* In respect of gold, ounces of the fineness of 20 carats and upwards. † Including pumicestone and pumice-sand, 1,629 tons; also marble of weight unspecified by the Customs Department.

No. 2.

TABLE SHOWING THE QUANTITY AND VALUE OF GOLD EXPORTED FROM NEW ZEALAND FOR THE YEARS ENDED THE 31ST DECEMBER, 1924 AND 1923, AND THE TOTAL QUANTITY AND VALUE FROM 1857 TO THE 31ST DECEMBER, 1924.

District and County or Borough.	Year ended 31st December, 1924.		Year ended 31st December, 1923.		Total Quantity and Value from January, 1857, to 31st December, 1924.	
	Quantity.	Value.	Quantity.	Value.		
AUCKLAND—	Oz.	£	Oz.	£	Oz.	£
County of Tauranga	4,593	19,330	16,219	67,953		
County of Coromandel	29	112	..	..		
County of Thames	..	..	..	..		
County of Ohinemuri	256	952	..	..		
County of Piako	..	..	..	..		
Borough of Thames	405	1,577	..	..		
Great Barrier Island	..	..	..	..		
Borough of Waihi	77,474	325,961	93,986	394,550		
	82,757	347,932	110,205	462,503	7,164,017	27,772,725
WELLINGTON	..	..	..	..	188	706
MARLBOROUGH—						
Borough of Blenheim	23	92	..	..		
County of Marlborough	4	18	32	127		
	27	110	32	127	105,479	410,754
NELSON—						
County of Waimea	..	..	..	..		
County of Collingwood	77	299	225	846		
County of Takaka	..	..	9	29		
County of Murchison	71	277	366	1,514		
	148	576	600	2,389	1,741,101	6,903,363
WEST COAST—						
County of Buller	366	1,452	..	..		
County of Inangahua	25,556	101,429	27,427	107,171		
County of Grey	819	3,288	647	2,603		
County of Westland	9,614	39,013	15,019	60,827		
Hokitika Borough	2,312	9,417	1,764	7,124		
Westport Borough	..	..	36	130		
Kumara Borough	..	..	484	1,939		
	38,667	154,599	45,377	179,794	6,408,916	25,438,359
CANTERBURY—						
County of Selwyn	13	50	2	9	135	532
OTAGO—						
County of Taieri	..	..	..	..		
County of Tuapeka	2,553	10,169	3,926	15,766		
County of Vincent	1,873	7,630	2,791	11,341		
County of Maniototo	1,803	7,178	1,362	5,511		
County of Waihemo	333	1,211	386	1,535		
County of Waitaki	29	118	183	730		
County of Bruce	..	..	1	4		
County of Lake	707	2,862	458	1,836		
County of Wallace	1,156	4,813	1,133	4,678		
County of Fiord	..	..	..	..		
County of Southland	2,997	12,169	2,728	11,039		
County of Clutha	..	..	..	..		
	11,451	46,150	12,968	52,440	7,748,510	30,856,822
Unknown	568	2,371	328	1,321	7,745	31,567
Totals	133,631	551,788	169,512	698,583	23,176,091	91,414,828

No. 3.

TABLE SHOWING THE OUTPUT OF COAL FROM THE VARIOUS COALFIELDS, AND THE COMPARATIVE INCREASE AND DECREASE, FOR THE YEARS 1924 AND 1923, TOGETHER WITH THE TOTAL APPROXIMATE QUANTITY OF COAL PRODUCED SINCE THE MINES WERE OPENED.

Name of Coalfield.	Output.		Increase.	Decrease.	Approximate Total Output up to 31st December, 1924.
	1924.	1923.			
	Tons.	Tons.	Tons.	Tons.	Tons.
North Auckland	129,927	126,118	3,809	..	4,386,439
Waikato (including Mokau)	507,598	507,747	..	149	8,008,369
Nelson	10,843	8,997	1,846	..	407,705
Buller	597,749	508,959	88,790	..	18,791,869
Inangahua	34,659	38,107	..	3,448	497,660
Grey	347,361	292,966	54,395	..	11,329,174
Canterbury	15,164	20,716	..	5,552	909,502
Otago	229,145	252,187	..	23,042	11,038,669
Southland	210,761	214,037	..	3,276	4,234,961
Totals	2,083,207*	1,969,834	..	..	59,604,348

* Increase, 113,373 tons.

No. 4.

TABLE SHOWING THE OUTPUT OF DIFFERENT CLASSES OF COAL.

Class of Coal.	Output. 1924.	Output. 1923.	Increase.	Decrease.	Approximate Total Output to the 31st December, 1924.
	Tons.	Tons.	Tons.	Tons.	Tons.
Bituminous and semi-bituminous	1,085,004	935,697	149,307	..	36,938,671
Brown	839,017	860,360	..	21,343	18,990,027
Lignite	159,186	173,777	..	14,591	3,675,650
Totals	2,083,207*	1,969,834	..	..	59,604,348

* Increase, 113,373 tons.

No. 5.

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

Year.	Coal and Shale raised in the Dominion.		Coal imported.		
	Tons.	Yearly Increase or Decrease.	Tons.	Increase over Preceding Year.	Decrease below Preceding Year.
Prior to 1878	709,931	..	..	..	..
1878	162,218	..	174,148	..	..
1879	231,218	*Inc.* 69,000	158,076	..	16,072
1880	299,923	„ 68,705	123,298	..	34,778
1881	337,262	„ 37,339	129,962	6,664	..
1882	378,272	„ 41,010	129,582	..	380
1883	421,764	„ 43,492	123,540	..	6,042
1884	480,831	„ 59,069	148,444	24,904	..
1885	511,063	„ 30,232	130,202	..	18,242
1886	534,353	„ 23,290	119,873	..	10,329
1887	558,620	„ 24,267	107,230	..	12,643
1888	613,895	„ 55,275	101,341	..	5,889
1889	586,445	*Dec.* 27,450	128,063	26,722	..
1890	637,397	*Inc.* 50,952	110,939	..	17,124
1891	668,794	„ 31,397	125,318	14,379	..
1892	673,315	„ 4,521	125,453	135	..
1893	691,548	„ 18,233	117,444	..	8,009
1894	719,546	„ 27,998	112,961	..	4,483
1895	726,654	„ 7,108	108,198	..	4,763
1896	792,851	„ 66,197	101,756	..	6,442
1897	840,713	„ 47,862	110,907	9,151	..
1898	907,033	„ 66,320	115,427	4,520	..
1899	975,234	„ 68,201	99,655	..	15,772
1900	1,093,990	„ 118,756	124,033	24,378	..
1901	1,239,686	„ 145,696	149,764	25,731	..
1902	1,365,040	„ 125,354	127,853	..	21,911
1903	1,420,229	„ 55,189	163,923	36,070	..
1904	1,537,838	„ 117,609	147,196	..	16,727
1905	1,585,756	„ 47,918	169,046	21,850	..
1906	1,729,536	„ 143,780	207,567	38,521	..
1907	1,831,009	„ 101,473	220,749	13,182	..
1908	1,860,975	„ 29,966	287,808	67,059	..
1909	1,911,247	„ 50,272	258,185	..	29,623
1910	2,197,362	„ 286,115	232,378	..	25,807
1911	2,066,073	*Dec.* 131,289	188,068	..	44,310
1912	2,177,615	*Inc.* 111,542	364,359	176,291	..
1913	1,888,005	*Dec.* 289,610	468,940	104,581	..
1914	2,275,614	*Inc.* 387,609	518,070	49,130	..
1915	2,208,624	*Dec.* 66,990	353,471	..	164,599
1916	2,257,135	*Inc.* 48,511	293,956	..	59,515
1917	2,068,419	*Dec.* 188,716	291,597	..	2,359
1918	2,034,250	„ 34,169	255,332	..	36,265
1919	1,847,848	„ 186,402	391,434	136,102	..
1920	1,843,705	„ 4,143	476,343	84,909	..
1921	1,809,095	„ 34,610	822,459	346,116	..
1922	1,857,819	*Inc.* 48,724	501,478	..	320,981
1923	1,969,834	„ 112,015	445,792	..	55,686
1924	2,083,207	„ 113,373	674,483	228,691	..

No. 6.

TABLE SHOWING THE TOTAL QUANTITY AND VALUE OF COAL IMPORTED INTO AND EXPORTED FROM NEW ZEALAND FROM AND TO EACH COUNTRY DURING THE CALENDAR YEAR 1924.

Imports.

Country whence imported.	Tons.	Value.
		£
United Kingdom	4,925	5,535
Australia	669,558	773,975
Totals	674,483	779,510

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

Exports: Bunkers.

Country to which exported.	Produce of New Zealand.		Produce of other Countries.	
	Tons.	Value.	Tons.	Value.
		£		£
United Kingdom	59,989	120,723	7,266	13,866
India	395	887	..	..
Australia	18,156	23,089	1,070	2,423
Fiji	475	831	..	..
Tonga	160	424	..	..
New Caledonia	1,124	2,248	..	..
Tuamotu Archipelago	847	995	..	..
Tutuila	811	1,014	..	..
Totals	81,957	150,211	8,336	16,229

Exports: Cargo.

Country to which exported.	Produce of New Zealand.		Produce of other Countries.	
	Tons.	Value.	Tons.	Value.
		£		£
United Kingdom	..	..	..	..
Australia	4,692	7,507	..	..
Fiji	82	102	..	..
Tonga	2	2	..	..
Western Samoa	13	33	..	..
Society Islands	1	3	..	..
Tutuila	2,234	3,574	..	..
Totals	7,024	11,221	..	..

No. 7.

NUMBER OF PERSONS ORDINARILY EMPLOYED AT OR ABOUT MINES OTHER THAN COAL-MINES DURING THE YEAR ENDED 31ST DECEMBER, 1924.

County or Borough.	Number of Persons ordinarily employed at				Total.	
	Gold-quartz Mines.	Gold Alluvial Mines.	Gold-dredges.	Mines other than Gold and Coal.	1924.	1923.
NORTHERN INSPECTION DISTRICT.						
County and Borough of Thames ..	52	..	..	..	52	41
County of Ohinemuri	64	..	..	..	64	73
,, Coromandel	33	..	..	..	33	36
Borough of Waihi	775	..	..	..	775	963
County of Tauranga	39	..	..	..	39	136
,, Whangarei	..	..	..	4	4	3
WEST COAST INSPECTION DISTRICT.						
County of Marlborough	18	9	..	..	27	5
,, Takaka	..	1	..	..	1	1
,, Collingwood	..	8	..	24	32	7
,, Murchison	..	41	..	..	41	20
,, Buller	2	13	..	..	15	10
,, Inangahua	287	12	..	..	299	267
,, Grey	..	21	2	..	23	14
,, Westland	..	62	59	..	121	133
SOUTHERN INSPECTION DISTRICT.						
County of Taieri	..	2	..	..	2	1
,, Tuapeka	..	65	..	..	65	68
,, Vincent	3	37	9	..	49	71
,, Maniototo	..	57	..	..	57	50
,, Waihemo	6	..	..	..	6	7
,, Waitaki	..	9	..	..	9	8
,, Lake	2	41	..	1	44	26
,, Wallace	2	35	..	..	37	30
,, Southland	..	54	8	..	62	64
,, Ashburton	..	1	..	..	1	..
Totals	1,283	468	78	29	1,858	2,034

Summary of Persons ordinarily employed in or about New Zealand Mines during 1924 and 1923.

—	1924.	1923.	Increase or Decrease.
Gold, silver, and tungsten mines	1,830	2,027	Dec. 197
Other metalliferous mines	28	7	Inc. 21
Coal-mines	4,869	5,000	Dec. 131
Totals	6,727	7,034	Dec. 307

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, 25th May, 1925.

I have the honour to present my report on metalliferous mines and stone-quarries, together with statistical information, for the year ended 31st December, 1924.

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, 1924, to the 31st March, 1925.

The reports, &c., are divided into the following sections :—

I. Minerals produced and exported.
II. Persons employed.
III. Accidents.
IV. Gold-mining.
  (1.) Quartz-mining.
  (2.) Dredge Mining.
  (3.) Alluvial Mining.
V. Minerals other than Gold.
VI. Stone-quarry Inspection and Statistics.
VII. State Aid to Mining.
  (1.) Subsidized Prospecting.
  (2.) Government Prospecting-drills.
  (3.) Subsidized Roads on Goldfields.
  (4.) Government Water-races.
  (5.) Schools of Mines.

Annexures :—

(A.) Summary of Reports by Inspectors of Mines.
(B.) Summary of Report by Water-race Manager.
(C.) Summary of Report by Inspector of Quarries.
(D.) Mining Statistics.

I. MINERALS PRODUCED AND EXPORTED.

The following statement shows the quantity and value of the production of metal-mines and of stone-quarries under the Stone-quarries Act during 1924 and 1923 :—

Mineral.	1924.		1923.	
	Quantity.	Value.	Quantity.	Value.
	Oz.	£	Oz.	£
Gold and silver (estimated)	652,855	607,253	692,090	737,170
	Tons. cwt.		Tons. cwt.	
Tungsten-ore	3 0	126	5 9	218
Iron	630 0	4,725	..	..
Stone		373,827	..	370,995
Pumice	1,629 0	4,956	3,716 0	10,029
Totals	..	990,887	..	1,118,412

The following statement shows the value of New Zealand minerals (other than coal) exported from the 1st January, 1853, to the 31st December, 1924 :—

—	1924.	1923.	Increase or Decrease.	Total from the 1st January, 1853, to the 31st December, 1924.
	£	£	£	£
Gold	551,788	698,583	Dec. 146,795	91,414,828
Silver	71,981	62,851	Inc. 9,130	2,904,651
Tungsten-ore	1,156	875	„ 281	301,870
Kauri-gum	443,576	596,222	Dec. 152,646	21,108,085
Manganese-ore	36	43	„ 7	61,994
Sand, lime, and building stone	7,625	13,609	„ 5,984	441,29)
Other minerals	5,067	3,013	Inc. 2,054	
Totals	1,081,229	1,375,196	Dec. 293,967	116,232,718

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, 1924.
	Northern.	West Coast.	Southern.	
Gold, silver, and tungsten	963	535	332	1,830
Cinnabar	4	..	..	4
Ironstone	..	24	..	24
Totals for 1924	967	559	332	1,858
Totals for 1923	1,252	457	325	2,034

III. ACCIDENTS.

During 1924 three fatal and three serious but non-fatal accidents occurred in or about metalliferous mines, at which 1,858 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	..	..	1	1
Explosives	..	..	1	1
Miscellaneous, on surface	2	2	..	..
Miscellaneous, underground	1	1	1	1
Totals	3	3	3	3

The following is a short description of the fatal accidents :—

On the 8th February Frederick Archer, aged 20 years, met his death by being crushed between the revolving screen and the distributing-box of the Rimu dredge. The screen was well fenced off. There was no eye-witness to the accident, but from the evidence it appears probable that deceased,

prior to the accident, had been working on the deck on the port side, and in order to get to the other side without walking round the railing had endeavoured to take a short cut by climbing the rail and walking along a timber stay above the screen, and that while doing so had lost his balance and fallen on to the screen. Deceased had no duty that necessitated him going inside the railing.

On the 22nd May Richard William Ryder Hungerford, aged 23 years, was killed in the Woodstock chamber, Karangahake. Deceased with another workman was engaged in dismantling an air-receiver. He had disconnected the air-pipe, which probably knocked out the cradle under the end of the receiver, causing the latter to tilt, with the result that deceased fell and the air-pipe fell on top of him.

On the 19th August Isaac Wade, aged 44 years, was killed in the compressor-house of the Ohinemuri Gold and Silver Company's mine at Maratoto. From the evidence taken at the inquest it appears that the deceased, who was in charge of the compressor, had been engaged in oiling the compressor when a cast-iron pulley burst, and a piece struck him on the right temple, causing laceration of the brain, from which he died. Prior to the accident the pulley seemed to be quite safe; its failure was due to a flaw in the casting.

Accounts of the serious but non-fatal accidents are given in the District Inspectors' annual reports.

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, 1924.* (All Mines.)		Dividends paid, 1924. (By Registered Companies only.)†	Number of Persons ordinarily employed at Productive and Unproductive Mines.	Number of Productive Quartz-mines, Alluvial Mines, and Dredges, 1924.
	Quantity.	Value.			
	Oz.	£	£		
Quartz-mining ..	625,162	490,850	50,790	1,283	23
Dredge mining ..	13,336	58,540	6,566	468	5
Alluvial mining‡ ..	14,357	57,863	6,180	78	273
Totals, 1924 ..	652,855	607,253	63,536	1,829	301
Totals, 1923 ..	692,090	737,170	30,344	2,026	160

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

The value of gold produced during 1924 was less by £129,917 than during 1923. This decrease is made up of a decrease of £119,143 from quartz-mining, due to the reduced production from Waihi Borough and Tauranga County, a decrease £9,463 from dredging, and a decrease of £1,311 from alluvial mining.

(1.) QUARTZ-MINING.

Inspection District.	Statute Tons of Ore treated.		Value of Bullion.		Dividends paid (by Registered Companies only).	
	1924.	1923.	1924.	1923.	1924.	1923.
			£	£	£	£
Northern	209,481	288,036	374,085	508,545	49,590	24,795
West Coast	51,467	47,872	115,652	99,143	1,200	..
Southern	97	1,935	1,113	2,305	..	..
Totals	261,045	337,843	490,850	609,993	50,790	24,795

The average value per ton of ore treated during 1924 amounted to £1 17s. 7d., as compared with £1 16s. 1d. during 1923.

At the Waihi Mine 190,640 tons of ore were crushed for a return of 566,097 oz. of bullion, an increase of 10,792 tons of ore and 42,562 oz. of bullion. The development work done during the year at the lower levels has not so far disclosed any reef comparable in width or in value with the reefs found in the higher levels.

At the Waihi Grand Junction Mine 17,337 tons were crushed for a return of 27,391 oz., compared with 76,705 tons and 82,111 oz. during the previous year. Development work done during the year did not prove the existence of workable ore, and as the payable reserves became exhausted crushing ceased. Two boreholes were put down by diamond drill from No. 10 level, one a distance of 600 ft. and the other a distance of 756 ft., but without striking any payable reef.

At Muir's Gold-reefs Mine no crushing was done during the year. Sinking was continued in the main shaft till a depth of 515 ft. from the surface was reached, and from the chamber at 500 ft. a total of 1,209 ft. of cross-cutting was done towards Muir's reef and the Massey reef.

At the Blackwater Mine 38,140 tons of quartz were crushed for a return of 18,550 oz., valued at £79,310, compared with 39,730 tons yielding 19,296 oz., valued at £75,438 during the previous year. A considerable amount of driving and development work was done, and the extent of reef and values disclosed were very satisfactory. A plant is being erected to treat concentrates, which in former years were sent to Australia for treatment.

At the New Big River Mine the tonnage crushed was about the same as during the previous year, but the gold won showed an increase in amount of 1,010 oz., and in value of £4,430. Comparatively little development work was done, and no payable ore was disclosed in No. 12 level, but in two rises put up from this level good stone was got.

(2.) Dredge Mining.

The following is a statement showing the capacity, production, and profits of bucket gold-dredges during 1924. (Note.—The profits made by privately owned dredges are not obtainable for publication.)

Name of Dredge.	Locality.	Capacity of Dredge-buckets, in Cubic Feet.	Number of Buckets discharged per Minute.	Nominal Horse-power of Engines.	S = Steam. E = Electrical.	Average Depth of Ground dredged.	Value of Bullion obtained during 1924.	Dividends declared.	
								During 1924.	Total.
Otago and Southland.						Ft	£	£	£
Rise and Shine No. 1 ..	Clutha River ..	5½	10	20	S	40	146	..	53,700
Nevis Crossing	Nevis River ..	3½	10	12	S	10	1,455	..	..
McGeorge's Freehold No. 3	Waikaka Valley ..	6½	9	20	S	35	4,956	..	..
West Coast.									
Rimu	Rimu	10	19	525	E	55	47,256	6,566	9,849
Awatuna	Awatuna Beach ..	8	15	20	S	25	4,727	..	..
Totals, 1924 ..	..	..	..	..	..	..	58,540	6,566	Unknown.
Totals, 1923 ..	..	..	..	..	..	..	68,003	3,283	Unknown.

The Rimu Flat dredge has worked continuously throughout the year, and the operations of the company have been very successful. The gold won by this dredge, 10,606 oz., is 79½ per cent. of the gold got by dredging throughout the Dominion for the year. Besides operating the dredge the Rimu Gold-dredging Company has prospected other areas in Westland in order to locate another dredging-area which along with another dredge on Rimu Flat might be worked from a larger generating plant than that at Lake Kanieri.

(3.) Alluvial Mining.

The following is a statement showing the value of production and dividends declared from alluvial gold-mines during 1924:—

Name of Company.	Estimated Value of Gold produced.	Dividends declared.	
		During 1924.	Total to End of 1924.
	£	£	£
Vinegar Hill Sluicing Company	1,162	..	1,050
Scandinavian Water-race Company	2,430	..	..
Gabriel's Gully Sluicing Company	3,783	2,000	17,615
Lawrence Sluicing Company	710	1,000	2,000
W. R. Smyth	1,060	..	..
Golden Crescent Sluicing Company	1,028	..	12,862
Sailor's Gully Sluicing Company	2,933	1,680	7,520
R. J. Cotton	1,230	..	..
Graham and Party	2,848	1,500	2,900
Nokomai Hydraulic Sluicing Company	5,160	..	54,684
D. McLister	1,214	..	..
Round Hill Gold-mining Company	3,906	..	..
Hohonu Gold Sluicing Company	1,348	..	..
Stubbs and Steel	1,236	..	..
Havill Bros.	1,422	..	..
All other claims	26,393	..	..
Totals	57,863	6,180	Unknown.

V. MINERALS OTHER THAN GOLD.

Tungsten-ore.

The price for scheelite throughout the year was round about 10s. per unit—too low to permit of this mineral being produced at the scheelite-mines in the Dominion, and consequently they were not worked. Only 3 tons were produced.

Iron.

The blast furnace at the Onakaka Iron and Steel Company's works at Onakaka was run for about a month, and 630 tons good-quality pig iron were produced. Difficulties in connection with the supply of coke and in transportation by road between the wharf and the works forced the company to shut down the blast furnace till additional coke-ovens could be built and a rope-road constructed from the wharf to the blast furnace. This work was put in hand, but the available funds of the company were insufficient, and the construction was stopped in October pending the raising of further capital.

Petroleum.

An Australian company was formed during the latter half of the year to further test the Taranaki oilfield. Acting under the guidance of Mr. F. G. Clapp, oil geologist, the company decided to put down two wells, one on the foreshore at Moturoa and another about a mile from the Township of Tarata. By the end of the year fully equipped standard rigs had been erected at the sites. It is considered that previous failures to get oil in payable quantities near New Plymouth have been to some extent due to the casing used having been too light, with the result that it collapsed, stopped the flow from the well in which it was used, and seriously impaired the productivity of the surrounding portion of the field; in the two wells now to be drilled the casing will be of much heavier section than in former wells. Field-work by expert geologists was energetically carried out, and still continues, with a view to discovering areas with a favourable structure for the retention of oil.

VI. STONE-QUARRY INSPECTION AND STATISTICS.

By section 2 of the Stone-quarries Amendment Act, 1920, the application of the Act 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, and also in any tunnel in the construction of which explosives are used. The Act, however, 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 1924 :—

Provincial District.	Name and Address of Government Inspector of Stone-quarries.	Number of Working Quarries under the Act.	Number of Persons ordinarily employed.	Output of Stone.							
				Stone or Gravel for Macadamizing or Ballast.	Stone for Harbour-works.	Building or Monumental-stone.	Limestone for Agriculture.	Limestone for Cement or Mortar.	Phosphate for Agriculture.	Miscellaneous.	Value at Quarry.
				Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	£
Auckland ..	James Newton, Mines Dept., Auckland	122	699	385,624	58,250	2,147	18,132	196,800	..	..	143,673
	M. Paul, Mines Dept., Waihi (Hauraki Mining District only)	19	149	111,275	..	477	..	..	..	..	35,006
Hawke's Bay	James Newton, Mines Dept., Auckland	16	73	11,929	12,084	460	6,160	..	..	..	6,218
Taranaki ..	Ditto	10	43	8,695	10,682	..	..	..	..	..	3,492
Wellington ..	,, ...	34	215	90,914	10,120	..	7,000	..	..	..	36,257
Canterbury ..	J. F. Downey, Mines Dept., Reefton	13	123	111,283	4,246	9,682	5,976	..	..	..	42,583
Nelson, Westland, Marlborough	Ditto	11	111	9,335	..	92	15,256	23,537	..	1,150	12,539
Otago, Southland	A. Whitley, Mines Dept., Dunedin	35	335	126,903	8,399	6,316	86,210	40,620	1,575	..	94,059
Totals 1924	..	260	1,748	855,958	103,781	19,174	138,734	260,957	1,575	1,150	373,827
Totals 1923	..	242	1,644	864,412	316,182	34,458	103,566	143,248	2,383	80	370,995

There were 104 more men employed than during the previous year, and the value of the stone produced was greater by £2,832.

Quarry Accidents.

The following is a summary of serious accidents during 1924 at quarries under the Stone-quarries Act:

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

Of the fatal accidents the following is a short description:—

On the 11th March a serious accident occurred at the Millburn Lime Company's quarry at Dunback by which two men, David McMillan, aged 25 years, and William Ernest Cox, aged 25 years, lost their lives, and William McIntosh was seriously injured. A round of five holes was being fired electrically. The warning had been given, and before the shots were actually fired the quarry-manager had seen the workmen take shelter behind a concrete jig-wheel stand 100 ft. distant from the shots. It appears that before the shots went off five of the men decided to leave the shelter of the jig-stand and go to another shelter further from the shots. Three of the men, McMillan, Cox, and McIntosh, were out in the open when the shots went off, and were struck by material thrown from the blast, with the result stated above. The jig-stand provided adequate shelter, and the accident was wholly due to the men having left it without the knowledge of the person firing the shot and after the warning had been given.

On the 25th November Alexander Brown, aged 69 years, was fatally injured at the Bruce County Council's quarry at Londen's Gully, near Raurekau. The deceased had been working by himself in the quarry, and had evidently slipped from a face about 10 ft. high and fallen on a crowbar which he had been using. The crow-bar entered his right breast and penetrated his lung, with the result that he died before the accident was known to any one.

On the 16th December, at Auger's quarry, Penrose, George James Auger, owner and occupier of the quarry, was killed by a blasting accident. The quarry foreman had prepared and lit two shots, and then retired with deceased to a distance of approximately 3½ chains from the shot-holes and there waited for the shots to go off. A flying stone from the blast struck deceased on the back, causing injuries from which he died. The charges fired were not heavy, and it was therefore thought that 3½ chains was a sufficient distance away for safety.

VII. STATE AID TO MINING.

(1.) Subsidized Prospecting.

Upon subsidized prospecting operations 105 persons were intermittently employed during the year.

The following is a statement showing the results of prospecting operations as reported by the Inspector of Mines.

Name of Prospecting Party.	Number of Prospectors.	Locality of Operations.	Amount of Subsidy granted.	Amount of Subsidy expended.	Distance driven or sunk.	Nature of Claim.	Character of Operations.	Remarks.
Northern Inspection District.			£ s. d.	£ s. d.	Ft.			
Sylvia Gold-mining Company ..	6	Thames ..	200 0 0	185 18 0	429	Quartz ..	Rising	Work suspended.
Caledonia-Kuranui-Moanataiari Gold-mining Company	7	,, ..	433 6 8	329 15 4	761	,, ..	Driving	Testing the reef system on eastern side of main fault. So far nothing of payable character discovered.
Monowai Syndicate	2	,, ..	130 0 0	60 13 4	140	,, ..	,, ...	Work in progress.
Renown Mine	..	,, ..	86 13 4	..	..	..	..	No work done.
Majestic Gold-mining Company (£1 for £1)	8	Maratoto ..	3,000 0 0	649 5 11	262	Quartz ..	Driving and cross-cutting	Work in progress.
Glen Isla Gold-mining Syndicate ..	5	Whangamata ..	43 6 8	43 6 8	100	,, ..	Driving	Results proved very disappointing.
Ohinemuri Gold and Silver Mines ..	10	Maratoto ..	292 10 0	272 11 4	629	,, ..	,, ...	Driving on large lode ; so far nothing payable found.
Thomas Parker	2	Waitekauri ..	23 8 0	..	..	..	..	Work suspended.
Hardy's Mine	..	Te Aroha ..	130 0 0	..	..	..	..	No work done.
Muir's Gold Reefs, Limited (£1 for £1) ..	39	Te Puke ..	16,489 12 4	13,563 7 2	..	Quartz ..	Sinking shaft and cross-cutting	Work in progress.
Four-in-hand Mine	..	Waikoromiko ..	86 13 4	..	..	..	..	No work done.
West Coast Inspection District.								
H. F. Chaffey	1	Matawai S.D. ..	53 6 0	53 6 0	..	..	Prospecting	Several small copper lodes located, but of no special value. No payable gold found.
Foley and Lockhead	2	Callery Creek ..	50 14 0	..	..	Alluvial ..	,, ...	No work reported yet.
Holmes and Barnett	2	Alfred River ..	31 4 0	7 16 0	..	,, ..	,, ...	Several reefs located, but no values.
Kearns and party	2	Fall Creek ..	24 14 0	15 12 0	..	,, ..	,, ...	No discovery of any value reported.
C. Lewis and party	2	Parapara ..	5 18 3	5 18 3	..	,, ..	,, ...	Work proceeding ; no payable values yet located.
New Keep-it-dark Tribute party ..	..	Crushington ..	43 6 8	..	..	Quartz ..	Driving	Work only just started.
South Big River Mines, Limited (£1 for £1)	..	Big River ..	500 0 0	33 10 9	..	,, ..	Driving and rising ..	Work only recently started.
Southern Inspection District.								
R. T. Horner	2	Longwood Range	90 16 8	45 8 4	100	Quartz ..	Driving	Work in progress.
Phelan and Donaldson	2	Upper Nevis ..	31 4 0	15 12 0	..	,, ..	Prospecting	No gold-bearing reef found.
Coal Creek Prospecting Association ..	2	Old Man Range ..	50 14 0	12 0 6	..	,, ..	,, ...	Good surface prospects, but no payable reef discovered.
J. G. Black and party	2	South of Dusky Point	50 14 0	50 14 0	..	..	,, ...	Nothing of any value found.
Mount Moore Gold-mining Syndicate ..	3	Stoneburn ..	156 13 4	22 5 0	33	Quartz ..	Sinking	Work in progress.
J. Reid and P. Lynch	2	Skipper's ..	128 16 8	18 3 4	40	,, ..	Driving	,,
H. Denford and party	2	Orepuki ..	60 0 0	26 8 0	146	Alluvial ..	,, ...	Narrow lead of auriferous gravel found.
E. Oxenbridge	2	Twelve-mile, Lake Wakatipu	63 10 2	..	..	,, ..	,, ...	Work in progress.
	105		22,257 2 1	15,411 11 11				

(2.) Government Prospecting Drills.

The following table gives details of the drilling done and the results obtained for twelve months ended 31st December, 1924:—

Drill Superintendents: W. H. Warburton, E. A. Wilson, G. Nelson, F. Carter, and H. Butland.
Drills used: Schram-Harker diamond, hand-placer, and Keystone drills.

Number of Holes drilled.	Total Depth, in Feet.	Diameter of Hole.	Mineral sought.	Character of Rocks drilled through.	To whom lent.	Cost per Foot of Drilling.	Cost per Foot of Transport.	Cost per Foot of Carbon's wear.	Results.
		Inches.				s. d.	s. d.	s. d.	
1	1,156	2½	Coal	Mudstone, shales, sandstone, and grits	J. Taylor ..	3 9	0 3½	1 10	6 ft. coal at 1,149 ft.
1	307	2½	,,	Ditto	Grey Valley Collieries (Limited)	5 9	1 4	1 11½	11 ft. 6 in. coal at 293 ft.
1	564	2½	,,	,, ...	State Coal-mines	..	..	..	Completion of work postponed temporarily.
2	1,356	1¾	,,	Tuff, andesites, and quartz	Waihi Grand Junction Gold Company (Ltd.)	..	..	..	Testing character of country; inconclusive.
16	752	6	Gold	Gravels ..	Clutha Development (Limited)	..	..	..	Fair; unfinished.
5	661	6 & 5	,,	,,	Mahakipawa Gold Company (Limited)	33 11¾	3 10¼	..	Good.
6	477	6	,,	,, ..	Rimu Gold Dredging Company (Limited)	..	..	..	Poor; unfinished.
17	295	3½	,,	,, ..	Clutha Development (Limited)	..	..	..	Fair; unfinished.
3	380	6	,,	Gravels, &c. ..	Hokitika Prospecting Association	13 0	2 2	..	Traces of gold got.

(3.) Subsidized Roads on Goldfields.

The expenditure in the form of subsidies and direct grants upon roads on goldfields amounted to £4,126, as compared with £2,867 during the previous year.

(4.) Government Water-races.

The Waimea-Kumara and Mount Ida water-races, constructed by the Government for the purpose of assisting alluvial gold-mining in the districts of Kumara (Westland) and Naseby (Central Otago), showed a loss for the year ended 31st March, 1925, of £200 14s. 4d. Water was supplied to claims employing in all an average of 16·33 persons, and gold to the value of £3,544 2s. 6d. was obtained. On the 1st September the Mount Ida Water-race was taken over by the Public Works Department, with the intention that water not being used in gold-mining be utilized for irrigation.

The following is a statement showing the cash received by the Government for water sold, and the expenditure on the upkeep of the races, together with the average number of miners supplied with water, and the approximate quantity and value of gold received for the year ended 31st March, 1925:—

—	Receipts. (Sales of Water.)	Expenditure.	Debit Balance.	Average Number of Miners supplied with Water.	Approximate Quantity and Value of Gold obtained.	
	£ s. d.	£ s. d.	£ s. d.		Oz.	£ s. d.
Waimea-Kumara Water-races ..	1,230 7 3*	1,318 19 5	88 12 2	10·33	747	2,931 19 6
Mount Ida	204 12 6	316 14 8	112 2 2	6·00	159	612 3 0
Totals	1,434 19 9	1,635 14 1	200 14 4	16·33	906	3,544 2 6

* Including royalty on timber.

The amount outstanding on the Waimea-Kumara water-races on the 31st March, 1925, was £845 5s. 7d., an increase of £122 12s. 5d. on the previous year.

(5.) Schools of Mines.

In addition to the schools already established at Coromandel, Thames, Waihi, Huntly, Reefton, Westport, and Dunedin, two other schools, with part-time directors, were started at Kaitangata and Nightcaps, with subsidies from the Department. These two schools were instituted to provide tuition in mining and allied subjects, the need for which was being keenly felt by mining students in these districts.

A great deal of useful and necessary work continues to be performed by the Schools of Mines, but in those districts where mining has seriously declined and been replaced by other industries few of the students taking the classes are engaged or likely to be engaged in mining.

The expenditure on schools of mines for the year ended the 31st March, 1925, was £3,501 11s. 3d., against £3,172 10s. 4d. during the previous year. This included a grant of £750 to the University of Otago for the Otago School of Mines.

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

I have, &c.,
J. A. C. Bayne,
Inspecting Engineer of Mines.

ANNEXURE A.

SUMMARY OF REPORTS BY INSPECTORS OF MINES.

NORTHERN INSPECTION DISTRICT (Mr. M. PAUL, Inspector of Mines).

Quartz-mining.

Waihi Gold-mining Company (Limited), (J. L. Gilmour, Manager).—No. 15 Level (1,880½ ft. below collar of No. 4 shaft): A crosscut north from the shaft was driven 131 ft. through soft heavy country containing several carbonaceous seams. A south crosscut was commenced from the east side of the north chamber and advanced 152 ft. At 66 ft. a vein of quartz 12 in. wide was intersected, dipping 1 in 3 north, value low. At 69 ft. there is a fault-fissure crossing the level from which water at the rate of 400 gallons per minute is issuing. A carbonaceous seam 2 ft. wide and dipping north is exposed on the south side of the fault, and from this point to the face the country is bedded.

No. 14 Level (1,752 ft).—On the north section of Martha lode a total of 726 ft. has been driven. About 420 ft. of this length is payable, the average width being 7 ft. At 200 ft. east a connection to the south section drive was effected by a crosscut, the distance between the two drives being about 90 ft. A crosscut at 118 ft. west was driven 6 ft. south and 54 ft. north in unfavourable country. On the south section of Martha lode a total of 587½ ft. has been driven—*i.e.*, 311½ ft. east and 276 ft. west. A length of 52 ft. eastward is payable, the remainder being low grade.

No. 13 Level.—Martha Lode: The drive east was resumed and carried to within 31 ft. of the boundary. The quartz was not payable.

In the Dreadnought west crosscut driving west on the Empire lode was done for 90 ft., the width of quartz varying from 1 ft. to 5 ft. of low value. A crosscut was driven west from this point, and at 142 ft. a section of the Martha lode 13 ft. wide was intersected, value unpayable. At 159 ft. another section 8 ft. wide was cut, assay value low.

Driving west on the course of the Martha lode was continued to 136 ft., the value being low throughout. From this point the drive was carried in the foot-wall country, where a small low-grade vein was intersected and followed for 126 ft. The crosscut was then diverted to the south, and after driving 21 ft. the west section of Edward lode was intersected, width 12 ft., value low. At 16 ft. further the east section of lode was intersected, width 39 ft., average assay value 27s. 3d. per ton. Driving south-west was done on this section for 82 ft., where a connection was effected to Trout winze. The average assay value for this distance was about 30s. per ton.

No. 12 Level.—At a point 244 ft. in the crosscut from Nos. 2 to 4 shafts driving was commenced along the foot wall of the Martha lode; at 244 ft. the drive was diverted diagonally across the lode, the width of quartz being 75 ft.; the last 16 ft. of which is sulphide ore of an average assay value of 23s. 4d. per ton. Driving was commenced east on this latter section, and at 385½ ft. connected with the west face of the old drive. The level has been widened to an average of 22 ft. from 300 ft. to 330 ft., the average assay value being 39s. 4d. per ton. Driving west near the south wall from the widening was done in ore from a distance of 121 ft., the assay value being 45s. 10d. per ton.

No. 11 Level.—Edward lode: Driving south was continued to 808 ft. in quartz of low value, varying in width from 18 in. to a width greater than the drive.

No. 10 Level.—Edward lode: The south drive was continued to 1,815 ft. The reef pinches out at 1,790 ft. At 1,813 ft. crosscutting was done for 8 ft. east and 13 ft. west in disturbed country. Driving is suspended. At 1,388 ft. a winze was sunk 102 ft. At 100 ft. down a crosscut proved the full width of lode to be 11 ft., average assay value 15s. 3d. per ton.

No. 9 Level.—Edward lode: The south drive was continued to 1,438 ft. Good-grade ore exists to 1,356 ft., the width of the reef varying from 15 ft. to 21 ft. From this point onwards the width gradually decreases and at face is 6 in. wide. Driving is suspended.

No. 8 Level.—Edward lode: The south drive was advanced to 512 ft. From 290 ft. to 475 ft. the average width is about 7 ft., and the average assay value 51s. 4d. per ton. At the face the width of quartz is about 18 in., and driving is suspended.

Surprise lode: At 42 ft. up Thornton rise a crosscut proved a width of 25 ft. of payable ore.

No. 7 Level.—Surprise lode: A good deal of exploratory work was done which shows about 20,000 tons of ore of an average assay value of 69s. between Nos. 6 and 7 levels.

At a point 144 ft. east of No. 2 shaft, north-west crosscut in the Martha foot-wall gangway, driving was done north-north-east for 94 ft. on a vein of ore. The average assay value for this distance is about 40s. per ton, and width of quartz varied from 3 ft. to a width greater than the drive.

At Nos. 7 and 8 levels a considerable amount of driving was carried out on the north section of Martha lode in the east end of the mine. The assay value was payable.

On the Regina section of the Martha lode at No. 8 level a block of good-grade ore was discovered about 30 ft. above the level, and shrinkage stoping is in operation here.

Above No. 8 level on the Martha lode, near the east end, several crosscuts have been driven across the arch, and it is anticipated that a good tonnage of ore will be available.

Above No. 7 level, on No. 2 reef, gangways are being run at three different points and several crosscuts driven across the ore that was left formerly. On the Martha lode a good deal of ore was won. Only a small quantity now remains in the western part.

At No. 6 level on the North lode a stoping block of about 6,000 tons of payable ore has been opened up.

At No. 5 level on the North lode another block containing 9,000 tons has been proved.

Workings on West Side of Martha Hill.—During the year a considerable amount of work, consisting of driving and stoping, was carried out and produced a steady supply of quartz for the mill.

An incline or dip 19 degrees from the horizontal was driven a length of 88 ft. and a large air-winch installed. This will enable the company to open a new level about 30 ft. below the Smithy level, from which all the lodes in the west end of the mine that have any ore left under the Lower Smithy level can be worked.

A good deal of ore was won from the open cut and dip near Bull's pass.

No. 4 shaft was sunk a further 122½ ft., making 158½ ft. below No. 14 level, or 1,910½ ft. from the surface.

It was intended to open No. 15 level at 148 ft. below No. 14 level, but owing to the country being soft and unsuitable the level was opened at 128½ ft., or 1,880½ ft. from the surface.

A total of 213,517 short tons were crushed and treated. The ore was obtained in the following quantities from the undermentioned reefs:—Martha, 71,003 tons; Edward, 30,052 tons; Royal, 29,531 tons; Empire, 19,320 tons; Jellicoe, 12,687 tons; Martha, North branch, 11,536 tons; No. 2 reef, 10,930 tons; Alexandra, 7,956 tons; Dreadnought, 6,186 tons; North, 3,457 tons; Empire, north section, 3,217 tons; Surprise, 2,435 tons; Bell, 1,921 tons; Victoria, 1,038 tons; Martha, south branch, 822 tons; Albert, 455 tons; Bates, 243 tons; Cross, 238 tons; Regina, 232 tons; Welcome, 231 tons; Welcome, south branch, 27 tons: total, 213,517 tons.

The total footage for the year amounted to 12,587½.

Water pumped to the surface from Nos. 14 and 15 levels amounted to 424,516,000 gallons.

Waihi Grand Junction Gold-mining Company (A. J. Walker, Manager).—Development: A total footage of 673 ft. was accomplished, chiefly by driving.

No. 11 Level (,639 ft. below surface):—The main south-east crosscut was advanced 171 ft. to 196 ft. from No. 1 shaft. At 70 ft. an 18 in. seam of quartz was passed through, assaying 9d. per ton. From 118 ft. to 127 ft. stringers of quartz through the country gave assays of 2s. 1d. with 90 per cent. of country in the samples. At 127 ft. a pug seam dipping 60 degrees to the south-east formed the northern wall of the Martha–Empire lode system. Assays from 127 ft. to 180 ft. averaged 3s. 6d. per ton, the highest assay being 13s. 3d., taken on the eastern side of the crosscut between 136 ft. and 140 ft. From 180 ft. to 184 ft. was country rock, followed by a seam of quartz 23 in. wide, averaging 8s. 3d. From 186 ft. to 196 ft. the crosscut was in country rock.

Empire lode: Driving east and west of the south-east crosscut on the south side of the lode, at 186 ft. from the shaft, exposed a length of 80 ft. of lode. Assays from crosscut to 33 ft. west averaged 6s. over 43 in., and to 25 ft. east, 2s. 10d. over 37 in.

Martha lode: A drive was put out 17 ft. west of south-east crosscut at a point 127 ft. from the shaft. This drive exposed the north wall of the lode. Assays averaged 4d. per ton for a width of 71 in.

No. 7 rise: This rise was put up 29 ft. and holed to the corresponding winze from No. 10 level. The holing of this rise improved the working-conditions of the south-east crosscut, but it was still necessary to keep ventilating-fans in operation.

The north-west crosscut was advanced 129 ft.—total, 143 ft.—from No. 1 shaft. From the shaft-chamber to 118 ft. in was country rock. At 118 ft. a lode was cut, dipping to the shaft at a high angle. The first 8 ft. was low-grade, hard quartz, the balance of 12 ft. a mixture of quartz and country rock of no value. The face of the crosscut is in country rock. High water-temperatures were experienced in this crosscut.

No. 10 Level (1,540 ft.).—Empire lode: No. 7 winze was sunk 44 ft.—total, 66 ft. Assays from 10 ft. to 55 ft. averaged 6s. 3d. over a width of 41 in. The rise from No. 11 level holed to this winze.

Crosscut at 290 ft. west on Empire lode, main drive: The crosscut at 290 ft. west, which was put out to intersect the Martha lode, passed through country rock to 66 ft. north of the main drive, where the south wall of the lode was found. 81 ft. of quartz was passed through, averaging 4s. 6d. per ton. The crosscut was advanced 109 ft.—total, 150 ft.—from main west drive of the Empire lode. The face of the crosscut is in country rock.

No. 5 Level (944 ft.).—Martha lode: The foot-wall drive east of the 160 ft. crosscut east advanced 41 ft., total 217 ft. Assays from 178 ft. to 190 ft. east averaged £1 3s. 6d. over a width of 109 in. From 190 ft. to the face at 217 ft. the lode is mixed with country rock and is very low grade.

Diamond drilling.—No. 1 borehole: A vertical borehole was commenced from a chamber north of No. 1 shaft, at No. 10 level, on the 15th July, 1924, and reached a depth of 600 ft. on the 21st October, 1924. The object of this borehole was primarily to discover the nature of the country below No. 11 level. At 353 ft. broken ground was encountered, necessitating casing. At 390 ft. quartz was met, probably the same as that found in north-west crosscut No. 11 level. Assays of core (390 ft. to 409 ft.) gave a value of 2s. per ton. "Bedded" country existed practically all the depth of borehole, consisting mainly of breccia and tuff, interspersed with layers of andesite. Tuff was still in evidence at bottom of borehole.

No. 2 borehole: This borehole was started from No. 10 level, southern side of shaft, on the 31st October, 1924, laid out at an angle of 70 degrees from the horizontal, for the purpose of proving if the Martha–Empire lode system existed at depth, and in that event its value, and was drilled to a total depth of 756 ft.: At several points low-grade quartz was passed through with no improvement in the country rock. Work was therefore suspended.

Recently a meeting of the New Zealand shareholders was held in order to obtain an expression of opinion as to whether it was desirable to endeavour to raise further capital to develop the western, or any other portion, of this property, or to go into voluntary liquidation. It was then decided to communicate with head office in London in order to ascertain the financial position of this company and the wish of the English shareholders in this matter before taking any further action.

Rising Sun Gold-mining Company, Owharoa (A. McGruer, Manager).—During the year work in this mine has been confined to stoping between Nos. 2 and 3 levels: 1,210 tons of ore treated yielded bullion valued at £5,173 13s. 4d. An effort is now being made to raise further capital in order to extend the drives on the Rising Sun and No. 3 reefs, which gave promise of increasing in width and value.

Argo Concentrates (Limited), (R. T. Sando).—This company was formed for the purpose of re-treating the tailings lying in the bed and banks of the Ohinemuri River, and is experimenting with a Leach and Gordon patent separator, which is a device worked entirely by water and designed to reduce low-grade bulks and save the concentrates therefrom, but owing to the tailings on the banks containing so much vegetable matter some adjustments are now being made to this machine, and the designer is confident that he will be able to eliminate this waste matter and obtain payable concentrates.

Great Northern Waihi Gold-mining Company, Wharekirauponga (J. R. Paepker).—After spending a considerable amount of money prospecting the surface portion of this claim without locating anything of a payable character, work has been suspended, and the mine and plant is being offered for sale.

Glen Isla Gold-mining Syndicate, Whangamata (J. McCombie).—This claim was being worked by a small syndicate who put in a low level between 200 ft. and 300 ft., but failed to intersect the reef. It was then decided to sink a winze upon it from a surface level, but at a depth of 46 ft. the reef split up into stringers, all of low grade. This convinced the manager that the reef had been passed through unnoticed in the low level and, the funds having been exhausted, work was suspended.

New Zealand Crown Mines, Karangahake (G. N. McGruer).—The Rose low-level crosscut has been extended a total distance of 779 ft. At 672 ft. a quartz vein about 9 in. in width was intersected, assay value £2 17s. 4d. per ton. This crosscut is being continued to intersect the Crown and Welcome lodes. A considerable amount of surface prospecting has also been done without locating anything payable.

Woodstock Claim, Karangahake.—This was formerly a portion of the Talisman Gold-mine and was taken up by J. B. Morris and others, who have been prospecting the surface, but so far the results have proved disappointing.

Imperial Syndicate, Karangahake.—This claim was recently taken up by a local syndicate with the object of testing a reef said to have been intersected in an old crosscut in the early days of this goldfield and to have carried payable assay values, but owing to a dispute between the owners nothing further was done to test the extent of these values.

Talisman Claim, Karangahake.—A portion of this claim was let on tribute at and above No. 8 level to Rackham and party, who crushed 39 tons of ore for a return of bullion valued at £173 3s. 9d.

Ohinemuri Gold and Silver Mines, Maratoto (J. W. O'Sullivon).—The drive on the Camoola lode has been extended a total distance of 1,290 ft. south of the low-level crosscut, the object being to reach the section immediately under the chute of ore opened up at No. 2 level 200 ft. up. In order to accelerate progress the drive is being carried along on the hanging-wall of the lode just in contact with the ore-body, and in consequence very little quartz has been exposed. Several short runs of valuable ore have been exposed—one at 550 ft. showing a width of 25 ft., 14 ft. of which, I am informed, averaged £5 10s. per ton. At 650 ft. a crosscut exposed a body of ore about 70 ft. in width of low grade.

The work so far done on the Camoola at this level shows it to be wider than in the upper workings, and the values are much better than those found in the same section overhead.

The Camoola reef is the largest outside of Waihi, and has been exposed in the various workings for a length of over 1,700 ft. The management seem confident that payable ore will be obtained when the south drive reaches the point underneath where satisfactory assay values were met with in the level above.

Majestic Gold-mining Company (H. Langdon, Manager).—During the year work in this mine has been confined to the erection of power plant, driving south on the Maratoto lode from Adam's level, and crosscutting from McBrinn's reef. At different points bands of sulphide ore have been met with in the drive on the Maratoto lode, and give promise that payable ore will be found when the point is reached where values were met with in the level above.

New Waiotahi Gold-mining Company, Thames (H. F. Shepherd).—Work in this mine during the year has been confined to driving and stoping on small leaders from a winze sunk to a depth of 50 ft. below the lowest adit level. 20 tons of general ore and 60 lb. of picked stone yielded gold valued at £194 10s. A scheme for lowering the water to enable this winze to be sunk another 50 ft. is now under consideration.

Alburnia Gold-mining Company (Thomas Gillon).—This company has recently acquired further capital with the object of testing the Sons of Freedom reef under where a very rich deposit of gold was worked out in the early days of this goldfield.

Nonpariel Gold-mining Company (George Crocker).—Two men have been constantly employed prospecting the Cambria lode. At different points good mineral indications have been met with, but no gold has been seen.

Caledonia-Kuranui-Moanataiari Gold-mining Company (S. G. Baker, Manager).—On the eastern side of the main fault the drive seaward on the Cambria reef has been extended 209 ft., and hillward 15 ft. In each face the reef is wider than the drive, and although some of the ore has a promising appearance no gold has been seen.

Hillward on the Caledonian reef the drive has been extended 288 ft. ,the lode averaging about 7 ft. in width of low grade.

At 200 ft. up the rise a drive is in progress on a hanging-wall dropper out of the Cambria reef, width 4 ft. ; colours of gold have been frequently seen in the ore broken out.

Kuranui Gold-mining Company.—Operations in this mine were recently resumed at a point only a short distance from where the first rich deposit of gold was discovered on this goldfield. A crosscut put in on the north side of the Shotover Creek intersected a lode formation of about 2 ft. in width. It has been reported that strong colours of gold were seen in the ore broken out.

Occidental Claim (F. Sawyer).—The only work done in this mine during the year was cleaning up the low level and fossicking around the old workings. 22 tons of ore, valued at £164 5s. 4d., were treated.

Joker Claim (George Fisher).—This claim is owned and worked by Mr. George Fisher, and for the year 3 tons of ore were crushed, and yielded gold to the value of £25 5s. 11d.

Sylvia Gold-mining Company (J. Benny).—A considerable amount of work was done on the Norfolk lode, but the results proved most disappointing. Recently the men have been engaged cleaning out and repairing a level driven upon this reef lower down the creek in order to reach a point where high-grade ore is said to have been left.

Zeehan Consolidated (H. F. Shepherd).—During the year a 30 horse-power gas-engine and suction gas-producer for generating gas from wood fuel were installed for the purpose of driving a 9 in. air-compressor (pressure 80 lb. per square inch), a circular saw for cutting timber for buildings, &c., and also a small Ross mill and Wilfrey table for determining the best method of treating the complex ore of this mine. Work in the mine has been confined to driving main crosscut to intersect the Paroquet lode, driving south on the Zeehan lode, rising on No. 3 lode, and driving north to try and locate the Zeehan lode on the other side of the fault. A little work has also been done in a winze on the Zeehan lode below the low level, but nothing of importance has been discovered during the year.

The Superintendent paid a visit to Canada to inspect their methods of dealing with complex ores, and has strongly recommended the erection of a 40-ton-a-day Ross mill for the sliming of the ore for concentrating in a Mineral Separation Company's oil-flotation machine. These concentrates will be shipped either to Australia or Europe.

It is the intention of the company to immediately erect a plant for crushing the ore and concentrating its gold, silver, and other metal contents by oil flotation. An order has been given for a 120 horse-power suction gas engine and producer for generating the necessary power, which will be transmitted from the power-station at the sea frontage to the treatment plant, to be erected near the mine.

Monowai Mine (R. W. Adams).—A small syndicate has been formed with a capital of £700 to test, at a greater depth, a lode, about 2 ft. 6 in. in width, which was discovered near the mouth of No. 3 level. The quartz is heavily mineralized, and samples taken gave values up to £6 per ton. A low-level crosscut is now in progress.

Four-in-hand Gold-mining Company, Coromandel (W. J. Patterson, Manager).—During the year an average of ten men has been employed prospecting the Four-in-hand, Tainui, and Cuirassier sections of this mine. A considerable amount of driving has been done on the reef-system on each of these sections, but the results met with proved most disappointing.

The water-race was put into repair, and a ground tramway constructed round the lateral spurs—a distance of 17 chains—and a tunnel driven for 249 ft. ; from this an aerial ropeway was constructed to connect with the battery and so do away with the heavy cost of sledging, and enable the quartz to be delivered at the mill at a reasonable cost. Unfortunately, owing to the heavy rainfall during the year causing a series of floods which carried away portions of the water-race and tramway on several occasions, and resulted in a considerable amount of money having to be spent to repair the damage done, work in the mine and mill has been retarded.

A little prospecting-work has been done in the Try Again, Royal Oak, Iris, and Winnipeg claims, but nothing which calls for special mention has been discovered.

Owera Gold-mining Company (W. F. G. Scott).—A considerable amount of work has been done in this mine in order to reach a point where is is stated payable ore was left some years ago ; but up to the end of the year the desired point had not been reached. Other portions of this mine were also tried, but the results proved disappointing.

O. Andrews, Mahakirau.—Mr. O. Andrews, who has been prospecting in this locality for several years, crushed a parcel of picked ore for 16 oz. 11 dwt., valued at £50 5s., won from a small quartz vein exposed on the surface.

Muir's Gold-reefs (Limited), Te Puke (W. MacConachie, Manager).—The main shaft was sunk 175¾ ft. during the year, making a total depth of 515¼ ft. below the surface. From 339½ ft. to 420 ft. the shaft advanced through a hard country rock containing occasional small stringers of quartz. From 420 ft. to 430 ft. the ground was of a soft slidy nature, with greasy heads and slickensides having a slight dip to the north. From 430 ft. to 459 ft. the country rock was sold and free from slidy heads. At 459 ft. the country became softer and much closer timbering became necessary. This soft country continued to 474 ft. From 474 ft. to 515¼ ft. was firm country rock, containing some small irregular veins of quartz. Shaft-sinking was completed near the end of June, and a commencement was immediately made to cut out a chamber at 500 ft. down. Crosscutting from this chamber to both Muir's reef and the Massey reef was commenced early in July. The crosscut to Muir's reef was driven a total of 665 ft. from the main shaft. The first 30 ft. was through solid country. From 30 ft. to 285 ft. the crosscut progressed through broken country and soft slide material. This slide is nearly horizontal, having a slight dip to the south-east, and is probably identical with the soft ground met with in the shaft at 459 ft. down. The heavy swelling nature of this slide necessitated close timbering in places, and repairs are being constantly effected to prevent the ground bursting the timbers. From 285 ft. to 560 ft. is hard country rock free from disturbance. At 560 ft. a flat slide with a slight dip to the west was met with. At 590 ft. the country became firmer. From 617 ft. to 665 ft. the crosscut has advanced through quartz and rubble containing a large portion of country rock of low grade.

The crosscut to the Massey reef has been advanced 861 ft. from the shaft. At 800 ft. the course of the drive was altered and directed more to the west in order to avoid the swelling ground. From 310 ft. to 390 ft. the ground was soft and contained slidy heads, and timbering was necessary. From 390 ft. to 535 ft. is in firm country. From 628 ft. to 800 ft. the crosscut progressed through slidy ground of a heavy swelling nature requiring close timbering.

In September a large flow of water was met with in the crosscut to Muir's reef, which proved more than the air-driven pumps then in use could handle. The water was allowed to rise to a point, about 300 ft. down the shaft, where it was found it could be held, and a start was made to install the pair of electrically driven 3-stage centrifugal pumps which were on hand in anticipation of an increased flow of water being met with as work progressed. Each of these pumps is capable of lifting 600 gallons per minute to a height of 230 ft.

As soon as the mine was flooded out men were engaged enlarging the chamber and cistern at 280 ft. down the shaft, and installing one of the pumps there to lift the water to the drainage tunnel leading from the shaft, at, at 50 ft. down, to a gully on the surface. The other electrical pump was installed as a sinking-pump, being suspended on a wire rope and raised and lowered by an air-driven winch which had been recently erected for the purpose. This pump now raises the water from the bottom of the shaft to the cistern at 280 ft. down the shaft.

A delay of about eight weeks in crosscutting was occasioned while the electrical pumps were being installed, and the mine pumped out and crosscuts cleaned out and repaired after their submergence.

A new transmission-line about one-quarter of a mile long had to be erected to carry electric current from the battery to supply the electric pumps.

A steam boiler was also installed to operate the winch to handle the electric sinking-pump and prevent it being submerged in case of a failure of the electric power (and incidentally of the supply of compressed air) taking place during heavy storms, or for any reason whereby the transmission-line from Omanawa Falls might become damaged.

Early in the year it was found that the supply of compressed air was insufficient, and in March last another air-compressor was installed, having a capacity of approximately 525 cubic feet of free air per minute compressed to 120 lb. pressure per square inch.

The development footage for the year has been as follows: Shaft-sinking, 175¾ ft.; crosscutting, 1,033 ft: total, 1,208¾ ft.

Reported Gold-find, Tarawera Mountain.—On the 25th August I visited a reported gold-find by the Natives situated in Pokohu Section No. 3B, Whakatane County, about forty miles from Matata on the eastern slope of the Tarawera Mountain. It consists of a formation about 10 ft. wide running east and west, dipping at an angle of 45 degrees, exposed in the bed of a creek, and is composed of silicified flinty quartz and country rock. Samples taken contained low values in gold and silver.

Quicksilver-mines.

New Zealand Quicksilver-mine, Puhipuhi.—No work has been done in this mine during the year.

Mount Mitchell Mercury-mine, Puhipuhi.—Very little work has been done in this mine during the year, but I am informed by Mr. T. A. Black that four men have been engaged on the Wonder Clay Claim portion of the Mount Mitchell Block.

Rising Sun, Puhipuhi.—No work has been done during the year.

Oil-wells.

Taranaki Oilfields (Limited).—On the 29th September, 1924, I was notified that a strong company had been formed in the State of Victoria for the purpose of testing the oilfields in Taranaki. Trained experts were engaged to examine and make a geological survey of the areas over which this company hold boring rights, who, after a thorough investigation, advised that No. 1 borehole be put down rather more tham a mile to the north and a little west of the Township of Tarata, near the north-east corner of Section 8, Block 3, Huiroa Survey Sistrict, and No. 2 borehole on the foreshore about 500 ft. south-east from the shore end of the New Plymouth Breakwater. At the time of writing No. 1 borehole had reached a depth of 1,055 ft., and No. 2 borehole, 50 ft.

Standard rigs, with equipment supplied by the Oil-well Supply Company, New York, have been installed at both bores. The derricks are of Oregon pine, 82 ft. 6 in. in height above the floor and 20 ft. square at the base. The bed logs are sawn rimu, the main logs being 18 in. 18 in. The walking-beam is of steel, the bull-wheel, calf-wheel, and band-wheel being of wood. The plant is driven by a single-cylinder steam-engine, steam being supplied by a locomotive type of boiler carrying 110 lb. pressure.

Several of the wells at Moturoa have been discharging petroleum intermittently during the year. No correct record has been kept of the quantity produced, but the caretaker of the wells formerly owned by the Taranaki Oil Company estimates the production of these wells during the year at 200 barrels.

Experts claim that in the past the casing used in the wells drilled was too light to stand the pressure, and, to avoid this trouble in the future, the Taranaki Oilfields (Limited) have at considerable expense imported the best and strongest casing obtainable. The sizes of the casing are as follows:—

Nominal Size.	Weight per Foot with Collars.	Collapsing Pressure per Square Inch, External.	Nominal Size.	Weight per Foot with Collars.	Collapsing Pressure per Square Inch, External.
In.	lb.	lb.	In.	lb.	lb.
15½	70	790	8¼	38	2,880
12½	54	1,210	6¼	28	4,070
10	48	2,030			

Accidents.

Two fatal accidents and two serious but non-fatal accidents occurred during the year.

At about 2 o'clock on the 22nd May a fatal accident occurred in the Woodstock chamber at Karangahake whereby a young man named Richard William Ryder Hungerford, aged 23 years, was instantly killed by being struck by a heavy cast-iron air-pipe. The particulars are as follows: The deceased, in company with another worker named George Dixon, was at the time of the accident in the Woodstock chamber dismantling the air-receiver. This receiver was hung in a cradle at each end and supported by wooden trestles. Deceased was standing on the air-receiver removing bolts and nuts at the connection between the air-pipe and receiver. This air-pipe is 8 in. cast iron, and it is quite evident that he had taken out all the bolts at the connection and freed the air-pipe, which in all probability had a little strain on it, so that when it was freed from the receiver it flew back, knocking the cradle from under the end of the receiver, causing it to tilt. As it tilted deceased fell with it, and the air-pipe, bolts, and straps supporting it also drew through the timbers to which it was suspended, and pinned diseased across the throat and chest, fracturing his skull and his right lower jaw. It is also probable that his neck was dislocated.

A fatal accident occurred at 7.40 a.m. in the compressor-house at the Ohinemuri Gold and Silver Mines, Maratoto, on the 19th August whereby the man in charge, Isaac Wade, aged 44 years, lost his life. The particulars are as follows: This air-compressor, driven by a Pelton wheel, is situated about a mile from the mine, in which two shifts are being worked. The air-compressor is stopped at midnight, and the duty of the man in charge is to keep it oiled and reduce the speed when the men in the mine have bored out the face, also to see that the air-pressure is sufficient to commence boring at 8 a.m. At 7.40 a.m. the mine-manager, J. O'Sullivon, who was standing by the pressure-gauge at the mouth of the tunnel, noticed that the hands of the gauge had not moved, and in order to ascertain the cause rang on the telephone which is connected with the mine and compressor-house, but could get no reply, and assumed that the driving-belt had come off, so at once proceeded down to the compressor-house to render assistance. On entering the compressor-house the manager found deceased lying on the floor with a deep cut on his right temple which was bleeding profusely. The Pelton wheel was still running, and the pulley which drives the air-compressor was broken. This is a geared belt-driven air-compressor. The diameter of the pulley driving the air-compressor is 2 ft. 4 in., which has been in use for over three years. The main pulley on the Pelton wheel is 4 ft. 9 in., and the distance between pulleys is 16 ft. 4 in. The driving-belt and pulleys are adequately protected, also the pinion-wheels. The deceased's duties were to oil the machinery, starting, and ease down the pressure when the Pelton wheel was not required for drilling. It is very difficult to determine how this accident occurred, but it is quite evident that deceased was engaged oiling the cups on the bearings of the pulley-wheel driving the air-compressor when it broke—a piece striking him on the right temple, causing instantaneous death. Nearly half this wheel carried away, leaving the "boss" on the shaft, and the cause of it breaking was evidently a defect in the casting, which was impossible to detect. An inquiry was held at Hikutaia before Mr. F. Flatt, Coroner, who after hearing the evidence returned the following verdict: "The deceased, Isaac Wade, met his death in the compressor building of the Ohinemuri Gold and Silver Mining Company, situated at Maratoto, on Tuesday, 19th August, 1924, caused by being struck on the forehead by part of a pulley. In my opinion the fatality was purely accidental, there being no evidence to show that any one was to blame."

A serious blasting accident occurred to Alfred Brown in the Waihi Mine in a stope on the Bull reef—above the Western Smithy surface level—about 9.30 a.m. on the 29th February. This stope is being worked one shift with two men—Alfred Brown and Daniel Gardiner. At knock-off time the evening before Brown spit two holes which had been charged, but only heard one report. The next morning both men entered the stope and discovered that one hole had misfired. Brown, who was nearest the face, pulled out the burnt fuse with the unexploded detonator attached; he afterwards commenced to work down the loose ground. Gardiner filled a truck and had just reached the mouth of the tunnel when he heard an explosion. On going back into the level he found that his mate had been seriously injured in eyes, chest, and arms. An examination of the stope showed that two holes had been bored, one above the other. The bottom hole missed, whilst the top one broke its burthen, and also shattered the quartz underneath. It is difficult to explain exactly how this accident happened, especially in view of the fact that the detonator had been withdrawn, and all that one can assume is that the whole face was shaken by the top hole, and that Brown miscalculated the position of the miss-hole and drove his pick into the charge, causing it to explode. Messrs. Brown and Gardiner are both careful and confident miners with many years' experience, and this accident can only be attributed to a error of judgment on the part of Alfred Brown, the injured man.

R. Wood had an arm broken whilst working in the shaft at Muir's Gold-reefs (Limited) on the 23rd June. It appears that at the time of the accident C. Hayward, L. Thompson, and R. Wood were engaged putting in a set of timber at 474 ft. below the surface. The bucket cage in the centre compartment was at the surface, the north cage being about 30 ft. above the bottom of the shaft. The lines used for plumbing the timbers are hung from a set about 30 ft. above the bottom, and required adjusting. In order to do so Wood climbed the sets in the compartment under the north cage, omitting to give the signal of eight bells, which notifies the engine-driver to hold fast and not to move the engine. While Wood was so engaged the braceman signalled the engine-driver to raise the bucket cage on the surface to enable him to draw the bucket into the winding-compartment, with the result that the north cage was lowered slowly about 10 ft. Wood, who was under this cage adjusting the plumb-lines, was struck on the right arm, sustaining a compound fracture of the radius. From the above it will be seen that this accident was due to negligence on the part of Wood in omitting to give the signal of eight bells, which notifies the engine-driver to fold fast and not to move the engine.

West Coast Inspection District (J. F. Downey, Inspector of Mines).

Quartz-mining.

MARLBOROUGH DISTRICT.

Dominion Consolidated Mine.—Towards the end of 1922 the Dominion Consolidated Mining and Development Company, which had operated the mine for some years previously, went into liquidation, and for some time work was at a standstill. During the past year, however, a syndicate, formed mainly, I understand, by the debenture-holders, took over the property and resumed active mining. A great deal of work was found to be necessary to bring both mine and plant into proper working-order again, and this prevented any crushing being done. Mr. W. L. Dutton was appointed mine-manager, and it is his intention to work the reef on the shrinkage system as practised to some extent at Waihi. The reef is not of high grade, but it is of good width, and, as it breaks well and the walls are of exceptionally good-standing character, it is suitable for shrinkage stoping. The management has good hopes that by working it on that system an economy will be effected that will enable a profit to be won. By the end of the year most of the needed repairs had been effected, and it was expected a start would shortly be made to crush. In the meantime a large tonnage of stone had already been broken in the stopes ready for transport to the mill. Eighteen men were engaged in mine and plant.

REEFTON DISTRICT.

Blackwater Mine.—During the year the average number of men employed remained approximately the same as last year—namely, 140. Development-work was carried on systematically, but a shortage of miners prepared to undertake winzing somewhat retarded progress. The work actually carried out consisted of 1,237½ ft. of driving, 904 ft. of which was on reef averaging 17·45 dwt. over 27½ in.; 216½ ft. of rising, 108½ ft. of which was on reef averaging 17·11 dwt. over 19 in.; 83½ of winzing, 10 ft. of which was on reef averaging 18·1 dwt. over 18 in.; and 16 ft. of crosscutting. The details of the work are as follows:—

No. 6 north level was advanced 15 ft., without disclosing anything; No. 8 level north advanced 222½ ft., 209½ ft. on reef averaging 18·58 dwt. over 28 in.; No. 9 level north advanced 199 ft., 158 ft. of which was on reef averaging 14·08 dwt. over 22·7 in.; No. 9 level south advanced 14 ft. in country rock; No. 10 level north advanced 360½ ft., 248½ ft. on reef averaging 17·06 dwt. over 42·6 in.; No. 10 level south advanced 378½ ft., 240 ft. on reef averaging 20·55 dwt. over 16·3 in.; No. 8 level rise at 1,470 ft. north was risen 83½ ft. on reef averaging 18·1 dwt. over 18 in.; No. 8 level rise at 1,670 ft. north was put up 18 ft. on reef averaging 14·9 dwt. over 24 in.; No. 9 level rise at 640 ft. south was risen 32 ft., of which only 7 ft. was on reef; No. 10 level rise at 440 ft. north was risen 83 ft. in country rock only; No. 7 level winze at 1,470 ft. north was sunk 53 ft., 10 ft. of which was on reef averaging 18·1 dwt. over 18 in.

The total footage of development was therefore 1,553½ ft., of which 1,022½ ft. was on reef averaging 17·44 dwt. over 26·4 in.—viz., 908½ ft. in payable reef averaging 19·35 dwt. over 27½ in., and 114 ft. on reef averaging 3·23 dwt. over 17½ in., 531 ft. being off reef. This development cannot be looked upon as otherwise than very satisfactory, the extent of reef and the values showing on No. 10 level north being particularly so. This is so far probably the best level north in the mine since No. 4, and as it is the present lowest level the development speaks well for the future life of the mine.

During the year some 38,140 tons of quartz were treated, which yielded 18,550 oz. 4 dwt. gold, valued at £79,310 8s. 4d. The crushing showed a falling-off of about 1,500 tons on the previous year, but the value received represented an increase in the same period of £3,872 7s. 10d.

A new Edwards roasting plant is being erected at the battery to treat accumulated and current concentrates, which for some time past have not been sufficiently rich in gold content to warrant their being shipped to Australia or elsewhere for treatment; but by treating them at the mine a fair margin of profit is expected to be won.

The new water-race extension to the Alexander River is nearly completed, and when this water is brought in additional economies that are expected as the result of its use will probably further assist the company in its future work.

North Blackwater Mine.—During the year this mine was again unwatered and put in order, but the only actual mining done was the extension of No. 6 level a further 18 ft. easterly. This work was carried out with a view to locating the upward continuation of the reef found at 220 ft. in No. 7 level crosscut, and the object was attained. The reef was cut, but it was broken and of irregular size, due no doubt to the point of intersection being in close proximity to the same fault that displaced the reef on the lower level. Once the reef was found in this level work again ceased, pending rearrangement of its finances on the part of the company.

Murray Creek Mine.—Mining operations were resumed on this property by a small syndicate which took the property over from the liquidator of the former Murray Creek Gold-mining Company. The old No. 2 (battery adit level) was cleaned out and repaired for about 2,800 ft., and the rails were relaid in it for that distance. At this point which was but a few feet from the extreme end of the adit, some work was done on a small reef-track which evidently represented the southern limit of the Victoria shoot (the most southerly of three previously worked in the mine). A leading stope was taken off, and it was found that the track opened out and carried more quartz. This sign being considered encouraging, stoping was carried out further, but no further evidence of the widening of the track occurred, and as the stone was too small and broken to be worked profitably operations at that part were suspended. Some prospecting was then carried out at a point in the adit about 400 ft. further back towards the mouth, and here at the

side of an old branch drive and just behind the old timbers a reef was located which when opened out proved to be up to 4 ft. in width. This was driven on northerly for approximately 100 ft. to a point where it apparently overlapped what was known as the "30 ft. block" which was worked out some years ago. Stoping was started on this run of stone, but after several stopes had been taken off the stone cut out entirely. Subsequently an opening was made from an old rise previously put up to work the 30 ft. block, and an intermediate was driven out over the recently stoped ground, but the work was found to be entirely off reef and evidently in a fault. There is little doubt that this stone was cut off by a fault, and in all probability would be picked up again if a rise were put up along the fault-line, but the question arises as to whether such work would be justified. The stone taken out from the reef was all crushed at the battery, and if the results obtained are any criterion as to the values that might be found in the stone if it were located higher up they can scarcely be considered as encouraging the carrying-out of the work referred to. In all 329 tons are reported as being crushed, and the resultant gold from amalgamation and cyanide treatment only amounted to 114 oz. 13 dwt., valued at £383 6s. 3d., equal to 6·7 dwt. per ton. A portion of the tonnage crushed may have come from the smaller reef worked farther in along the adit, but by far the bulk of it came from this other reef. It may be mentioned that both the short runs of stone opened out on form part of the Inglewood shoot. The crushings not being satisfactory, work at the mine ceased again at the end of the year.

New Big River Mine.—Work was carried on steadily throughout the year, an average of forty-eight men being employed in mine and treatment plant. Comparatively little development was done, and this was confined to No. 12 level. Driving to the extent of about 226 ft. was carried out, and two rises put up, one to 70 ft. and the other to 80 ft. In the former no stone was met with till 70 ft. in height above the level was reached, but in the latter stone of fair size was followed right up from just over the back of the level. The first rise mentioned was 1,005 ft. from the shaft, the other 945 ft. At 70 ft. above No. 12 level an intermediate was opened out, and from this the workings have revealed fairly large bodies of stone of good grade. During the year 4,101 tons of quartz were treated, as against 4,324 tons during 1923, but the better values recovered more than made up for the slight falling-off in tonnage, 4,814 oz. 19 dwt. 12 grains gold, valued at £20,039 14s. 8d., being won, as compared with 3,804 oz., valued at £15,609 7s. 10d. With the exception of about 300 tons the ore crushed came from the No. 12 level stopes. It is rather unfortunate that no payable quartz has yet actually been met with in No. 12 level itself, but further development during the coming year will probably give the mine a healthier appearance at this horizon.

New Keep-it-dark Mine.—The tribute party that worked a short run of stone above No. 1 level during 1923 continued their operations and extracted a further 880 tons, which on treatment yielded 656 oz. 10 dwt. gold, valued at £2,530 6s. 9d. As the workings then approached the surface and the ingress of water became too heavy to make the work safe, operations ceased. The party thus did very well out of this tribute, taking out in about eighteen months 1,963 oz. 7 dwt. gold, valued at £7,598 6s. 8d., which showed good profit after all expenses were paid. Some sixteen men on an average were kept employed.

Since work ceased in this part of the mine, another party took up a tribute in another section of it—viz., in the Old Golden Ledge adit in which no work has been done for something like forty years. Many years ago various parcels of quartz were taken from this part of the property, but no official data regarding them seems to be available. It is said, however, that about 1,300 tons were crushed for about 8 dwt. gold per ton, but in that far period the use of cyanide was, of course, unknown. The belief exists that good stone was left in the face of the adit, and it is with a view to proving the truth or otherwise of this statement, and also to make some further test of the value of the stone treated under modern conditions, the present party have undertaken the work of opening up the old workings.

Up to the end of the year 170 ft. of crosscut had been reopened and timbered, and about 220 ft. of the drive on the reef. During the progress of the repair work about 70 tons of quartz were recovered, in which it is not an uncommon thing for visible gold to be seen. An opening made into the old stopes shows stone to be there up to 3 ft. wide. It may be mentioned that none of the old plans in this office show the drive in the reef to have extended more than 90 ft. from the crosscut, so that the party has been surprised to find it extending upwards of 200 ft. Four miners are employed, and it is proposed to put several more on shortly.

North Big River Mine.—A little more work was done in this mine with a view to locate payable reef, but no success was met with. Connection was made by winze and rise between No. 1 intermediate adit and No. 2 adit, and several crosscuts were run out eastward on No. 2 adit.

New Millerton Mine.—Work was carried on here in a small way for the greater portion of the year. The only development-work done was, however, the making of a short connection between the ends of the two branch drives on No. 3 level south. Stoping was continued on the small gold-bearing shoot in the south end of the mine, which was worked out up to the surface. The results of this work were not at all satisfactory, 263 tons of quartz being mined and treated for 54 oz. 3 dwt. gold, valued at £218 4s., equal to an average of 4·1 dwt. gold per ton. The sands were not cyanided. Towards the end of the year operations ceased.

South Blackwater Mine.—During the latter half of the year the commencement of what appears to be a serious attempt to prove the value or otherwise of this property was made. A site for a main shaft was located and levelled off, and a small winding-engine and boiler taken there. It is proposed to sink this shaft to a depth of at least 600 ft. The site of the shaft is approximately 6,760 ft. south of the Blackwater mine-shaft and a few chains to the west of the line of what is known as the Blackwater or Birthday reef. A track which is believed to be that of the reef referred to has been found in the south Blackwater ground, and an adit was driven on it for about 500 ft. southerly at an elevation a few feet above the level of Snowy Creek. Several other reefs, known as the Empire and the Snowy, have also been found in the South Blackwater holdings, and adits were driven on them for varying distances. In all the adits the records seem to show the reefs were small and much broken. As the collar of the proposed shaft is approximately 300 ft. above the level of the lowest of these adits—that on the Birthday line—the shaft will, consequently, if carried down to the full depth mentioned, penetrate to a depth of 300 ft. below any previous workings, and it is possible that if the reef is located at that depth it may be less disturbed and perhaps of better width than in the more superficial workings.

New Discovery Mine.—After being idle for something more than a year work was also resumed on this property. From the end of the drive put in to the north on the reef-track at 1,163 ft. in the low-level tunnel a rise was put up with a view to making connection with a winze previously sunk from No. 1 level, but up to the end of the year the connection had not been completed, although only a few feet of work remained to be done. The old workings of Nos. 1 and 2 adits were also repaired. Although the rise referred to was put up about 90 ft. no payable stone was discovered.

Ready Bullion Mine.—No work was done here during the year.

Big River Extended Mine.—This mine was also idle throughout the year.

South Big River Mine.—After a period of inactivity work was resumed. No. 3 level, which had been previously put in for upwards of 600 ft., was cleaned out and repaired, and it is now proposed to connect a rise which was started from this adit with the No. 3 winze previously started from No. 2 adit. Reef is showing in this rise, but the stone is not solid, the formation having more the appearance of a fault in which such stone as occurs has been dragged and crushed. It is also proposed to continue the driving of No. 2 adit a further distance northwards of about 160 ft. to connect with No. 1 winze sunk from the surface. The object of this work is to prove whether or not the reef which outcrops on the surface between Nos. 1 and 2 winzes lives down to this depth. It is also intended to project a short crosscut from No. 3 adit to a point under No. 1 winze. To enable this work to be carried out the Department has granted a small subsidy.

Scotia Mine.—This mine, otherwise known as the Justification, has been actively worked during the past year, a syndicate known as the Scotia Development and Prospecting Syndicate having taken an option over the property and spent something like £2,500 in endeavouring to locate the downward continuation of the reef formerly worked down to No. 4 level (No. 2 from shaft). Unfortunately, the larger portion of the small capital provided was consumed in the

task of unwatering and repairing the Sir Francis Drake shaft. This latter was found to be in extremely bad order, not so much by reason of any decay in the timber, but owing to much of it getting adrift, and the continuous obstruction to the baling, together with the necessity of retimbering as the work progressed and of coping with the constant and fairly heavy influx of water from surface workings, made the work very costly. At 150 ft. below No. 4 level, or 480 ft. from the collar of the shaft, a chamber was cut, and a level, No. 5 (No. 3 from shaft), projected in a direction a little west of north for 143 ft. At 40 ft. from the shaft reef was met with and driven on for approximately a similar distance. This reef was about 3 ft. wide, but it was not solid stone, and consisted of a series of stringers of quartz with country rock between them. The material carried little or no value. Five samples taken by myself at 5 ft. intervals between 40 ft. and 60 ft. in the drive showed on assay nothing more than a trace of gold. At 90 ft. from the shaft this formation cut out, but it made again a few feet further on and continued to the end of the drive, when it again cut out. No values of any consequence were, however, as far as I can learn, found in it. Work at this horizon was then abandoned, and No. 3 level was cleaned up, as was also a winze sunk many years ago from it to a depth of 50 ft. at a point about 450 ft. northerly from the shaft. A belief existed that payable reef had been located in this winze, and the syndicate desired to find out if possible whether it was justified or not. The winze was baled out, and the manager informed me that he found reef at a short distance in the western wall from the winze, and that he took several samples from it which showed payable results. Owing to the heavy influx of water it was found impossible to keep the winze open for inspection, consequently I did not have an opportunity of seeing this reef. As the syndicate's funds were exhausted it approached the Department for some assistance to try and reach the stone from No. 4 level, and as the distance to be driven was not great a small grant on a £1 for £1 basis was made, towards the closing weeks of the year, to enable the work to be done.

Progress Mine.—No underground work was done, but at the battery-site the retreatment of some of the old tailings was continued, some 644 oz. 4 dwt. of gold, valued at £2,262 14s. 9d., being recovered.

Wealth of Nations Mine.—Mining and crushing operations were carried out continuously, but work is said to have been retarded considerably by lack of good miners. Quite a lot of work was found necessary in the way of repairs to the shaft and various levels from No. 4 level down, and in the opening-up and restoring of old passes for ventilation purposes, and much expense was thereby incurred that had not been foreseen. Early in the year No. 13 south level reached the block of stone in which a winze had previously been sunk from No. 12 level to a depth of 80 ft., and a rise was put up which made connection with the winze. The block on No. 13 level was found to be of fair width —upwards of 14 ft. for a good part of its length—but, unfortunately, the stone was not found to carry the high values shown where it was driven on in No. 12 level or sunk on in the winze. On the contrary, it was discovered to be of such exceedingly low grade as scarcely to pay the cost of extraction. At first this was not thought a matter of great moment, as values in some of the Reefton mines have been often known to vary greatly from stope to stope, and it was expected that when stoping was begun better-quality stone would soon be met with. Four stopes had, however, been taken off before the end of the year without any material improvement showing in the gold contents of the quartz. As it had been quite reasonable to believe that the values shown in the winze would have lived down this unforeseen and quite unexpected result of the work has proved a grievous disappointment to the shareholders, most of whom are local people. There can be little doubt but that better values will come in again higher up, but in the meantime the company's finances are nearly exhausted, and great care will be needed to guide the venture over the intervening period. Stoping was carried on on the same shoot of stone above No. 12 level, but the values from here do not seem to have been much better than those from above No. 13. Some fair-grade stone was, however, won from stopes over No. 11 level. Altogether 7,754 tons of quartz were crushed, by far the greater portion of which came from the south shoot over Nos. 12 and 13 levels, for a yield of 2,740 oz. gold, valued at £10,907 3s. 7d., equal to a return of 7·08 dwt. per ton. Thirty-eight men were employed. Towards the end of the year a plant for treatment of a large accumulation of slimes at the mine was completed. When this is in full working-order a substantial addition should be made to the company's earnings.

Alexander River Reefs.—A small syndicate, known as the Alexander Gold-mining Syndicate, consisting almost wholly of the original prospectors of the field and their workmen, has been making great efforts to bring this field into the producing stage. During the year a water-race 17 chains in length, most of which was in solid rock, was cut, and an overshot water-wheel, 20 ft. in diameter, erected, the latter being made from timber hand-sawn on the spot. A small battery of five head of 650 lb. stamps has also been erected. The water-wheel, which has been erected close to the Alexander River, is used to drive a small 15 horse-power generator, from which current is transmitted to the battery, which is situated at an elevation of about 1,000 ft. above the river. For driving the battery a 10 horse-power motor is installed. The getting-in of this plant proved a most laborious task. To assist the party in the work a grant of £400 was made by the Department, which enabled a rough track to be made from the head of Brown's Creek to the foot of the spur on which the mine is situated. The material was carted in drays up the bed of Brown's Creek to the new track, and snigged over the latter. Most of the work had to be done through the winter, which was an unusually wet one, consequently the men employed at the work had to put up with much hardship. From the Alexander River to the battery-site the party had at its own expense to construct a steep track up the range, up which the machinery had to be dragged by means of tackle. The whole of the work of erecting the various parts of the plant was practically completed by the end of the year, and in view of the many difficulties that had to be faced in the performance of the work the men are to be highly complimented on the rapid and skilful way in which it has been carried out. The mine itself is situated several hundred feet higher still than the battery and at a distance of about 20 chains from the latter. An aerial has been provided by means of which the stone will be brought down from mine to mill. Much development will, of course, have yet to be done before it can be known whether or not the reef is likely to be a permanent one, but the indications that it will live in length and depth are favourable. In the meanwhile there is in sight a considerable tonnage of stone for the party to work on, and as there is little doubt as to the good quality of this stone the coming year offers decided promise that the party will be well recompensed for its enterprise and hard work.

Perseverance Mine.—During the year Messrs. T. S. and J. H. Roberts, two prospectors well known in the district, acquired this old mining property, situated midway between the Energetic and Murray Creek Mines, and have done a good deal of work in cleaning out the old adit and doing further surface prospecting on the area. The Consolidated Goldfields some years ago located gold-bearing stone in driving south on the reef in No. 1 adit, and had carried in No. 2 adit nearly to the reef when for some reason not now discoverable work was stopped. The present holders have a high opinion of the prospective value of the area, and efforts are being made to form a company to provide capital to further test it.

Dredges.

Rimu Flat Gold-dredge.—The big dredge of the Rimu Gold-dredging Company continued active work during the whole of the year, but failed to turn over quite so large a quantity of ground as during the previous year, consequently less gold was won than in 1923. The operations were nevertheless very successful, some 10,606 oz. of gold, valued at £47,256, being recovered, and dividends to the amount of a further £6,566 were paid, making a total distribution of £9,849 since the dredge was started. The company has been vigorously prospecting by means of Keystone drilling various parts of the district within reasonable radius of Rimu Flat in the hope of locating a further area of payable dredging-ground. So far, however, the prospecting efforts have not met with any success. Some good ground has been penetrated by the bores, but no area of payable ground large enough to warrant putting a dredge on has been proved. As the company intends continuing this policy of active prospecting, it is to be hoped the coming year will satisfactorily reward its efforts. On an average forty-eight men were employed.

Awatuna Dredge.—This dredge, working on the beach leads near Awatuna Railway-station, has also been operated continuously during the year, eleven men being employed. For the period 1,193 oz. of gold, valued at £4,727, were recovered. As the dredge is only constructed to work to a depth of 25 ft., it was found that some of the best ground in the area could not be bottomed.

Kingswell's Dredging-area, Ngahere.—Some further drilling and general prospecting was done on this area on the Grey River, and efforts were made by the holder to procure capital for working it, but so far success in this direction has not been attained.

Alluvial Mining.

This branch of the industry has shown some little advancement for the year, 167 men being employed, as against 132, and about £3,000 more gold being won and disposed of than recorded in 1923. Altogether 3,592 oz. 6 dwt. gold, valued at £14,267 2s., were accounted for.

The following details give some idea of the work done in the different fields :—

Howard Diggings.—Returns show that twenty-one men were employed, winning 175 oz. gold, worth £703 13s. 8d.

Murchison (including Lyell, Newton Flat, and Matakitaki).—Twenty men were employed, winning gold to the value of £533 14s. 9d. The Buller Sluicing Company, operating on the Glenroy River, which employed twelve of the number of men, has not yet passed the prospecting stage, but has not evidently met with much success.

Westport District (including Charleston, Fairdown, and Waimangaroa).—Twelve men were employed, winning 299 oz. 1 dwt. 6 gr. gold, valued at £1,149 1s. 8d.

Grey Valley (including Ahaura, Nelson Creek, and Blackball).—Fifteen men employed. 258 oz. gold were recovered, valued at £1,041 8s. 5d.

Collingwood.—Eight men were employed at Parapara and Rockville, winning 86 oz. 2 dwt. 18 gr. gold, valued at £312 13s. 3d.

Blenheim.—Seven men were employed in connection with prospecting on the old Mahakipawa field.

Kumara (including Stafford, Greenstone, and Callaghan's).—This was the most active and productive centre, thirty-three men being employed. 1,570 oz. gold were recovered, valued at £6,223 11s., the most successful claims being the Hohonu Sluicing Company at Greenstone, Stubbs and Steel at Revell's Terrace, and Havill's at Callaghan's.

Barrytown.—Five men were employed working the beaches, 41 oz. gold being recovered.

Reefton.—Gold amounting to 237 oz. 19 cwt. 14 gr. were recovered, valued at £913 19s. 3d. Twelve men were employed.

Hokitika.—On the various old fields in this locality twenty-one men were employed, mining 401 oz. 3 dwt. 10 gr. gold, valued at £1,611 4s. 9d.

Okarito.—The beaches from Okarito to Gillespie's have apparently been fairly good, eight men winning from them 294 oz. 15 dwt. 19 gr. gold, valued at £1,149 1s. 8d. Gillespie's Beach was by far the most productive locality.

Mining other than Gold.

Iron.—During the year active smelting operations were again entered upon by the Onakaka Iron and Steel Company, and 630 tons of pig iron were produced, the whole of which was found to be of good quality and was disposed of to ironfounders throughout the Dominion.

During the smelting run the furnace worked smoothly, three tappings being made daily. The consumption of coke was 1 ton to each ton of pig iron produced, and the daily output of the furnace was approximately 20 tons. Owing, however, to various serious obstacles the operations whilst entirely successful from a smelting point of view were not so from a financial aspect. The chief trouble lay in the company's inability to procure or produce coke at a sufficiently low price at the time to enable it to turn out pig-iron at a figure admitting of successful competition with the imported article. A supply of suitable coke could not be secured at a satisfactory price in the Dominion, and New South Wales coke proved too costly, so the company had to resort to making its own from coal brought by sea from Greymouth. This coal had to be carted from the company's wharf to its coke-ovens, a distance of about one mile and three-quarters over a bad road, and this handling proved over-costly. Further than that, there was no shelter for the coal, with the result that in the very wet weather that prevails in the locality it became loaded with moisture to such an extent that it took an unduly long time to coke when placed in the ovens. The normal time for a charge in the small beehive ovens used is forty-eight hours, but owing to its wet condition this coal was taking anything from sixty to ninety-eight hours to go through. The result of this was inevitably that the coking-costs reached a prohibitive figure. Realizing that it was impossible to carry on under the existing conditions the company ceased its smelting operations, and set to work to procure better means of transport for the coal from the wharf to the ovens and to provide means also of keeping the coal in dry conditions. Plans were prepared for the laying-down of a tramway between the wharf and the coking plant, the erection of suitable sheds at both termini, and the erection of six more ovens in addition to the sixteen already built. A start was made with this work, and prior to the end of the year the formation of the tramway had been about two-thirds completed, and all the ties, rails, &c., had been delivered at the wharf. The additional ovens had also been partially built. Owing to the necessity of raising further capital work was again stopped in October. A debenture issue to provide the necessary funds is now being offered to the public, and, as I understand this is being taken up readily, it may be expected that an early resumption of active work will take place. As the whole success or otherwise of the venture depends on the production of coke at a satisfactory price, and as the improved facilities now being provided should enable the company to attain its objective in this direction, much better results should be forthcoming from the company's efforts when smelting is again started.

Petroleum.—No active boring was done in this district in search of petroleum during 1924, but the possibility of finding payable deposits has not been lost sight of. In the Murchison district a mineral prospecting warrant, covering 9,829 acres, has been taken up by Messrs. D. Oxnam and party in Tutaki and Matiri Survey Districts with a view to prospecting for oil. It is generally known that strong oil seepages occur at various points in this locality. During 1922 Professor Cotton, of Sydney University, visited and reported on them, expressing the opinion that, whilst oil-bearing beds probably existed there, they were at a great depth—6,000 ft. or more—from the surface, and the strata was so dislocated by fractures that no area left between the latter would be sufficiently large to permit of the accumulation of a payable deposit of oil. The geologist referred to gave, however, his chief attention to the Warwick Saddle area, to which his remarks fairly apply. Messrs. Oxnam and party propose devoting their efforts to the Mangles River area, where they are satisfied the strata overlying the possible oil-bearing beds are not nearly so deep and the faulting has not been so intense. They believe that an anticlinal structure stretches for miles through the country, with its crest passing through the Mangles River area and on to a point south of the Warwick Saddle. If this is so, there seems a strong probability that at some point or other along its strike payable oil-beds may be located, and inasmuch as the overlying conglomerates, sandstones, &c., have been entirely eroded at the Mangles River, leaving only the arkose grits as cover for the possible oil-beds, it is certain that drilling would not there have to be carried to so great a depth as would be necessary elsewhere on the field, hence it appears to be a favourable locality for initial prospecting. On behalf of the warrant-holders, Mr. J. A. Spencer, who has had field experience with the Anglo-Persian Oil Company, has examined this area, and has reported favourably on it from a prospecting point of view, and a site has been selected for the first borehole. This is, I understand, near the junction of Blackwater Creek and the Mangles River. I am informed that the necessary capital for putting down this bore is available, and that negotiations are proceeding for the purchase of the drilling plant required.

Other applications for similar warrants for prospecting for petroleum in the Murchison district have been lodged by Mr. J. Bassett and Mr. F. Creighton.

In Grey County mineral prospecting warrants, covering 25,000 acres in Waimea and Arnold Survey Districts, have been granted to Mr. J. B. Donald for a similar purpose.

General Remarks.

Mining.—Mining generally throughout the district has shown a slight improvement. In the alluvial branch 167 men were employed, as against 132 last year, and 711 oz. 10 dwt. more gold were won. In the quartz-mining branch forty-seven more men were employed. Some 51,467 tons were crushed, as against 47,872 tons in 1923, an increase of 3,595 tons, whilst the gold yield amounted to 27,574 oz. 14 dwt. 12 gr., valued at £115,651 18s. 4d., as compared with 25,290 oz., valued at £99,143 6s. 2d.

Quarries.—In the various quarries in the district slightly fewer men were employed, but the value of the product went up to £55,121 12s. 2d., an increase of £13,763 17s. on the previous year's figures. No accidents of any kind were reported.

Prospecting.—Apart from the work done by means of Keystone drills by the Rimu Gold-dredging Company, field prospecting either for reef or alluvial has not been active. Very few applications for prospecting assistance were received, but such of these as seemed deserving were granted subsidies.

Accidents.—I have regretfully to record one fatal accident. This occurred early in the year, a young man named Frederick Archer, age 20 years, being crushed to death between the screen and the side of the distributing-box on the Rimu dredge. Deceased evidently fell on top of the revolving screen, and was carried around by it against the walls of the distributing-box, his body being found underneath the screen. An inquest was held, and the verdict of accidental death returned. No evidence was forthcoming as to how deceased came to get into the position. The screen was well railed off, and there was no occasion for deceased to go inside the railing at the time. He had been engaged in sweeping the deck on the port side of the screen, and the only inference is that instead of walking around outside the railing to resume his work on the starboard side he had attempted to take a short cut over the screen on portion of the gantry timbers, and while doing so lost his balance.

Two other accidents of a much less serious nature were reported. One of these consisted of the gassing of a young man named Christopher Curtain at the Wealth of Nations Mine at Reefton. He was employed at the time in removing old timber from the top of a winze on No. 12 level, which was to be baled out. The winze was full of water charged with sulphuretted hydrogen, and it is presumed that he disturbed the water, causing the gas to be freed. Curtain was rendered semi-unconscious, but speedily recovered on removal to the Hospital. The other accident was to a man named F. C. Bell at the Hohonu Sluicing Company's claim at Greenstone. Some of the employees were putting in boxes near the face at the time. Bell, who was in charge of the working, was assisting them, but had just sat down on the edge of the race when a small slab fell away from a boulder of sandstone behind him. The material only fell a few inches, but it struck Bell on the back, causing injuries that necessitated him being taken to the Westland Hospital, where he remained for several weeks.

Southern Inspection District (Mr. A. Whitley, Inspector of Mines).

Quartz and Alluvial Mining.

WAITAKI COUNTY.

Livingstone and Maerewhenua.—A long period of dry weather was experienced in the early part of the year, which caused a shortage of water for sluicing, consequently there has been a falling-off in the yield of gold. Returns show that nine men were employed, producing 87 oz. gold, valued at £338.

WAIHEMO COUNTY.

Golden Point Mine (Macrae's).—No work was done in the mine during the year. At the battery 1,100 tons of tailings, saved from the previous crushings, were treated by cyanide for a yield of gold valued at £628, and 13 tons of concentrates, valued at £233, were shipped to Australia for smelting.

Mount Moore Gold-mining Syndicate (Stoneburn).—This syndicate has taken up the Golden Bar Mine, and commenced to sink a vertical shaft to prospect the reefs at a depth of 100 ft. below the low-level tunnel.

MANIOTOTO COUNTY.

St. Bathan's.—The Scandinavian Water-race Company has reopened the Kildare lead at a depth of 177 ft. below the present surface level. The lead comprises a rich seam of quartz gravel, of an average width of 3 ft., which is dipping south-west at an angle of 45°. Two hydraulic elevators are required for lifting the gravel, and owing to the increasing depth other methods will have to be adopted for mining the lead at the deeper levels. The yield of gold for the year amounted to 619 oz., valued at £2,430.

Cambrian.—Four sluicing and elevating claims employing eight men were in operation. The Vinegar Hill Sluicing Company was the principal producer with a yield of 280 oz. gold, valued at £1,162.

Naseby and Kyeburn.—Twenty-six men were engaged in alluvial mining in these localities. The yield of gold amounted to 471 oz., valued at £2,088.

Patearoa.—Three claims were worked during the year. The gold won amounted to 114 oz., valued at £448.

TUAPEKA COUNTY.

Gabriel's Gully Sluicing Company (Blue Spur).—Two sluicing plants have been treating auriferous cement throughout the year with payable results. Fourteen men were employed, producing 926 oz. of gold, valued at £3,783. Dividends amounting to £2,000 were paid.

Lawrence Sluicing Company (Blue Spur).—This company is workingt he north section of the Blue Spur cement deposit, the tailings from sluicing operations being discharged into Munro's Gully. Six men were employed during the year, and the yield of gold was valued at £710.

Golden Crescent Sluicing Company (Weatherstone).—This company has been treating low-grade cement throughout the year. The gold won amounted to 248 oz., valued at £1,028. Six men were employed.

Sailor's Gully Sluicing Company (Waitahuna).—Operations were confined to sluicing surface clay and weathered portions of the cement deposit in the company's claim. Gold valued at £2,933 was won, and dividends amounting to £1,680 were paid.

Havelock Sluicing Company (Waitahuna).—Sluicing and elevating was carried on up to July. The last two paddocks taken out did not yield sufficient gold to pay working-costs. Additional plant was required before work could be continued, and as the prospects of meeting with payable ground were not considered favourable the company decided to cease operations. This company, which was registered in 1908 with £4,000 subscribed capital, produced gold valued at £38,838, and paid £11,400 in dividends.

Waipori.—Five alluvial claims, employing nine men, were in operation during the year. The gold won amounted to 533 oz., valued at £2,189. R. J. Cotton was the principal producer, with 293 oz., valued at £1,230.

VINCENT COUNTY.

Old Man Range.—R. T. Symes, owner of the Advance Mine, crushed 75 tons of quartz from a winze and drive on White's reef, 35 ft. below the battery level, for a yield of 59 oz. gold, valued at £237.

Nevis.—Returns from this locality show that seven alluvial claims, employing twenty-five men, were in operation during the year. The gold won amounted to 1,194 oz., valued at £4,723. Graham and party were the principal producers with 712 oz., valued at £2,848.

Clutha River.—The Clutha Development Company (Limited) have been engaged in prospecting a large area of river-bed in the vicinity of Lowburn with one of the Government Keystone drills. The prospects obtained are considered to be very encouraging, and it is intended to continue drilling until the area is thoroughly tested.

LAKE COUNTY.

Shotover River.—Nineteen men were employed at alluvial mining in this locality. The gold won amounted to 393 oz., valued at £1,570.

Sandhills Gold-mining Company (Upper Shotover).—This company is concentrating on the work of sluicing out an old channel of the Shotover River for the purpose of turning the river from its present course and working about 60 chains of its bed.

Reid and Lynch (Sawyer's Creek).—Loose gold-bearing quartz was found in a slip at the head of Sawyer's Creek, and driving is in progress to prospect for the reef from which it was shed.

Kawarau Gold-mining Company.—A license for a dam at the outlet of Lake Wakatipu having been granted to the company the work of preparing the site was commenced in the latter part of the year. The dam will be of the stoney sluice type, comprising ten gates each 40 ft. wide and 7 ft. high, operated by winches for controlling the flow of water from the lake. The company's special dredging claims in the Kawarau River have been subdivided into 128 claims, each one-quarter of a mile in length, which are being leased to subsidiary companies and parties.

SOUTHLAND COUNTY.

Nokomai Hydraulic Sluicing Company (Nokomai).—The company's claims in Victoria Gully are almost worked out, there being only three claims on the lead remaining to work. To provide for future operations an area of 70 acres in Nokomai Creek, which was formerly held by the Lion Gold-mining Company, has been taken up and two of the water-races are to be extended for working the area. The yield of gold amounted to 1,306 oz., valued at £5,160. Thirty men were employed.

The Waikaia Deep Lead Mines (Limited), (Waikaia).—This company was formed to reopen and work the Break-em-all Claim at Winding Creek. A paddock 50 ft. deep which was sunk ten years ago by the Round Hill Gold-mining Company was cleaned out, and pumping and winding plant installed for sinking on the lead. After sinking 20 ft. it was found that the plant could not deal with the incoming water, and operations were suspended. The gold won amounted to 52 oz., valued at £211.

Muddy Terrace.—F. Hamer and party produced 117 oz. gold, valued at £453. Operations were confined to ground sluicing in Maori Gully.

D. McLister (Athol).—This claim is situated on the spur between Glenquoich Creek and the Mataura River. A deposit of old sandstone gravel 80 ft. in height was worked by ground sluicing until the face got too high for safe working with the available water-supply, which is small and irregular. Driving out the richest part of the deposit has been resorted to with payable results. Gold valued at £1,214 was won during the year.

A. Mutch and Party (Athol).—This party is working a deposit of old sandstone gravel with payable results. A quantity of wooden fluming in the water-race, which was destroyed by fire in the early part or the year, has been replaced with steel pipe.

WALLACE COUNTY.

Round Hill Gold-mining Company.—A paddock was opened out on the boundary of the old Ourawera Claim. The ground is very stony and contains a lot of buried timber, but carries gold in payable quantity. Seventeen men were employed in the claim and attending to water-races. The yield of gold for the year amounted to 899 oz., valued at £3,906.

Orepuki and Pahia.—Nine men were employed at alluvial mining in these localities. The gold recovered amounted to 161 oz., valued at £638.

G. Shaw and Party (West Waiau).—This party has been engaged in repairing a race to bring water from the Groveburn for working an area in Block 7, Alton Survey District, for gold and platinum. The area comprises a small block of Native land which was recently ceded to the Crown for mining purposes.

Dredge Mining.

A company, with headquarters in Melbourne, Victoria, is erecting a suction cutter dredge on the Shotover River, at Maori Point, to work the claims held by Paterson and Searle. The dredge comprises steel pontoons 50 ft. long, 24 ft. wide, and 9 ft. deep, equipped with a 16 in. gravel-pump suction-pipe and rotary cutter. The pump, which was manufactured by Thomson and Co., Castlemaine, will be driven by a 165 horse-power motor, and the cutter by one of 50 horse-power. Power will be provided by a 250 kw. alternating-current generator driven by water from Stony Creek under a head of 450 ft. It is estimated that the dredge will treat 50,000 cubic yards of gravel per month, allowing time for cleaning bottom, &c.

The Rise and Shine No. 1 dredge, which was purchased from the company by a Cromwell syndicate, sunk in the Clutha River in February after having worked only two months under the new ownership.

The Lady Ranfurly dredge was destroyed by fire on the Kawarau River in March. This dredge, on the 4th November, 1904, while owned by the Electric Gold-dredging Company, obtained 1,273 oz. of gold in six consecutive days, the greatest weekly output for a gold-dredge in New Zealand.

McGeorge's Freehold No. 2 dredge, at Waikaka Valley, and the Nevis Crossing, at Lower Nevis, have been in operation during the year.

The production of gold from this branch of mining amounted to 1,536 oz., valued at £6,557. Seventeen men were employed.

Minerals other than Gold.

Tungsten-ore.—Two tons of scheelite were produced by the Golden Point Gold and Scheelite Company at Macrae's, and 1 ton by J. Tripp, Glenorchy. The price offered for scheelite concentrates—viz., 10s. per unit—is too low to enable the mines to be profitably worked.

Phosphate Rock.—The Milburn Lime and Cement Company produced 1,575 tons of phosphate rock from the quarries at Clarendon.

Accidents.

No serious accidents occurred at metal-mines or dredges in the Southern Inspection District during the year.

ANNEXURE B.

SUMMARY OF REPORT OF GOVERNMENT WATER-RACE MANAGER.

WAIMEA–KUMARA WATER-RACES (MR. JAMES ROCHFORD, Manager).

Waimea Water-race.

The cash received for sales of water from this race for the year ended 31st March, 1925, was £416 13s. 2d., and the expenditure on management, gauging, maintenance, and repairs amounted to £809 12s. 8d., showing a debit balance of £392 19s. 6d. on the year's transactions.

The average number of miners supplied with water during the year was 5·25, the same as that of the previous year, and the approximate quantity of gold obtained by them was 337 oz., valued at £1,322 14s. 6d., a decrease of £416 1s. on that of the previous year.

The sales of water amounted to £539 14s. 11d., a decrease of £21 1s. 5d. as compared with the previous year.

Blackmun and party worked their claim at Liverpool Bill's Terrace, Stafford, throughout the year with fairly satisfactory results, but were considerably handicapped with their tail-race, which did not work efficiently, and eventually they had to construct a new one.

The Linklater Sluicing Syndicate leased their claim and plant at Scandinavian Hill, Stafford, to Mr. W. Linklater in May, 1924, and he worked the property intermittently, and with a limited number of men, from that time until the end of the year, but, unfortunately, the gold returns did not come up to expectations, and unless a decided improvement takes place in this direction in the near future this party will be compelled to cease operations.

Messrs. Parker Bros. and Williams, who purchased the Gillam's Gully Sawmill in January, 1924, worked the mill regularly during the year, and purchased water to the value of £205 2s., an increase of £110 7s. on the previous year.

In the month of May a rather serious break occurred in one of the tunnels at Fox's which completely cut off the supply of water from the miners and Parker Bros.' sawmill at Stafford for eight days. This race is now in fair order, but the section of open ditching immediately below the intake reservoir in the Kawhaka Creek must receive attention at an early date to ensure safety. Although the months of December, January, and February were exceptionally dry there was an excellent supply of water, and the Waimea inverted siphon, which has a carrying capacity of 30 cubic feet per second, was running full all the year.

The cash received was £99 9s. 2d. less than the previous year, and the expenditure showed an increase of £1 2s. 11d.

Branch Race to Callaghan's and Middle Branch Flat.

The cash received for sales of water from this race for the year ended 31st March, 1925, was £101 12s. 8d., and the expenditure on management, gauging, maintenance, and repairs amounted to £476 1s. 3d., showing a debit balance of £374 8s. 7d. on the year's transactions.

The average number of miners supplied with water was two, and the approximate quantity of gold obtained was 258 oz., having a value of £1,012 13s., a decrease of £117 15s. on that of the previous year.

Although the Havill Brothers did a certain amount of sluicing each month during the year, they only purchased water to the value of £101 17s. 6d. This party is very seriously handicapped by lack of pressure from the Callaghan's Water-race, and has to depend on flood-water from their high-level dam to break down the ground, otherwise considerably more water would be purchased each year. Notwithstanding this rather serious disability the gold returns were highly satisfactory.

During the year a considerable amount of repair work was carried out by the staff to the flumings on this race, but the superstructure of practically all of them is in a rather bad state, and further repairs will be necessary from time to time during the ensuing year.

The cash received was £13 7s. 4d. less than the amount received during the previous year, and the expenditure for the same period showed a decrease of £8 3s. 5d.

Kumara Water-race.

The cash received for sales of water from this race amounted to £151 2s. 8d., and for royalty on timber cut on the Reservoir Reserve £560 18s. 9d., making a total revenue of £712 1s. 5d. The expenditure on maintenance and repairs amounted to £33 5s. 6d., thus showing a profit of £678 15s. 11d. on the year's transactions.

No miners were supplied with water from this race during the year, the whole of the revenue derived from sales being received from the Okuku Sawmill Company for water supplied for power-development. As the company holds fairly extensive timber areas the present sales of water should be fully maintained for some years.

Over seventy intermediate sets of timber and a considerable quantity of lining-boards were placed in position in the Kumara Head-race Tunnel during the year, but there are still certain sections that will require strict supervision and occasional repairs to minimize the probability of breaks taking place. With the exception of the sections of tunnel above referred to, the Kumara Water-race and the Nos. 1 and 2 Kapitea Reservoirs are in excellent order.

Kumara-Trans-Taramakau Water-race.

The Payne's Gully Sluicing Company was the only party supplied with water from this race during the year. This company maintains the trans-Taramakau pipe-line, and does its own gauging from the No. 1 Kapitea Reservoir, and in consequence is being supplied with water at a reduced rate.

The numerous steel sections of piping, which unfortunately are to be found along the line, have deteriorated very considerably since my last annual report, and breaks were of frequent occurrence during the year. These breaks, in addition to costing the company large sums for repairs, had the effect of stopping sluicing operations for over six months of the year, and in consequence the yield of gold showed a very decided falling-off, but considering the small quantity of material treated the returns must be looked upon as satisfactory.

The water supplied to the Payne's Gully Sluicing Company is not included in the sales, as it was supplied in lieu of cash expended by the company on repairs to the trans-Taramakau pipe-line some years ago.

With the exception of the badly oxidized steel sections of piping previously mentioned, the race and reservoir on the north side of the Taramakau River are in fairly good order.

Wainihinihi, and Waimea Additional Supply Water-races.

It is more than ten months since I made an inspection of these races, but the caretaker reports that, with the exception of a few intermediate sets of timber that are required in some of the tunnels, both races are in fairly good order.

Waimea-Kumara and Callaghan's Water-races.

The following is a summary of the revenue and expenditure of the above water-races for the year ended 31st March, 1925: Sales of water, £792 5s. 9d.; cash received, £1,230 7s. 3d. (including royalty on timber); expenditure, £1,318 19s. 5d.; approximate value of gold obtained, £2,931 19s. 6d.; average number of miners employed, 10·33. The sales of water show a decrease of £11 10s. 7d., and the cash received an increase of £42 3s. on the previous year.

The total expenditure on the combined races amounted to £1,318 19s. 5d., as against £1,314 19s. 11d. for the previous year, an increase of £3 19s. 6d.

Comparing the cash received with the expenditure, the combined races show a loss of £88 12s. 2d., but when the £96 worth of water supplied to the Payne's Gully Sluicing Company in reduction of its account is taken into consideration the races show a profit of £7 7s. 10d. on the year's transactions.

ANNEXURE C.

STONE QUARRIES.

SUMMARY OF REPORT BY INSPECTOR OF QUARRIES FOR THE NORTH ISLAND (MR. JAMES NEWTON).

It will readily be understood that owing to the extended area that has to be covered, embracing as it does the whole of the North Island with the exception of the Hauraki mining-area, the quarries situated in the outlying districts can only be visited now and again; and I do not think it is necessary to visit these areas more frequently, owing to the fact that nearly all such quarries are only operated intermittently and for a very limited time, mostly for not more than a few weeks in the year. However, I have planned to visit them as often as possible during the time at my disposal, and I have managed to visit most quarries of importance twice and some more often.

I am pleased to be able to report that an increasing regard towards carrying out the requirements of the law is apparent everywhere, even in the backblocks, and this I am persuaded is the result of the issue of the booklet entitled "Questions and Answers for Applicants for Quarry-managers or Foremen's Permits" (this book is now to be found scattered around in every district), coupled with the fact that it is now necessary for a quarry-manager to pass an examination prior to his being granted a "permit," which examination ensures that the applicant will have a reasonable knowledge of the regulations, &c. Generally, I have found the operations being carried out in a reasonably safe manner at the quarry-faces, and that much greater care is being exercised with regard to the dust nuisance at the permanent quarries. I still find, however, that section 8 is very often not complied with (this section refers to the notification of commencing and discontinuing of operations in a quarry), owing to the fact that in most cases the public bodies are not the "occupiers" of the quarry, the occupiers being mostly contractors, who operate a few weeks and then shift on. These contractors are, I may say, invariably bound by the terms of their contract to operate in accordance with the requirements of the law, and when each district is visited the county officers and others inform me where quarry-work is being undertaken.

The period under review has not been free from distressing occurrences, and I regret to have to mention the following serious accidents that have happened:—

On the 12th November a serious blasting accident happened in the Auckland City Council's Mount Eden Quarry, the result of gelignite exploding whilst James Hawkes was engaged lighting shots. The unfortunate man sustained serious injuries, losing his left hand and left eye.

On the 16th December George James Auger, owner and occupier of "Auger's quarry" Penrose, was fatally injured by being struck by a flying piece of stone from a blast in the quarry.

ANNEXURE D.

MINING STATISTICS.

Table 1.

STATEMENT SHOWING THE QUANTITY OF QUARTZ CRUSHED AND GOLD OBTAINED IN THE HAURAKI MINING DISTRICT FOR THE YEAR ENDED 31ST DECEMBER, 1924.

Locality and Name of Mine.	Average Number of Men employed.	Quartz crushed.	Gold obtained.		Value.
			Amalgamation.	Cyanide.	
THAMES COUNTY AND BOROUGH.					
Tararu Creek—		Tons cwt. qr. lb.	Oz. dwt. gr.	Oz. dwt. gr.	£ s. d.
New Sylvia	6	100 0 0 0	..	203 3 0	135 17 6
Waiotahi Creek—					
New Waiotahi	4	20 0 2 4	71 17 0	..	194 10 0
Moanataiari Creek—					
Alburnia	3	2 2 0 0	0 8 0	..	0 19 3
Karaka Creek—					
Occidental	2	22 0 0 0	63 2 0	..	164 5 4
Joker	2	3 0 0 0	9 9 0	..	25 5 11
Prospectors	12	..	14 4 0	..	31 9 10
Totals	29	147 2 2 4	159 0 0	203 3 0	552 7 10
WAIHI BOROUGH.					
Waihi—					
Waihi Goldmining Company* ..	629	190,640 3 2 8	..	566,097 6 0	334,822 12 7
Waihi Grand Junction* ..	144	17,336 12 0 16	..	27,391 11 0	31,897 3 3
Totals	773	207,976 15 2 24	..	593,488 17 0	366,719 15 10
OHINEMURI COUNTY.					
Owharoa—					
Rising Sun Goldmining Company	18	1,210 0 0 0	1,549 13 0	1,170 13 0	5,173 13 4
Karangahake—					
Talisman	3	39 0 0 0	..	193 13 0	173 3 9
Imperial	2	0 15 0 0	..	62 1 0	95 18 0
Totals	23	1,249 15 0 0	1,549 13 0	1,426 7 0	5,442 15 1
COROMANDEL COUNTY.					
Waikoromiko—					
Four-in-hand	10	42 0 1 17	121 10 0	..	318 18 6
Mahakirau—					
O. Andrews	1	..	16 11 0	..	50 5 0
Totals	11	42 0 1 17	138 1 0	..	369 3 6
TAURANGA COUNTY.					
Te Puke—					
Muir's GoldReefs	39	65 3 2 8	..	341 7 0	1,000 15 11

* Waihi and Waihi Grand Junction Mines: Gold won from these mines valued at £4 4s. per ounce; silver, 2s. per ounce.

SUMMARY.

		Tons cwt. qr. lb.	Oz. dwt. gr.	Oz. dwt. gr.	£ s. d.
Thames County and Borough ..	29	147 2 2 4	159 0 0	203 3 0	552 7 10
Waihi Borough	773	207,976 15 2 24	..	593,488 17 0	366,719 15 10
Ohinemuri County	23	1,249 15 0 0	1,549 13 0	1,426 7 0	5,442 15 1
Coromandel County	11	42 0 1 17	138 1 0	..	369 3 6
Tauranga County	39	65 3 2 8	..	341 7 0	1,000 15 11
Totals, 1924 ..	875	209,480 17 0 25	1,846 14 0	595,459 14 0	374,084 18 2
Totals, 1923 ..	1,163	288,036 0 1 19	2,477 5 2	632,969 12 9	508,544 13 9

STATEMENT SHOWING THE QUANTITY OF QUARTZ CRUSHED AND GOLD OBTAINED IN THE WEST COAST INSPECTION DISTRICT FOR THE YEAR ENDED 31ST DECEMBER, 1924.

Locality and Name of Mine.	Average Number of Men employed.	Quartz crushed.	Gold obtained by Amalgamation.	Gold obtained by Cyanide and Concentrates.	Value.
		NELSON.			
Waiuta—		Tons cwt. qr.	Oz. dwt. gr.	Oz. dwt. gr.	£ s. d.
Blackwater Mines	140	38,140 0 0	15,498 11 0	3,051 13 0	79,310 8 4
Globe Hill—					
Progress Mines	2	..	..	644 4 0	2,262 14 9
Murray Creek—					
Murray Creek	7	329 0 0	94 14 0	19 19 0	383 6 3
Crushington—					
Keep-it-Dark	8	880 0 0	409 10 0	247 0 0	2,530 6 9
Wealth of Nations	38	7,754 0 0	1,847 4 0	892 17 0	10,907 3 7
Hukawai—					
New Millerton	5	263 0 0	54 3 0	..	218 4 0
Big River—					
New Big River	48	4,101 0 0	4,129 19 0	685 0 12	20,039 14 8
Totals, 1924 ..	248	51,467 0 0	22,034 1 0	5,540 13 12	115,651 18 4
Totals, 1923 ..	237	47,872 0 0	21,062 3 0	4,228 15 0	99,143 6 2

STATEMENT SHOWING THE QUANTITY OF QUARTZ CRUSHED AND GOLD OBTAINED IN THE SOUTHERN MINING DISTRICT FOR THE YEAR ENDED 31ST DECEMBER, 1924.

Locality and Name of Mine.	Average Number of Men employed.	Quartz crushed.	Gold obtained by Amalgamation.	Gold obtained by Cyanide.	Value.
		VINCENT COUNTY.			
Old Man Range—		Tons cwt. qr.	Oz. dwt. gr.	Oz. dwt. gr.	£ s. d.
Advance	3	75 0 0	59 9 0	..	237 4 10
		WAIHEMO COUNTY.			
Macrae's—					
Golden Point	2	..	..	217 13 0	862 1 10
Deep Dell	1	22 0 0	3 13 22	..	13 18 1
Totals	3	22 0 0	3 13 22	217 13 0	875 19 11
		SUMMARY.			
Vincent County	3	75 0 0	59 9 0	..	237 4 10
Waihemo County	3	22 0 0	3 13 22	217 13 0	875 19 11
Totals, 1924 ..	6	97 0 0	63 2 22	217 13 0	1,113 4 9
Totals, 1923 ..	9	1,935 0 0	542 13 22	187 4 0	2,305 4 11

SUMMARY OF INSPECTION DISTRICTS.

Inspection District.	Average Number of Persons employed.	Quartz crushed.	Bullion obtained.	Value.
		Statute Tons.	Oz. dwt. gr.	£ s. d.
Northern (North Island)	875	209,481	597,306 8 0	374,084 18 2
West Coast (South Island)	248	51,467	27,574 14 12	115,651 18 4
Southern (Otago and Southland) ..	6	97	280 15 22	1,113 4 9
Totals, 1924	1,129	261,045	625,161 18 10	490,850 1 3
Totals, 1923	1,409	337,843	661,467 13 9	609,993 4 10

In addition, 154 persons were employed at unproductive quartz-mining.

Table 2.

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

Name of Company.	Date of Registration.	Subscribed Capital.	Amount of Capital actually paid up.	Value of Scrip given to Shareholders on which no Cash paid.	Number of Shares allotted.	Amount paid per Share.	Arrears of Calls.	Number of Shareholders at present.	Number of Men employed.	Quantity and Value of Gold and Silver produced since Registration.		Total Expenditure since Registration.	Total Amount of Dividends paid.	Amount of Debts owing by Company.
										Quantity.	Value.			
AUCKLAND DISTRICT.														
		£	£	£			£			Oz.	£	£	£	£
Great Northern Waihi Gold-mining Company (Limited)	13/8/14	22,000	14,328	6,000	88,000	5/-	Nil	186	Nil	Nil	Nil	14,291	Nil	172
Hauraki Reefs (Limited)	28/4/10	12,416	11,681	5,083	175,000	1/8 and 2/-	Nil	414	Nil	..	9,175	21,624	Nil	205
Horseshoe Mines (Limited)	20/8/20	5,862	1,121	7,500	80,450	1/3, 1/-, and 0/9	181	31	Nil	Nil	Nil	1,124	Nil	151
Kuranui Gold-mining Company (No Liability) ..	5/6/14	21,750	5,225	Nil	87,000	1/9, 1/8, 1/3, and 1/1	Nil	21	2	..	21*	5,862	Nil	30
Mount Welcome Gold-mining Company (Limited) ..	21/10/20	3,600	1,505	2,500	24,400	2/1½	18s. 9d.	54	Nil	Nil	Nil	1,603	Nil	8
Muir's Gold-reefs (Limited)	14/5/20	77,375	77,375	Nil	77,479	£1 and various	Nil	131	39	..	164,776	304,774	Nil	47,213
Ohinemuri Gold and Silver Mines (Limited) ..	1/6/14	100,175	31,077	55,175	200,350	10/-, 9/-, 7/-, and 5/-	907	179	12	7,282	1,354	36,441	Nil	..
Nonpareil Gold-mining Company (No Liability) ..	14/9/20	19,225	2,401	2,625	87,400	0/11 and 0/10	6	39	3	Nil	Nil	2,414	Nil	21
Rising Sun Gold-mining Company (Limited) ..	15/5/22	19,882	9,636	4,700	127,969	3/-	26	165	23	2,990	5,316	16,037	Nil	8,135
Zeehan Consolidated (Limited)	23/8/10	57,090	56,596	Nil	314,180	10/-	Nil	121	17	..	..	75,364	..	18,767
New Waiotahi Gold-mining Company (No Liability)	21/8/22	30,635	4,505	4,000	125,090	0/11 and 0/10	227	150	4	174	468	4,000	Nil	102
The Caledonia - Kuranui - Moanataiari Consolidated Gold-mining Company (Limited)	16/3/20	22,500	15,080	2,500	100,000	3/5	294	205	8	Nil	Nil	16,642	Nil	412
Four-in-hand (Limited)	31/7/23	20,000	7,875	2,500	80,000	5/- and 2/3	Nil	57	7	97	250	7,735	Nil	Nil
The Majestic Gold-mining Company (Limited) ..	14/12/22	41,505	17,917	8,304	166,037	2/9, 2/6, and 2/3	†	237	18	Nil	Nil	17,971	Nil	130
The Owera Gold-mining Company (Limited) ..	7/6/23	5,102	2,979	10,000	60,410	5/- and 3/-	154	79	1	Nil	Nil	2,643	Nil	11
Argo Concentrates (Limited)	2/8/24	11,700	4,187	5,000	11,700	£1 and 12/6	Nil	235	2	Nil	Nil	2,903	Nil	59
NELSON DISTRICT (INCLUDING WEST COAST)														
		£	£	£			£			Oz.	£	£	£	£
Dominion Consolidated Development Company (Limited)	18/1/11	15,000	7,000	8,000	15,000	£1	Nil	47	Nil	13,746	55,233‡	125,825	3,750	14,274
Mount Greenland Gold Quartz-mining Company (Limited)	21/11/14	5,000	4,803	855	10,000	10/-	30	75	Nil	2,031	7,792	10,839	499	120
New Big River Gold-mining Company (Limited) ..	19/8/07	6,000	600	Nil	24,000	0/6	Nil	62	47	87,692	355,137§	262,950	112,800	903
New Discovery Mines (Limited)	1/3/20	50,000	9,600	26,000	50,000	£1 and 8/-	Nil	20	4	Nil	Nil	6,614	Nil	1,690
North Big River Gold-mines (Limited)	29/10/19	50,337	11,138	34,000	50,337	11/9 and 12/3	20	76	2	Nil	Nil	7,475	Nil	8
New Millerton Mines (Limited)	1/3/20	50,000	15,375	29,500	50,000	£1 and 15/-	Nil	124	9	914	3,799	26,887	Nil	8,068
Reefton Gold-mines (Limited)	20/10/19	93,560	38,861	20,000	93,860	Various	6,056	384	..	..	..	..	Nil	171
Rimu Gold-dredging Company (Limited)	20/7/20	213,572	142,863	70,709	213,572	£1	Nil	35	55	35,046	154,350	100,929	9,823	2,488
South Blackwater Mines (Limited)	1/3/20	75,000	6,400	43,000	75,000	£1 and 4/-	Nil	165	4	Nil	Nil	3,859	Nil	939
Taylor's Creek Gold Sluicing Company (Limited) ..	26/8/14	2,500	2,500	6,250	35	£250	Nil	10	Nil	..	168	2,500	Nil	27
Wealth of Nations Mine (Limited)	15/7/22	20,000	13,237	5,000	20,000	19/- and 10/-	Nil	104	46	2,864	12,147	29,796	Nil	‖10,641
Howard Gold-sluicing Company (Limited) ..	30/10/23	6,000	2,250	3,750	24,000	5/-	Nil	32	2	44	189	2,680	Nil	294
The New Murray Creek Gold-mines (Limited) ..	25/7/23	15,000	4,731	10,000	15,000	£1, 17/6, 15/-, and 12/6	150	63	1	114	401	2,610	Nil	606
Buller Gold-mining Company (Limited)	30/5/23	10,000	2,013	2,001	10,000	5/- and 6/-	386	31	6	13	48	11,383	Nil	7,915
The South Big River Mines (Limited)	15/12/23	25,000	1,000	20,000	25,000	£1 and 4/-	Nil	40	5	Nil	Nil	568	Nil	568
Mahakipawa Goldfields (Limited)	12/10/23	8,515	5,692	15,025	384,563	1/-, 3/4 and 5/-	2,823	205	4	Nil	Nil	1,939	Nil	Nil
Victory Mines Syndicate (Limited)	20/2/18	15,000	8,252	3,750	15,000	£1, 14/, 11/3·33, 10/-, & 4/1·33	..	154	2	12	49	8,165	Nil	Nil

* Tribute percentage.
† Third call, 3d., 14,400; second and third, 3d., 13,050.
‡ In addition 438½ tons scheelite, valued at £58,488.
§ In addition, concentrates treated yielded bullion valued at £17,916.
‖ Includes debenture of £8,000.

Table 2—*continued.*

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

Name of Company.	Date of Registration.	Subscribed Capital.	Amount of Capital actually paid up.	Value of Scrip given to Shareholders on which no Cash paid.	Number of Shares allotted.	Amount paid per Share.	Arrears of Calls.	Number of Shareholders at present.	Number of Men employed.	Quantity and Value of Gold and Silver produced since Registration.		Total Expenditure since Registration.	Total Amount of Dividends paid.	Amount of Debts owing by Company.
										Quantity.	Value.			
OTAGO DISTRICT.														
		£	£	£		£ s. d.	£			Oz.	£	£	£	£
Colossus Gold-mining Development Company (Limited)	28/8/14	30,473	12,473	18,000	30,473	1 0 0	Nil	65	1	Nil	Nil	33,623	Nil	3,500
Gabriel's Gully Sluicing Company (Limited) ..	2/5/07	600	600	Nil	600	1 0 0	Nil	9	14	16,956	66,914	58,482	17,615	475
Glenorchy Scheelite-mining Company (Limited) ..	6/12/11	3,000	Nil	3,000	3,000	1 0 0	Nil	11	2	..	313*	84,309	7,125	1,107
Golden Crescent Sluicing Company (Limited) ..	26/11/98	3,500	3,500	Nil	3,500	1 0 0	Nil	20	6	12,222	48,965	40,644	12,862	510
Havelock Sluicing Company (Limited)	3/3/08	4,000	3,400	600	4,000	1 0 0	Nil	13	Nil	9,877	38,338	32,686	11,400	320
Lawrence Sluicing Company (Limited)	18/3/16	5,000	5,000	Nil	5,000	1 0 0	Nil	24	6	4,003	17,134	17,485	2,000	177
Nokomai Hydraulic Sluicing Company (Limited) ..	26/3/98	24,000	7,000	17,000	24,000	1 0 0	Nil	73	31	55,307	210,503	165,412	54,683	3,179
Round Hill Mining Company (Limited)	30/7/02	28,245	6,753	21,491	5,649	5 0 0	Nil	180	17	50,844	206,231	202,167	12,286	750
Sailor's Gully (Waitahuna) Gold-mining Company (Limited)	3/6/96	8,400	200	8,200	8,400	1 0 0	Nil	26	7	9,712	38,677	32,021	7,520	174
Sandhills Gold-mining Company (Limited) ..	19/12/13	7,000	2,000	5,000	7,000	1 0 0	Nil	20	4	1,192	4,562	14,795	Nil	3,233
Scandinavian Water-race Company (Limited) ..	10/12/07	7	7	9,750	9,757	£1 on 7	Nil	20	6	10,254	40,490	42,876	Nil	9,222
Skipper's Sluicing Company (Limited)	20/11/11	3,450	345	3,105	3,450	1 0 0	Nil	30	2	1,940	8,198	8,980	Nil	1,242
Tallaburn Hydraulic Company (Limited)	3/12/04	1,200	1,200	Nil	12	100 0 0	Nil	9	1	2,046	7,974	10,364	1,380	372
United M. and E. Water-race Company (Registered) ..	23/4/72	7,600	7,600	Nil	152	50 0 0	Nil	9	2	16,909	69,138	74,507	3,534	Nil
Vinegar Hill Hydraulic Sluicing Company (Limited)	23/9/00	6,000	6,000	Nil	6,000	1 0 0	Nil	15	3	5,085	19,576	19,263	1,050	1,135
St. Bathan's Channel Company (Limited) ..	4/1/82	4,590	4,590	Nil	81	£100, £40, and £30	Nil	4	..	1,507	5,817	11,113	Nil	716
Kawarau Gold-mining Company (Limited) ..	8/4/24	10,000	10s.	9,999	200,000	0 1 0	Nil	61	28	Nil	Nil	15,724	Nil	873
Lucky Chance Kawarau Claims (Limited) ..	29/11/24	8,000	3,483	Nil	32,000	0 3 0	Nil	291	Nil	Nil	Nil	3,072	Nil	Nil
McGeorge Bros. (Limited)	29/3/12	11,400	11,400	Nil	11,400	1 0 0	Nil	6	9	28,875	123,300	71,938	45,000	Nil
Vogel's Vision Gold Company (Limited)	19/11/24	15,982	3,273	Nil	63,930	1/- and 1/6	Nil	141	Nil	Nil	Nil	3,210	Nil	2,296
Another Chance Kawarau Gold (Limited) ..	15/12/24	8,000	3,034	Nil	32,000	0 3 0	Nil	344	Nil	Nil	Nil	2,273	Nil	Nil
Wairarapa Gold Claims (Limited)	18/11/24	9,700	970	300	10,000	..	Nil	129	Nil	Nil	Nil	672	Nil	21
Henley Mining Company (Limited)	22/7/24	..	1,225	..	4,000	..	..	6	..	..	..	1,202	..	..

* In addition, scheelite valued at £87,539 was produced.

FOREIGN COMPANIES.

Name of Company.	Date of Registration of Office in Dominion.	Subscribed Capital.	Amount of Capital actually paid up in Dominion.	Value of Scrip given to Shareholders on which no Cash paid.	Number of Shares on Dominion Register.	Amount paid per Share, Dominion Register.	Arrears of Calls, Dominion Register.	Number of Shareholders on Dominion Register.	Number of Men employed in Dominion.	Quantity and Value of Gold and Silver produced since Registration.		Total Expenditure since Registration.	Total Amount of Dividends paid in Dominion.	Amount of Liabilities of Company in Dominion.
										Quantity.	Value.			
		£	£	£		£ s. d.	£			Oz.	£	£	£	£
Waihi Gold-mining Company (Limited)	7/12/87	247,953	9,606	53,333	235,775	0 10 0	..	1,965	643	20,780,495	14,390,913	8,269,759	1,047,786	9,448
Clutha Development (Limited)	27/8/24	10,000	Nil	5,000	2,060	1 0 0	..	10	4	Nil	Nil	2,032	Nil	516

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, 25th May, 1925.

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, 1924, in accordance with section 78 of the Coal-mines Act, 1908. 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.*) Dangerous Occurrences.
(*c.*) Electricity at Collieries.
(*d.*) Prosecutions.
V. Legislation affecting Coal-mining.

Annexures —
A. Summary of Annual Reports by Inspectors of Mines.
B. Colliery Statistics.

SECTION I.—OUTPUT.

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

Class of Coal.	Output of Coal during 1924.				Total Output to the End of 1924.
	Northern District (North Island).	West Coast District (South Island).	Southern District (South Island).	Totals.	
	Tons.	Tons.	Tons.	Tons.	Tons.
Bituminous and sub-bituminous	129,927	955,077	..	1,085,004	36,938,671
Brown	507,598	35,173	296,246	839,017	18,990,627
Lignite	..	362	158,824	159,186	3,675,650
Totals for 1924 ..	637,525	990,612	455,070	2,083,207	59,604,348
Totals for 1923 ..	633,865	849,029	486,940	1,969,834	57,521,141

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

Year.	Coal produced.	Coal imported.	Total Quantity of Coal produced and imported.	Year.	Coal produced.	Coal imported.	Total Quantity of Coal produced and imported.
	Tons.	Tons.	Tons.		Tons.	Tons.	Tons
1911 ..	2,066,073	188,068	2,254,141	1918 ..	2,034,250	255,332	2,289,582
1912 ..	2,177,615	364,359	2,541,974	1919 ..	1,847,848	391,434	2,239,282
1913 ..	1,888,005	468,940	2,356,945	1920 ..	1,843,705	476,343	2,320,048
1914 ..	2,275,593	518,070	2,793,663	1921 ..	1,809,095	822,459	2,631,554
1915 ..	2,208,624	353,471	2,562,095	1922 ..	1,857,819	501,478	2,359,297
1916 ..	2,257,135	293,956	2,551,091	1923 ..	1,969,834	445,792	2,415,626
1917 ..	2,068,419	291,597	2,360,016	1924 ..	2,083,207	674,483	2,757,690

The gross output of coal for 1924 was 113,373 tons in excess of the output for 1923. This increase is wholly due to the increased output of bituminous coal, which is 149,307 tons in excess of the output of bituminous coal for the previous year. Brown coal shows a reduction of 21,343 tons, and lignite a reduction of 14,591 tons.

In the Northern District the output of bituminous coal from the Hikurangi mines was 3,809 tons over that for 1923, and the output of brown coal from the Waikato mines was 149 tons less.

In the West Coast District there was an increase of 145,498 tons in the output of bituminous coal, a reduction of 3,537 tons in the output of brown coal, mostly from the Reefton mines, and a reduction of 378 tons of lignite, making altogether a net increase of 141,583 tons for the district.

In the Southern District there was a reduction of 17,657 tons in the amount of brown coal produced, and of 14,213 tons of lignite, a total reduction of output for the district of 31,870 tons.

The market for all classes of coal was dull throughout the year, and at many of the mines a considerable amount of slack time was worked. The industry was almost free from stoppages due to labour trouble. Co-operative mining still continues to be successfully carried out in the Northern and West Coast Districts.

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 1924.	Total Output to 31st December, 1924.	Total Number of Persons ordinarily employed.
Northern District.			Tons.	Tons.	
Hikurangi (2 collieries)	Hikurangi ..	Sub-bituminous	56,706	1,496,994	175
Wilson's Colliery	,, ..	,,	56,189	178,989	145
Taupiri Extended	Huntly ..	Brown ..	13,754	3,110,064	38
Rotowaro	,, ..	,, ..	131,960	602,839	265
Pukemiro	,, ..	,, ..	136,232	1,018,294	240
Waipa	,, ..	,, ..	64,326	736,611	117
Glen Afton	Glen Afton ..	,, ..	131,330	179,632	235
West Coast District.					
Westport-Stockton	Ngakawau ..	Bituminous ..	99,425	1,998,422	263
Millerton	Millerton ..	,, ..	257,121	6,882,658	538
Denniston	Denniston ..	,, ..	187,375	8,690,586	470
Paparoa	Roa ..	,, ..	47,329	469,313	101
Blackball	Blackball ..	,, ..	103,565	3,270,254	280
Liverpool (State)..	Rewanui ..	,, ..	119,520	1,362,995	332
James (State)	Rapahoe ..	,, ..	29,764	48,270	75
Southern District.					
Kaitangata and Castlehill (3 collieries)	Kaitangata ..	Brown ..	104,895	4,254,518	320
Taratu	,, ..	Lignite ..	34,405	571,507	66
Linton (2 collieries)	Nightcaps ..	Brown ..	34,693	161,421	64
Wairaki ,, ...	,, ..	,, ..	30,349	129,444	58
Black Diamond	,, ..	,, ..	29,970	111,574	40
Birchwood	Ohai ..	,, ..	24,944	60,485	59
155 other collieries	All coalfields ..	Various ..	389,355	24,269,478	988
Totals	..	..	2,083,207	59,604,348	4,869

SECTION II.—PERSONS EMPLOYED.

Inspection District.	Average Number of Persons employed during 1924.		
	Above Ground.	Below Ground.	Total.
Southern	323	719	1,042
West Coast	696	1,784	2,480
Northern	345	1,002	1,347
Totals, 1924	1,364	3,505	4,869
Totals, 1923	1,353	3,647	5,000

The following statement shows the tons of coal raised, persons employed, lives lost by accidents in or about collieries, &c., to 1924.

Year.	Output, in Statute Tons.	Persons ordinarily employed.			Tons raised per each Person employed below Ground.	Lives lost by Accidents in or about Collieries.		
		Above Ground.	Below Ground.	Total.		Per Million Tons produced.	Per Thousand Persons employed.	Number of Lives lost.
Prior to 1900	13,444,437	*	*	*	*	*	*	165
1900 ..	1,093,990	617	1,843	2,460	593	3·65	1·62	4
1901 ..	1,239,686	688	2,066	2,754	600	2·42	1·09	3
1902 ..	1,365,040	803	2,082	2,885	655	1·46	0·69	2
1903 ..	1,420,229	717	2,135	2,852	665	2·81	1·40	4
1904 ..	1,537,838	763	2,525	3,288	609	2·60	1·21	4
1905 ..	1,585,756	833	2,436	3,269	651	3·78	1·83	6
1906 ..	1,729,536	1,174	2,518	3,692	687	3·46	1·62	6
1907 ..	1,831,009	1,143	2,767	3,910	662	6·55	3·07	12
1908 ..	1,860,975	992	2,902	3,894	641	2·68	1·28	5
1909 ..	1,911,247	1,159	3,032	4,191	630	3·66	1·67	7
1910 ..	2,197,362	1,136	3,463	4,599	634	7·28	3·48	16
1911 ..	2,066,073	1,365	2,925	4,290	706	6·77	3·26	14
1912 ..	2,177,615	1,130	3,198	4,328	681	4·13	2·08	9
1913 ..	1,888,005	1,053	3,197	4,250	590	3·18	1·41	6
1914 ..	2,275,614	1,176	3,558	4,734	639	21·53	10·35	49†
1915 ..	2,208,624	1,050	3,106	4,156	711	4·07	2·16	9
1916 ..	2,257,135	988	3,000	3,988	752	2·65	1·50	6
1917 ..	2,068,419	1,090	2,893	3,983	715	1·93	1·00	4
1918 ..	2,034,250	1,102	2,892	3,994	703	2·95	1·50	6
1919 ..	1,847,848	1,095	2,849	3,944	648	5·41	2·53	10
1920 ..	1,843,705	1,152	2,926	4,078	630	0·54	0·24	1
1921 ..	1,809,095	1,218	3,149	4,367	574	5·52	2·28	10
1922 ..	1,857,819	1,191	3,365	4,556	552	3·23	1·31	6
1923 ..	1,969,834	1,353	3,647	5,000	540	2·53	1·00	5
1924 ..	2,083,207	1,364	3,505	4,869	594	4·80	2·05	10
Totals ..	59,604,348	..	..	..	..	..	..	379

* 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 1924, with their causes :—

—	Fatal Accidents.		Serious Non-fatal Accidents.	
	Number of Separate Fatal Accidents.	Number of Deaths.	Number of Separate Non-fatal Accidents.	Number of Persons injured, including those injured by Accidents which proved Fatal to their Companions.
Explosions of fire-damp or coal-dust ..	..	..	..	..
Falls of ground	2	2	6	7
Explosives	..	..	1	1
Haulage	7	7	7	7
Miscellaneous—Underground	1	1	6	6
On surface	..	..	4	4
Totals	10	10	24	25

The fatalities being in the proportion of 2·05 per thousand persons employed, and 4·80 per million tons produced.

A marked feature of the fatal accidents is that seven of them were haulage accidents, and that four of these were to elderly men over sixty-five years of age. The following is an account of the fatal accidents :—

At Stockton Mine, on the 10th January, Treyton Potter, 32 years of age, employed as brakesman on the electric-locomotive road was crushed beneath the brake-car and killed instantaneously. After getting on the heavy grade across the Mangatina Creek the wheels of the electric locomotive skidded, and the train of trucks moved back till held by the Fell brakes on the centre rail. The deceased had also used the brake on the brake-car, but there is no evidence as to how deceased got off the brake-car, nor as to how he came to get under it. The Coroner's verdict was to the effect that the death was accidental, and that no blame was attachable to any one.

At Rotowaro Mine, on the 13th February, William Maddison, 66 years of age, employed as a shiftman and trucker, was seriously injured and died the following day. A jig-pin pulled out and the full truck ran down the jig. Deceased, though warned to stand clear, gripped the full truck as it was passing him and held on to it till it tipped up on the landing at the bottom of the jig. Deceased was flung over the top of the truck and against the pillars on the low side of the level. The Coroner's verdict was to the effect that the death was purely accidental.

At the Liverpool State Mine, on the 3rd March, John Kennedy, aged 65 years, was crushed by a full truck against an overhead tramway and died almost immediately. A truck had been taken off the main haulage-road and turned into the bunker road leading to the boiler-house. It was moving slowly on a down grade when deceased stepped on to the bunker-road in order to pass under the overhead gangway. Deceased evidently did not hear the warning shouted to him and was struck on the back by the truck, and at the same time his head came in contact with the underneath side of the overhead gangway.

At Pukemiro Mine, on the 4th March, Ernest Gardner, 18 years of age, met with a serious accident which resulted in his death on the 24th December. Deceased was engaged as a clipper, and at the time of accident was taking an empty truck from an endless rope haulage into a branch road. To do this he had to cross the full road of the haulage. Before he had got his empty clear it was struck by a full race travelling on the rope-road, and the empty was derailed and deceased crushed between the empty and the side of the pillar. Deceased sustained a fractured pelvis and serious internal injuries, to which he succumbed nine months later. At the Coroner's inquest a verdict of accidental death was returned.

At Cromwell Mine, on the 11th March, Robert Thomson, 55 years of age, died from carbon-monoxide poisoning. Deceased was manager of the mine. An underground fire had occurred on the previous day, and on the 11th deceased went down the mine to take steps to cope with the fire. On his way out of the mine deceased collapsed as a result of inhaling carbon monoxide from the fire. Though brought out of the mine he failed to recover and died.

At Millerton Mine, on the 12th March, an old man named Thomas Riley, employed greasing rope-road rollers, was knocked over by a full truck, which passed over and fractured his left leg ; he died the following day in Westport Hospital. The haulage-rope is a slow-moving one, and there is sufficient space between the roads to allow a person to pass. Prior to the accident deceased had been treated for a serious liver complaint, and the medical evidence at the inquest was to the effect that cirrhosis of the liver combined with the shock from the injuries received in the accident was the cause of his death.

At Millerton Mine, on the 9th June, William Gilmour, 69 years of age, was killed by a fall of roof-coal. Deceased was employed as a deputy, and at the time of the accident was engaged along with a miner in trimming the coal roof in a heading 9 ft. wide by 7 ft. high. From the evidence at the inquest it appears that deceased had endeavoured to bring down a bad piece from the low side with a bar, and then started to walk under it in order to get to the high side, when the piece of coal, which weighed about 10 cwt., fell out and caught him. The Coroner returned a verdict of accidental death, with no blame attachable to any one.

At the Liverpool State Mine, on the 23rd July, Joseph Higson, 57 years of age, was struck by a runaway empty truck and received injuries to his head from which he died on the 27th July. The deceased was employed as a shiftman, and part of his duties was to see that timber was taken to the working-places. A race consisting of a timber-trolly and two empties was sent up a jig and the full race landed. Deceased, who had been at the landing, apparently thought the empty race had also arrived at the top and started to walk up the jig, when he was struck by one of the empties which,

having become uncoupled, and the trailer failing to act, had run back the jig. The Coroner returned a verdict that the cause of death was purely accidental, and that no blame was attachable to any one.

At Manderson's Co-operative Mine, near Dunollie, on the 5th September, Albert Manderson, 25 years of age, was killed by a fall from the roof. He had been engaged retimbering a place when a bump occurred which swung the sets and buried deceased. He died before he could be extricated from beneath the fall. The Coroner's verdict was that death was due to shock and asphyxia, that every care had been taken to make the workings safe, and that no blame for the accident was attachable to any one.

At Denniston Mine, on the 25th September, Moses Harry, 71 years of age, was killed on the haulage-road. Deceased was employed at a curve between Denniston and Burnett's Face. There were no witnesses to the accident, but it would appear that deceased had endeavoured to cross the rope road and had been struck and dragged by a full truck. The Coroner in his verdict at the inquest stated that no blame was attachable to any one.

Accounts of the serious but non-fatal accidents are contained in the District Inspector's reports.

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

(*a.*) Permitted Explosives.

(Regulations 128 to 134 inclusive.)

The following is a table showing the quantity of permitted explosive used and the number of shots fired at New Zealand coal-mines during 1924 :—

Inspection District.	Quantity of Permitted Explosives used (lb.).			Number of Shots fired.	Number of Misfired Shots.				Approximate Quantity of Coal produced.
	A2 Monobel.	Ligdynite.	Samsonite.		By Defective Explosive.	By Defective Detonators.	By Defective Leads.	Total.	
									Tons.
Northern (*i.e.*, North Island) ..	105,978	..	..	105,050	8	140	21	169	409,315
West Coast (of South Island) ..	115,040½	1,972½	76,771	210,764	28	289	149	466	974,065
Southern (*i.e.*, Canterbury, Otago, and Southland)	29,512¼	40	7,337¾	57,464	4	72	9	85	156,480
Totals	250,530¾	2,012½	84,108¾	373,278	40	501	179	720	1,539,860

Seventy-four per cent. of the coal produced in the Dominion during 1924 was broken down by permitted explosive, and the average production of coal per pound of explosive used was 4·5 tons, and per shot fired 4·1 tons.

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

The following is a list of mines as at the 1st December, 1924, required by law to use permitted explosives :—

Northern Inspection District.

Pukemiro Collieries, Pukemiro—throughout South Mine.
Rotowaro Colliery, Rotowaro—throughout No. 1 Mine.
Taupiri Extended Mine, Huntly—throughout the mine, but operations at present suspended.
Glen Afton Colliery, Glen Afton—throughout B, C, D, E, and F sections of the mine.

West Coast Inspection District.

North Cape Mine.
Puponga Mine.
Westport-Stockton Mine.
Westport Coal Company's Mine.
Regan and O'Brien's Mine.
J. T. Dove's Mine.
Coal Creek Mine (McGuire and party).
Cardiff Bridge Mine.
Old Cardiff (Clay Pit).
St Helens Mine (McAllister and party).
Westport-Mokihinui Mine.
Chester and party's Mine.
Marris and Murray's Mine.
Ngakawau Mining Syndicate's Mine.
Whitecliffs Mine.
Reefton Coal Company's Mine.
Phœnix and Venus Mine.
Victory Mine (now Caliope).
Woodlands Mine.
Empire Mine.
Lankey's Creek Mine (Bolitho Bros.).
Ferndale-Timaru Coal Company's Mine.
Sherwood Mine.
Paparoa Mine.
Blackball Mine.
Armstrong and party's Mine.
Baddeley and party's Mine.
Boote and party's Mine.
Dixon and party's Mine.
Clark and party's Mine (Hillside).
Duggan and party's Mine.
Hunter and party's Mine.
Manderson and party's Mine.
McIvor and party's Mine.
Moody Creek Mine (Simpson and party.)
Smith and party's Mine.
Spark and party's Mine.
James Mine.
Liverpool Collieries.

Southern Inspection District.

Castle Hill Mine, Kaitangata—throughout the mine.
Kaitangata No. 1 Mine, Kaitangata—throughout the mine.
Kaitangata No. 2 Mine, Kaitangata—throughout the mine.
Wairaki No. 1 Mine, Ohai—throughout the mine.
Birchwood Mine—throughout the mine.
New Brighton Mine, Nightcaps—throughout the mine.
Mount Torlesse Mine, Avoca—Dip Section.

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

The following is a list of the mines as at the 1st December, 1924, required by law to use safety lamps :—

Northern Inspection District.

Pukemiro Collieries, Pukemiro—Main North Heading Section (operations suspended).
Rotowaro Colliery, Rotowaro—throughout No. 1 Mine.
Taupiri Extended Mine, Huntly—throughout the mine, but operations are at present suspended.
Glen Afton Colliery, Glen Afton—No. 1 Heading Section.

West Coast Inspection District.

State Collieries—Morgan Seam.
State Collieries—Morgan Low-level Adit.
State Collieries—No. 4A Mine.
Hilton and Party's Mine.
Hunter and Party's Mine.
Manderson's and Party's Mine.
Paparoa Coal Company's Mine.
Millerton Mine.

Southern Inspection District.

Castle Hill Mine, Kaitangata—throughout each shift.
Kaitangata No. 1 Mine, Kaitangata—throughout each shift.
Kaitangata No. 2 Mine, Kaitangata—throughout each shift.
Wairaki No. 1 Mine, Ohai.—throughout each shift.
Birchwood Mine, Ohai—throughout each shift.
New Brighton Mine, Nightcaps—throughout each shift.
Mount Torlesse Mine (Dip Section), Avoca—throughout each shift.

(*d.*) Dangerous Occurrences reported.

(Regulation 81.)

The following is a short account of the more serious of these. A full list is contained in the District Inspectors' reports.

Taupiri Extended Mine.—In December, 1923, consequent on an extensive crushing movement, a serious fire broke out on the west side, and the whole of that portion of the mine had to be sealed off. At the beginning of the year under review crushing commenced on the north-west sections below No. 5, and these sections had to be abandoned. With the restricted area available for working mining could not be continued, and coal-winning ceased early in April. During the three succeeding months a few men were employed in the mine withdrawing plant and materials and preparing for hydraulic filling. A further crushing had developed in the workings off No. 5 heading west off the north-west rope-road, and resulted in a serious fire breaking out there towards the end of July. This fire could not be controlled, and operations were confined to withdrawing what materials were readily available, and a month later the whole mine was sealed off by stoppings in each of the shafts. In this mine an enormous amount of coal has been lost through crushing and subsequent fires, of which a large percentage would have been won had a better method of mining been adopted in the early stages of mining operations. The principal defect was the small size of the pillars left on the first working.

Taratu Mine.—In May a serious heating close to the main haulage-road developed in the shaft section, and all efforts to deal with it effectively failed. The heating became worse towards the end of the year, and finally led to this part of the mine being abandoned after December.

Linton Mine.—On the 9th July heating was discovered in some pillared ground, and became an active fire on the following day. With considerable difficulty the fire area was sealed off by a line of five stoppings which prevented its spreading over the rest of the mine. Later on the first line of stoppings was reinforced by a second line of eight brick stoppings, which effectively controlled the fire and secured the safety of the mine.

Waipa Mine.—On the 1st September a serious fire was discovered in the return airway where it passes the underground stables. Its spread was successfully prevented by enclosing it by means of temporary wooden stoppings. On the 5th an unsuccessful attempt was made to recover the return airway, but this failed, and two of the stoppings were advanced to permit of a new return being used in place of the part of the old return enclosed in the fire area. The fire was not effectively sealed off till the 12th, after which work in the mine could be resumed. The temporary stoppings were later replaced by brick stoppings.

Denniston Mine.—For a considerable time prior to October trouble had been experienced through heating in the old wide and high bords to the rise of No. 8 section of the Cascade Mine. Some of these bords were over 20 ft. in width and about the same in height, and the pillars on each side were small and broken, with the result that it was almost impossible to erect effective stoppings. The old rise workings were sealed off on account of fires, and the fires were close to the stoppings sealing off these workings from No. 8 section. On the 20th October the fire broke through, and a large portion of No. 8 section had to be sealed off and abandoned.

It will be noted that all the dangerous occurrences during the past year have been underground fires. These fires were almost entirely due to the bad methods of mining practised during the early days of these mines, and not to the workings of recent years. The principal defect in the old workings was the inadequate size of the pillars. After standing for many years these small pillars tend to crush, and the crushing results in fires, which have to be sealed off, with the consequent abandonment of areas, some of considerable extent, from which only a small percentage of the coal had been extracted.

During the past year an investigation has been made by the officers of the Department into the percentage of coal lost at various mines. At one mine on the West Coast of the coal originally present in the now abandoned workings 45 per cent. only was extracted; from another large mine in the same district the coal extracted amounts to approximately 40 per cent. of what was originally available. From both of these mines better methods of working would have enabled at least 65 per cent. of the coal available to have been extracted.

An investigation of the old mines in the Waikato which have been shut down or worked out and abandoned shows that the coal lost in that district has been enormous. If allowance be made for a 3-chain barrier which would have to be left between the abandoned workings of these mines and the workings of a new mine starting in the vicinity of any one of them, it appears that the highest extraction was only 35 per cent., and the lowest under 15 per cent., and that the average extraction was under 20 per cent. of the coal originally present in the areas now abandoned. The Waikato seams are thick and have generally a bad roof, so that a very high percentage extraction is not to be expected, but even with the thick seam and bad roof an extraction of over 50 per cent. should have been attained. In the early days of the field the market value of the coal produced did not permit of efficient methods of working, but improper methods were carried on with, no doubt, a temporary advantage to the mining company, but at a serious final loss. Ultimately the bad methods of working caused fires, and consequent high cost of working, with the forced abandonment of profitable areas of coal only partially worked, and finally led to the closing-up of the mines.

During the past year the Inspectors, in their respective districts, have endeavoured with some success to get still better mining methods practised, both on the grounds of increased safety and increased economy. In several instances the size of pillar adopted has been increased, which should reduce the tendency to fire, and in some mines the panel system or a modification thereof has been adopted with a view to enabling any underground fire that breaks out to be safely and expeditiously dealt with and prevented from involving more than a limited area of the mine. The Inspectors have personally assisted at mine-fires and given assistance acknowledged, by the company concerned, to have been of value.

(*e.*) Electricity at Collieries.

(Regulation 160.)

During 1924 there has been a further increase in the number or capacity of electrical installations. The following is a summary of the annual returns, in accordance with Regulation 160 (*e*), regarding electrical apparatus at collieries:—

Number of collieries at which electrical apparatus is installed	21
Number of continuous-current installations	12
Number of alternating-current installations	10
Number of collieries electrically lighted	18
Number of collieries using electrical ventilating-machines	14
Number of collieries using electrical pumping plants	13
Number of collieries using electrical haulage plants	14
Number of collieries using electrical screening plants	5
Number of collieries using electrical miscellaneous plants	8
Number of collieries using electrical locomotives	1
Total horse-power employed from motors on surface	3,109¼
Total horse-power employed from motors below ground	1,817¾

(*f.*) PROSECUTIONS.

There were sixteen prosecutions, against six for the previous year.

The Manager of the New Brighton Mine was convicted and fined £2 and costs for failing to notify that a person had been injured by an ignition of fire-damp.

A shot-firer in the Taupiri Extended Mine was convicted and fined £5 and costs for firing a shot without first seeing that all persons in the vicinity had taken proper shelter.

A deputy in the Huntly Coal-mine was convicted and fined £1 and costs for examining the mine, prior to the shift commencing work, without a locked safety-lamp.

The manager of the Huntly Coal-mine was prosecuted for not carrying out the requirements of the Coal-mines Act as regards the inspection of the mine before work was commenced, and for failing to provide trailers for a jig. On the first charge he was fined £25 and costs, and on the second charge convicted and ordered to pay costs.

A miner employed in the Old Cardiff Mine was fined £3 and costs for failing to adequately timber his working-place.

A miner employed in the Old Cardiff Mine was fined £5 and costs for taking into the mine explosives which were not in a securely covered case or canister.

The holders of coal lease 5700 were fined £6 and costs for failing to pay £2 1s. 2d. to the Coal-miners' Relief Fund.

A miner in the Millerton Mine was fined £1 and costs for having cigarette-papers in his possession in a safety-lamp portion of the mine.

A deputy in the Reefton Coal Company's mine was charged with failing to carry out the requirements of the Coal-mines Act as regards the examination of the mine before work was commenced, but the charges failed.

The manager of the Golden Point Mine was convicted and fined £1 and costs for not examining the mine with a locked safety-lamp before the commencement of work.

Two miners in the Golden Point Mine were each fined 5s. and costs for entering the mine without being informed by the deputy that it had been examined.

A miner in the Hikurangi Coal Company's mine was convicted and fined £5 with £4 costs for using threatening behaviour and abusive language against another workman.

The manager of the A 1 Mine, Reefton, was convicted and fined £1 and costs for not examining the mine with a locked safety-lamp before the men entered the mine; and two miners were fined 5s. each and costs for entering the mine without being informed by the deputy that it had been so examined.

SECTION V.—LEGISLATION AFFECTING COAL-MINES.

The Coal-mines Amendment Act, 1924, requires a locality-plan to be filed with an application for a prospecting license or coal-mining lease, makes new provisions regarding the payment of royalty under coal-mining leases, empowers the Minister to grant relief from payment of rent to the holder of a coal-mining lease, provides for the sale of coal won during prospecting under a prospecting license, requires that the main intake and main return airways in a coal-mine shall be not less than 50 ft. apart, and that stoppings between the main airways and air-crossings shall be constructed of non-inflammable materials; and makes further provisions regarding the erection of bathhouses, the preparation of mine plans, and the qualifications of mine-managers in small mines.

The only alteration to the regulations was the addition of a new regulation authorizing the payment of a weekly allowance from a Sick and Accident Fund or the Coal-miners' Relief Fund to a miner who has been permanently totally incapacitated through an accident.

I desire to ackowledge the efficient help and co-operation which I have received from the Inspectors during the past year.

I have, &c.,
J. A. C. BAYNE,
Inspecting Engineer and Chief Inspector of Coal-mines.

ANNEXURE A.

SUMMARY OF REPORTS BY INSPECTORS OF MINES.

NORTHERN INSPECTION DISTRICT (Mr. WILLIAM BARCLAY, Inspector).

During 1924 an increase of 3,660 tons occurred in the coal-production of the North Island, and the notable increase of 113,712 tons for the year 1923 was therefore fully maintained, the total output for 1924 being 637,525 tons. The average number of men employed, however, decreased by 150 as compared with the number employed during 1923. The decline was due to the cessation of mining operations in the Taupiri Extended Colliery which ordinarily employed a larger number in proportion to its output than other mines.

Hikurangi District.

Hikurangi Coal Company (Limited).—Hikurangi No. 1 (P.W.) Mine: Early in the year a party of eleven miners entered upon another agreement to work a faulted section of the coal that had been abandoned by the company as being unprofitable to mine. The machinery was provided by the company, and the party, working on co-operative principles, extended the east stone drive 130 ft. through hard sandstone to a seam of coal 7 ft. in thickness—proved by

boring to exist through the fault. A return airway was driven to connect with the 70 ft. main ventilating-shaft Numerous small faults proved troublesome in developing a section, and a considerable amount of stone-mining was necessary in order to keep the roads on a workable grade. An average mine output of 40 tons per day has been maintained and delivered to the Hikurangi Coal Company's screens. The Act and regulations are properly observed by the management of this small party.

Hikurangi No. 2 (New) Mine: During the year No. 2 downcast shaft was equipped with modern machineery. Th Robey winding-engine consists of 2–14 in. cylinders by 30 in. stroke and 6 ft. drum, and is fitted with automatic speed-controllers and steam cut-off. A Davis signalling appliance has been installed and indicates banksmen's and onsetters' signals both by sound and visible signals electrically operated. This completed shaft now deals with the output of the whole mine, but No. 1 upcast shaft still remains fitted with winding-apparatus, and is available at short notice to return the men to the surface should occasion demand its use. An influx of surface water necessitated the management installing additional electrical pumping machinery to cope with the flow, and considerable trouble was experienced in keeping the sumps clear of silt. Subsequently numerous subsidences occurred on the surface at a point 6 chains from the nearest working-place underground. These were due possibly to the surface water clearing the silt from the cavities known to exist in the limestone strata overlying the coal-seam. The east section bords are standing on the proved 60 ft. downthrow fault, and preparations are being made to extract the pillars in the section. The coal-seam was intersected through the 35 ft. downthrow fault in the west section, and electric power has been installed to supplant the steam pumps and winches. Consequent to an accident occurring on the surface haulage-road a safe-working track has been formed and provided for the use of employees. Considerable difficulty is being encountered in conducting the air-current in sufficient quantity to the farthest working-places. The two Waddle fans are inducing fully 30,000 cubic feet per minute at the fan-drifts, but there is considerable surface leakage, due to the wooden casing at the top of the upcast shaft and fans. The management contemplate enclosing the top of the shaft and the fan-drifts with brick or concrete casing, thus making same leak-proof.

Wilson's Colliery.—During the year the output has been maintained from the pillars in No. 7 section and bords in the stone drive section. Owing to various natural conditions, increasing temperatures at the faces of pillar workings have been experienced, despite the benefits obtained through the reheightening of the return and intake airways. A new stone drive for haulage and second connection for ventilating purposes, running parallel a distance of 500 ft. with the existing prospecting stone drive, was holed to the coal-seam through the 60 ft. upthrow fault. An intrusive band of fireclay of 2 ft. in thickness has been met in the coal-seam in the advanced dip workings. Percolating water coming from adjoining workings through the fault-line near the bottom of the upcast shaft continues to maintain its flow, and preparations are being made by the management to line the sides of the shaft with a concrete ring in order to dam the water back. The ventilation of the working-places has been maintained within the statutory limits, but the efficiency of the fan at the working-faces is low, owing to excessive leakage through the disturbed porous limestone barrier between the intake and the return. The increased distances between intake and return and fireproof stoppngs provided for by the Amendment Act, 1924, will undoubtedly in a large measure improve the condition of the existing and future airways. Driving from the base of the 60 ft. upthrow fault a crystalline limestone with marine fossils was exposed in the strata underlying the only known coal-seam. As the formation is similar to the overlying measures it is reasonable to assume that another coal-seam exists under the present working-seam. A fenced separate surface travelling-road has been formed and provided by the company for the use of employees travelling to and from the mine.

Kerr and Co. (The Rocks Mine).—Development operations were confined to the West Byron section, which was reopened after thirty years' abandonment. A dip drive through the fault intersected a much-tilted coal-seam. Pillars continue to be extracted in the Rocks sections. Mining operations have ceased under the houses in this locality, and the surface owners of the land are being granted liberal freehold rights to the land affected by subsidences. Abnormal winter rains temporarily flooded the mine-workings on several occasions, the pumps being inadequate to cope with the inflow. The mine is adequately ventilated, by natural ventilation, by means of upcast shafts.

Silverdale Colliery (Foot and Doel's).—Owing to the lack of orders this small mine, operating on a Crown lease, produced only 450 tons during the year. Preparations are being made to win a block of coal of superior quality and of greater thickness than has been formerly mined. Upwards of 21,505 tons of coal have been won since the party commenced mining operations on the abandoned area formerly worked by a company.

Northern Co-operative Mine (Cunningham's Crown Lease).—The workings have been safely conducted on this lease during the year. The outcrop pillar coal is almost exhausted, and boring operations did not prove a workable seam on the adjoining area secured under a coal-prospecting license.

Glen Nell Colliery (Crown Lease).—Mining operations were suspended early in the year owing to an intrusive band of shale splitting the coal-seam into seams too thin to be profitably mined. Several shafts were sunk to determine the thickness of the seam in advance of the workings.

Foot's Coal-mine (Crown Lease).—Pillars have been extracted under favourable conditions from this area which had been abandoned by a former owner. The roof consists of shaly beds, and is strong, permitting the whole of the pillars to be extracted. Props are systematically set, and the regulations properly observed by the management. The output is delivered to the Hikurangi Railway-siding by motor-lorries.

Christie's Colliery (Freehold).—During the year operations at this mine were confined to the extraction of the pillars. A party of miners are contracting with the owners at a fixed price to hew the coal and truck and convey same over a surface tramway to motor-lorries. The mine-workings are in good condition and well timbered, and the regulations are properly observed by the certificated mine-manager in charge.

Rautangata Colliery (Freehold).—The workings of this mine have been advanced in the direction of the old Kamo Mine workings to a fault, and the remaining available coal pillars are being withdrawn towards the free-drainage drive-opening. The coal is clean and of an average thickness of 11 ft., and the output is used on the premises for the burning of fireclay bricks. All the working-places are closely timbered with chocks and props.

Waro Colliery, Whangarei (Freehold).—This colliery is situated about three miles from Whangarei. The main dip has been advanced to develop a thicker area of coal about 4 chains from the bottom level. Pillars are being extracted from bords of the first working, and the ventilation of all working-places has been good. The 200 ft. downcast winding-shaft is in good repair, and the appliances and machinery for operating the shaft are in good order. The output is disposed of principally in Whangarei for household purposes.

Kawakawa Colliery.—A party of miners are operating on a Crown area at Kawakawa, comprising the old workings formerly mined by the Bay of Islands Coal Company during the years 1880–94. Boring operations disclosed a workable block of coal along the fringe of the eastern outcrop and above the water-level of the abandoned colliery workings. The coal is of good quality and is sub-bituminous, and the proximity of the freezing-works, railway terminus, and the deep-water harbour wharf at Opau would warrant the development of a large coal-producing mine in the district.

Waikato (including Mokau).

Taupiri Extended Colliery.—On the 11th April, 1924, coal-production at this colliery was suspended after being in continuous operation for a period of thirty-five years. A total output of 3,101,064 tons of superior brown coal was obtained solely from the bords and headings of the first working. On the 27th June the West District, embracing Nos. 2, 3, 4, 5, and 6 sections, was sealed off with substantial brick stoppings at a point below the entrance to No. 1 section. These stoppings were erected to isolate the disturbed crushed and fire-affected sections from the No. 1 development dip headings, which were at that time being vigorously extended to develop a large unworked area between the west and north sections. A system of hydraulic sand filling of the bords in the north section had been adopted by the company as a means to arrest a creeping movement already commenced in No. 5 section north, and to subsequently provide for the practicable working of the top seam and future extraction of pillars. Operations were in process to flush the bords with sand when an unlocated fire broke out on the 26th July, supposedly to have originated in the bords of

No. 5 section, where the crushing movement had commenced. The volume of smoke issuing from the fire precluded all efforts to attack and suppress the outbreak or surround it with stoppings in a position that would leave an area suitable for extensive stowing operations. Consequently the management decided to short-circuit the ventilation from the affected part, and withdraw the skips, winches, and pumps to the surface. On the 29th August close-fitting scaffolds were fitted in the downcast and upcast shafts at a point 8 ft. from the surface, and sand fillings on top of the platforms effectively sealed off the mine-workings, thus temporarily rendering inaccessible the two thick workable seams of superior brown coal existing under the Crown and privately owned lands in the vicinity of the shafts. The occurrence of numerous fires and disturbances due to the crushing of the pillars caused serious monetary loss to the mine-owners, and in the interest of those concerned it is to be hoped that other approaches will be considered in the near future for the development of this extensive coalfield.

Rotowaro Colliery.—During the year the output of the colliery was derived from Nos. 1 and 2 mines. No. 1 mine continues to be the most productive, upwards of thirty pairs of miners are employed in the extraction of pillar coal. The irregularity of time worked and the consequent slower rate of extraction of the thick coal pillars is seriously affecting the roof-pressure, leading to additional timbering of the faces, greater breakage of the coal, and liability to spontaneous combustion in the goaf. Development in the west section has disclosed the continuity of the thick seam through the faulted area. A separate unit of endless-rope haulage is installed to operate from the surface to bords in the east section. A heating of the goaf in No. 3 pillar section was successfully arrested by the erection of effective brick stoppings. A stone drive dipping 1 in 5 intersected, at a distance of 8¼ chains from the surface, the proved bottom seam, which is locally termed the Taupiri coal-seam. A return heading is being driven in the seam-gradient to connect with a prospecting-shaft for ventilation purposes. This new coal-seam has been proved by boring to extend over a large area. Electric energy has been substituted for steam in the mine, and an additional unit of electric power, boilers, and transmission cables is being installed to operate the Taupiri seam section. Oldham's electric safety-lamps have been in use for two years, and both the management and the workers commend the increased benefits derived from the lamps.

Pa'emiro Collieries.—During the year 90 per cent. of the coal-production from this extensive field was obtained from the bords in the first working.

In the North Mine section the headings have reached the outcrop boundary of the seam. The several districts are separated by panels of solid coal, and each advancing district on completion of the bords is immediately isolated by brick stoppings erected at the entrances until such time as the removal of the pillar coal is practicable. This system conduces greatly to the general safety of the mine in preventing access to old workings, minimizing danger from coal-dust and underground fires, and the consequent shortening of the air-circuit increases the volume and purity of the ventilation in the working-places.

Several pillars have been successfully withdrawn from the North-east section, and a high percentage of marketable pillar coal is being won. An incipient heating was arrested by the exclusion of the air from the goaf.

In the South Mine section the west headings are extended 45 chains from the south haulage-road. The increasing roof-cover (500 ft.) tends to throw "weight" on the pillars, and the distances between the headings have been increased in order to strengthen the cover-supporting pillars.

Machinery for cement "gunning" of the roof and sides of the main haulage and travelling roads is in process of being installed in order to arrest further fracturing and oxidation of the coal in the pillars, and also to prevent the accumulation of fine coal-dust.

A third mine section, locally named the East Mine, is being developed by a stone drive from the surface with free drainage. This district will be separated from the adjoining approaching east workings by a barrier of solid coal.

All the machinery at this colliery is electrically driven. The efficiency of the ventilation induced by the two Chandler fans is high, and the results are mainly due to judicious splitting of the air-currents and the erection of brick stoppings in the disused cut-throughs.

Glen Afton Colliery (Proprietors, New Zealand Co-operative Dairy Co., Limited).—The main headings are advancing in northerly, easterly, and westerly courses in the undulating coal-seam. Sections A, B, C, D, E, and F have been opened out to provide an output of upwards of 600 tons daily. The bords in Section A are being stopped as they reach the outcrop boundary, and the seam is being followed to the eastward in this section. The coal-seam maintains a varying thickness of 14 ft., and faults of small displacement are occurring in the west section, necessitating the grading of the roadways. The panel system of laying out and working is being adopted in all the sections. The main haulage-road, which has been extended 70 chains from the surface, is roomy, with sufficient space for walking between the rails. The area of the original returns is much diminished owing to falls and creeping of the sides, and an additional return airway is being driven parallel with the existing one in order to provide a cross-sectional area in excess of the intake.

The commodious bathhouse of standard design is extensively patronized.

The effective ventilation is high, that result being due to 60 ft. pillars between the intake and return and long intervals between the cross-holding connections.

A marked feature of employment at this mine in comparison with other local mines is the number of days worked, for, with the exception of award holidays and several hours lost through shortage of railway-trucks, the mine worked full time.

Graham's Colliery.—Operations have been vigorously conducted at this mine by the party of mine-owners. The seam averages 6 ft. in thickness, is friable (requiring no explosives), and the output of 50 tons per day is conveyed by horse-wagon a distance of half a mile to railway-trucks at Glen Afton Station. On two occasions the ventilation was dull, and mechanical appliances have been requisitioned to induce adequate air-currents.

Pukemiro Junction Colliery (Crown Lease; Co-operative Party).—Pillar-extraction in the east section continued throughout the year with a minimum of waste. The natural ventilation, efficiently effected by the return drive being 40 ft. higher than the intake, is sufficient for present requirements. Fifteen men are ordinarily employed, and the output is approximately 50 tons per day. An approved magazine, bathhouse, and change-house have been erected by the mine-owners. Brickmaking was commenced and abandoned during the year. The venture proved that modern machinery is required to eliminate the moisture, which causes shrinkage in the finished brick.

Waipa Colliery.—At this mine normal coal-production was steadily maintained during the year from the first workings in Nos. 1 and 3 west sections and Nos. 2 and 3 east sections. The main dip heading has been advanced to an upthrow fault of 10 ft. displacement, and a seam of coal similar in quality to the present workings has been discovered through the fault. A stone drive affording means for a second escape for workmen has been holed to the surface and is available for use. Old standing workings comprising Broadway and Khyber Pass sections have been sealed off at the entrances and isolated in accordance with precautions instituted to prevent spontaneous combustion in old workings. On the 2nd September an underground fire of serious proportions broke out in the vicinity of the underground stables. The fire travelled across the return airway towards the separation stopping-door in the intake airway, where the management was successful in suppressing the outbreak and surrounding it with temporary stoppings. The return airway was subsequently recovered, and sixteen substantial brick stoppings with sand filling between the walls were erected in selected positions to permanently enclose the fire-affected area. Approximately thirty brick stoppings have been erected in the cross-stentions between the intake and the return airways in accordance with the amended Coal-mines Act of 1924.

Waikato Extended Mine.—Owing to the available solid coal being exhausted splitting of the pillars was commenced in order to maintain the output. Sixteen men are employed, and approximately 50 tons per day are produced and delivered to the banks of the Waikato River, where the company's steamers load same for river stations. The two working jig-inclines are properly equipped; the shot-firing regulations are strictly enforced; and the ventilation of the working-places has been good throughout the year.

Huntly Coal-mine.—This mine is operating on a lease from the Auckland University College Council. The available coal is almost exhausted, and driving towards the outcrop proved the seam to be soft and inferior. The ventilation has been maintained by shallow holes to the surface. The main jig and ropes are in good order. An average of six men has been employed at the mine during the year.

Huntly Brickworks (Huntly Brick and Fireclay Company, Limited).—Fireclay-supplies for the manufacture of building and fire-bricks were steadily maintained during the year from the opencast quarry and by endless-rope haulage to the kilns. The quarry is carefully worked, and all explosives are in charge of and fired by competent workmen.

Kimihia Colliery.—The right to work this mine has been the subject of proceedings in the Supreme Court. The mine was formerly developed by Johnson and party, and operations were suspended at the instigation of the Auckland University College Council. The mine was subsequently reopened and worked by the Taupiri East co-operative party. The coal-seam is of an average thickness of 16 ft. with a 4 in. parting at 10 ft. from the floor, leaving a strong roof. The main heading has been advanced 4 chains in the coal-seam.

Taupiri East Coal-mine.—A party of miners, working on co-operative principles, prospected an area of their lease on the Auckland University College Council endowment by boring to the rise of the Kimihia Lake (a portion of the coal-seam existing under the lake was formerly worked by the Taupiri Coal-mines, Limited). The operations proved an extensive field of workable coal, and a development heading in the coal-seam has been advanced 5 chains. The output is carted four miles to the Huntly Railway-station. The mine is within easy reach of the Main Trunk Railway, and the party propose laying a surface tramway to connect with the railway at Kimihia Station.

Bombay Colliery.—The co-operative party of miners who developed and worked this mine discontinued operations early in the year, as the thin seam (3 ft. in thickness) proved too faulty and stony for profitable mining. 300 tons of coal were mined and sold from this lease.

Hunua Colliery.—A small output was produced by two miners from this mine. The seam is separated by an intrusive band of shale, which hindered the sale of clean coal from the 4 ft. coal-seam.

Campbell Colliery, Whatawhata.—During the year boring operations have been vigorously conducted on the property. Twenty holes have been put down, ranging in depth from 90ft. to 285ft., coal being found in twelve holes, varying in thickness from 6 ft. to 14 ft. Mining operations continued intermittently, a limited amount of coal being carted owing to a prohibitive road-tax being imposed by the counties controlling the roads.

Old Stockman Mine.—This coal-mine, situated on Chambers Bros.' estate, twenty miles up the Mokau River, continued to work spasmodically throughout the year and supply local requirements. The seam is 4 ft. in thickness with a strong, hard sandstone roof. The limited output is conveyed by motor-launches to Mokau.

Greencastle Colliery.—A creep, due to the extraction of pillars in this mine, was responsible for the cessation of mining operations, but a new section has been opened out in the solid coal to the dip of the old workings. The seam averages 8 ft. in thickness, and a small output is produced for local requirements.

Welfare.

The re-establishment during the year of classes and lectures in connection with the local School of Mines was attributable to handsome donations from the Taupiri Coal-mines (Limited), Pukemiro Colleries (Limited), Waipa Railway and Collieries (Limited), and the Glen Afton Collieries, each of the companies granting £50 towards the welfare of the school. The Mines Department moiety on the sum donated enabled the local Council to engage a full-time Director. The educational facilities afforded to mining students at Huntly, Glen Massey, and Pukemiro were properly appreciated, and ninety students were enrolled for the commencing lectures. These companies also prepared and constructed tennis-courts and football-grounds, conveniently situated to the mining townships, and these recreation areas are a great boon to local and visiting players.

Prosecutions.

On the 10th April, 1924, a shot-firer was convicted and fined £5 and costs for failing to see, prior to firing a shot in the mine, that all persons in the vicinity had taken proper shelter.

On the 10th April, 1924, a deputy was convicted and fined £1 and costs for failing to use a locked safety-lamp when making the statutory inspections of the mine.

On the 10th April, 1924, a mine-manager was convicted and fined £25 and costs for failing to see carried out the provisions of the Coal-mines Act relating to the statutory daily inspection of the mine.

On the 10th April, 1924, a mine-manager was convicted and ordered to pay costs on a charge of failing to provide a back stay for skips ascending a jig-incline.

On the 1st December, 1924, a miner was proceeded against for (1) using threatening behaviour, and (2) abusive language, towards a shot-firer whilst such person was engaged in the execution of his duties, contrary to Regulation 69 of the Coal-mines Act and Special Rule 57 respectively. The defendant was convicted and fined £2 10s. on each of the two charges, and Court costs totalling £4 were also imposed.

Dangerous Occurrences (Regulation 81).

Rotowaro Colliery.—On the 20th June, 1924, Manager A. Penman reported an outbreak of fire in a solid pillar contiguous to No. 8 bord, No. 1 section of the mine.

Taupiri Extended Colliery.—On the 26th July, 1924, Manager J. Makinson reported an unlocated outbreak of fire in the No. 5 north-west old workings.

Waipa Colliery.—On the 1st September, 1924, Manager Thomas Thomson reported a serious underground fire in the vicinity of the mine stables.

Pukemiro Colliery.—On the 12th November, 1924, Manager A. Burt reported a heating in the gob in Vickary's pillar place, north-east section, North Mine.

Fatal Accidents.

Rotowaro Colliery.—On the 13th February, 1924, William Maddison, aged 66 years, employed as a shiftman and trucker in the Rotowaro Colliery, sustained serious internal injuries through attempting to control a full runaway skip which had become uncontrollable due to the wheel breaking away from the anchor on a jig-heading. When the skip struck the rib at the bottom of the heading he was holding the corner of it and was carried over the top, colliding with the solid coal pillar on the level. Maddison succumbed to his injuries in the Waikato Hospital on the following day.

Pukemiro Colliery.—On the 4th March, 1924, Ernest Gardner, aged 18 years, employed as a rope-road clipper in the Pukemiro Colliery, whilst taking an empty skip from the main endless-rope haulage-road into a branch road intercepted a race of three full skips on the main road, which forcibly collided with his empty skip, jamming him against the rib of the branch road. He sustained a fractured pelvis, and was taken to the Waikato Hospital, Hamilton, where he succumbed to his injuries nine months later.

Serious Non-fatal Accidents.

Rotowaro Colliery.—On the 14th April, 1924, Thomas Cooper, a roadsman employed in the Rotowaro Colliery, sustained a fractured collarbone and severe injuries to his knee, due to being struck by a fall of unsupported roof-coal which broke without warning in a bord where the floor was being lifted and where at the time of the accident longer props had not been substituted. Cooper was incapacitated eight weeks.

On the 13th October, 1924, F. Wilkinson, surfaceman, sustained a severe wound (now septic) of his second finger of left hand, due to same being punctured by some rusted metal. Wilkinson is still unable to resume work.

Pukemiro Colliery.—On the 9th January, 1924, Edward Hall, miner, sustained the loss of his right eye, due to being struck by a piece of flying coal which embedded therein. Hall was incapacitated 135 days.

On the 11th January, 1924, J. Dowling, miner, was incapacitated 172 days with a ruptured teno-achilles muscles of his left leg, due to slipping and falling whilst trucking a skip.

Glen Afton Colliery.—On the 26th June, 1924, Hugh Roberts, aged 16 years and employed as a tipper, sustained the loss of two fingers, due to his hand being caught and the fingers crushed between the rail and wheel of a railway-wagon. Roberts was off work seventy-five days.

On the 6th October, 1924, Robert Fleming, aged 24 years, and employed as a trucker, sustained a fracture of the left radius and ulnus, due to his wrist being jammed whilst unloading timber. Fleming was incapacitated forty days.

Waipa Colliery.—On the 20th June, 1924, Peter Crawford, miner, sustained serious injuries to both his eyes, due to being struck and burnt by a premature explosion of blasting-powder whilst engaged charging a shot-hole in his working-place. Crawford is still unable to resume work.

Hikurangi Colliery.—On the 13th February, 1924, John Henderson, trucker, sustained a severe wound of his left leg, due to being struck with the buffer of a skip. Henderson was off work 100 days.

On the 17th May, 1924, Thomas Murray, fitter, sustained a severe left inguinal hernia, due to a fall caused by a spanner slipping whilst he was engaged tightening a big nut. Murray is still unable to resume work.

Kerr and Wyatt's Mine.—Consequent to serious injury to his right eye, due to flying fragments of coal embedding therein on the 3rd August, 1923, William Crackett, miner, subsequently lost the total vision of his eye. He returned to work in Wilson's Colliery, but was later compelled to cease owing to sympathetic weakening of his left eye, and he is now almost totally blind.

West Coast Inspection District (Mr. C. J. Strongman, Inspector).

Coal-output.

During 1924 the coal-output for the combined Grey, Reefton, Buller, and Nelson districts was 990,612 tons, being an increase of 141,583 tons over the previous year, made up as follows: Grey district, increase 54,395 tons; Reefton district, decrease 3,448 tons; Buller district, increase 88,790 tons; Nelson district, increase 1,846 tons.

In the Reefton district the decrease was due to the closing-down of several small mines owing to slackness of trade.

Number of Men employed.

The total number of men employed during the year was 2,480, being an increase of eighty-five for the year.

Grey District.

State coal-mines (Liverpool collieries).

No. 1 Mine.—This mine includes the No. 1 and Morgan seams. During the year coal-winning has been confined entirely to pillar-extraction in both seams. The roof being tender and the pillars narrow, great care had to be exercised to avoid "creep." Fourteen pairs of colliers were employed in the top or No. 1 seam, and eighteen pairs in the Morgan seam.

Ferguson's Dip and No. 2 Mine.—Work in Ferguson's dip has been confined to the splitting of pillars. The seam developed many dirty bands, and further winning from places had to be abandoned. The complete extraction of pillars is not practicable, as the escarpment is close to the No. 2 mine haulage-road. Only two pairs of colliers were employed. This mine will cease production early in 1925.

No. 2 Mine.—During the year the stone headings in the No. 2 mine cut two workable coal-seams. The first or Anderson seam is 10 ft. thick; the second or Kimbell seam is 16 ft. thick. A third seam, the Morgan seam, should be reached with another 5 chains of driving. The measures in the Kimbell seam when first struck were pitching about 26°, and the strata at the face of the stone heading is now about 20°. A few places have been driven in the Anderson seam. Driving proved the seam dipping in all directions, and mining operations have ceased until power is available to work the haulage-winch and pumping plant. The Kimbell seam though steeply inclined is free from stone and is of good quality. Levels are being driven east and west, and connections are being made for ventilation. Four pairs of colliers are employed on development-work, but this number will shortly be increased as the winning-places advance. The third or Morgan seam should be reached some time in March. A new lamp-cabin and bathhouse in concrete are under construction at the middle brake and will be completed early in 1925. A supply of electric safety-lamps has arrived, and these will shortly be issued to the miners.

No. 3 and No. 3 Extended Mines.—Work in the No. 3 mine has been confined to the extraction of pillars. The endless-rope haulage has been dismantled and self-acting jigs installed. Six pairs of colliers were employed.

No. 3 Extended Mine.—All winning-places in this mine have been stopped, stone bands and dirt in the coal having rendered further development unprofitable. The seam has thinned in many places to a height of 2 ft. 6 in. Work is now confined to pillar-extraction. All work in this mine is now being carried on under co-operative contract, the contractors performing all necessary repair work, &c., and delivering the coal to the storage-bin at a fixed price, the State-mine management retaining the supervision and direction of mining operations.

James State Mine.—The main heading is now in a distance of 58 chains and is 6 chains distant from borehole No. 1 and 15 chains from the Nine-mile Creek. At the face a roll running nearly parallel with the drive has thinned the coal to 10 in. Power-drills of the Jack Hammer type are used to brush the floor. To the right of the main heading the roll has been crossed and the seam found to exist at the normal thickness. Development-work in the old dip has been stopped by an upthrow fault (estimated to be 200 ft.), and the workings are now being extended in the direction of No. 8 borehole, where 11 ft. of coal has been proved. A new dip has been started inbye 8 chains from the old dip. The floor is undulating, making the construction of haulage-roads difficult. At Kennedy Creek a place has reached the outcrop, thus shortening the length of the intake airway. The mine is not fully manned, only fourteen pairs of colliers being employed.

Blackball Mine.—This mine has now practically recovered from the effects of the fire which stopped mining operations from November, 1922, until April, 1923. No. 9 dip having been unwatered and the timbering renewed, coal-winning operations have been resumed to the dip. The coal at the face is of a soft friable nature. Forty-three pairs of colliers are employed on two shifts. The major portion of the output is obtained from pillar-extraction on the No. 1 level. Owing to heating in an old bord in No. 10 bank stoppings were erected between Nos. 9 and 10 banks, sealing off the area. A rise at a grade of 1 in 1 from the bottom of No. 9 dip to the surface, a distance of 525 ft., has been commenced, primarily to provide another outlet for the miners in case of an outbreak of fire; it will also enable the electric cables to be brought over the surface and down the rise, thus removing the cables from the return airway. The main rope in the No. 9 dip has now been extended to the second level.

Paparoa Colliery.—During the year all the coal won has been from pillar-extraction. Fourteen pairs of colliers were employed, twelve pairs on day shift and two pairs on back shift. At present a pair of colliers are picking up an old heading, 5 chains in length, in the bottom section on the right of the main haulage-road; this will open a fairly large area of solid workings, and in addition the new heading will provide another travelling-road from the mine.

A fall occurred in the fan-drift on the 16th September, rendering the mine idle for a period of five days. It was impossible to repair the old drive, as the fall extended to the surface. A deviation was therefore made through stone and the fallen drive stopped off. The safety-lamp cabin situated at the middle brake was accidently destroyed by fire on the 15th December and seventy safety-lamps destroyed.

During the year extensive prospecting and surveying operations have been carried out on the No. 2 seam between the present workings and the main fault. An area of good coal (approximately 25 acres) with an average thickness of 20 ft. has been located, and it is intended to commence with the development of this area immediately. Between the present workings and the new area the coal is very dirty and is valueless as a commercial asset. A drive, 16 chains in length, will be necessary to connect the present workings with the new area it is proposed to develop.

A borehole has been put down from the No. 2 seam to cut the No. 1 seam. This hole is now down 170 ft., and as the distance between the two seams is only 180 ft. it should not be long before the No. 1 seam is met with

GREY VALLEY COLLIERIES (LIMITED).

Dobson Mine.—Operations have again been resumed at this mine. The stone dip is now down a distance of 16 chains, but the coal-seam has not yet been reached.

Mount Buckley Section, Dobson Mine.—A few tons of coal was won from the pillars of this section during the year, and was used on the works for power purposes. The coal being of a soft friable nature this section is now abandoned.

CO-OPERATIVE PARTIES.

Scott and Party's Mine, Blackball.—This small mine forms part of the Blackball Coal Company's freehold. A party of miners has contracted with the company to deliver the coal at the railway. Working to the dip the party were unable to cope with the water. A siphon that had been installed was discarded, as the sulphuric acid in the water rapidly corroded the pipes. The party then commenced to remove the pillars. In order to win the coal to the dip it is intended to drive a low-level adit from the railway side of the ridge, a trial survey having proved this possible. Number of men employed, six.

Boustridge and Party.—This mine is on the bank of the Grey River and forms part of the old Brunner lease. The coal has been reached by driving a tunnel into the hill through slipped ground. A water-balance is used to raise the coal up to the bin-level; from there it is carted to the Brunner Railway-station in drays. The loading and unloading into drays and wagons is done by hand; the output, being small, does not warrant the installation of machinery. Two men are employed.

Dixon and Party, Brunner.—All the pillars have been extracted, and the mine is now closed.

Allan and Party, Brunner.—This party, consisting of seven men, have secured part of the old Brunner lease known as the Coolgardie section. Height of coal worked is 8 ft.

Kiwi Shaft, New Tyneside Mine (Smeaton, Cummings, and Party).—During the year this party commenced operations in the Kiwi shaft at Brunner, but, unfortunately, during November an influx of water from the old Tyneside workings compelled the abandonment of coal-winning operations.

Armstrong and Party, Dunollie.—The stone band in the rise coal continues to increase, and work in this direction has been temporarily stopped and the workings to the dip restarted. Two levels off the main dip are being driven east and west. The main incline going north now shows 14 ft. of clean coal. Ten men are employed. To work the dip a boiler, winch, and pump have been installed.

Moody Creek Mine (Simpson and Party), Dunollie.—Development in this mine has been restricted by faults, and work during the year has been confined to the upper seam. Seven men were employed.

Hunter and Party, Dunollie.—Prospecting operations on the upper seam have been abandoned, and development is confined to the bottom seam. In the main incline the coal is irregular, varying from 3 ft. to 4 ft. in height; overlying the coal is 18 in. of shaly coal and stone. The main level shows an average height of 3 ft. 3 in. of coal. Eight men were employed.

Brae Head Mine (Boote and Party), Dunollie.—This party by continuing a dip drive in stone have reached a seam of coal 12 ft. to 14 ft. in height. A main level is now being driven in a northerly direction. A Hayes fan coupled to a small steam-engine has been installed. Eight men were employed.

Hillside Mine (Clark and Party), Dunollie.—The main dip is down a distance of 11 chains and has been stopped in 2 ft. of coal. The levels to the right and left of the dip have also thinned, and a band of stone near the roof has increased in thickness. In consequence of these drawbacks the driving of winning-places has ceased and pillar-extraction has been commenced. The party have installed a 15 in. steam-driven Sirocco fan. Eight men were employed.

McIvor and Party, Dunollie.—During the year this party have experienced considerable difficulty with water in the dip workings. Only four men were employed.

Baddeley and Party, Dunollie.—The solid workings to the rise are nearing the boundary of the lease, and it is the intention of the party to drive through the fault in the main level. Eight men were employed.

Manderson and Party, Dunollie.—Pillar-extraction in both top and bottom seams continues. Nine men were employed.

Smith and Party, Dunollie.—Pillar-extraction continues in the rise workings, but it is the intention of the party to intercept the coal-seam at a lower level by means of a stone drive. Eight men were employed.

Duggan and Party, Rewanui.—Two seams of coal are being worked, the bottom or No. 3 seam, and the upper or Compressor seam. All solid workings in the No. 3 seam are now practically completed, and a start has been made to develop the upper seam, which shows an average thickness of 5 ft. of soft friable coal. An overlying bed of fireclay which swells on exposure to the air makes mining difficult. In order to reduce haulage costs, a flume 10 in. by 8 in. was contructed from one of the mine-openings to a new bin near the Rewanui Railway-station. Owing to the steep gradient (1 in 2½) near the bin and the friable nature of the coal this means of transport had to be abandoned. Seven men were employed.

Spark and Party, Rewanui.—The coal worked forms part of the No. 4 seam, and is of good quality, varying from 6 ft. to 8 ft. in thickness. The main level has been continued in a north-easterly direction. A new Sirocco fan, 35 in. in diameter, driven by a Pelton-wheel, has been installed, and the ventilation in consequence has been considerably improved. A storage-bin of 200-tons capacity has also been erected near the Rewanui Railway-station. Eight men were employed.

Buller District.

Westport-Stockton Colliery.—In the Fly Creek area, E Field, the main south headings have advanced a total distance of 18 chains, and the east and west headings 10 chains in their respective directions. The coal is solid and unbroken with a thickness averaging 20 ft. An 8 ft. Waddle fan is being installed to supersede the electrically driven Sirocco fan now used to ventilate this section. The Waddle fan will be operated by a Boving water-wheel under pressure due to 140 ft. of head. Seventeen chains of fluming connects the circular concrete dam to the surge chamber. In the old No. 1 section pillar-extraction continues, four to seven pairs of colliers having been engaged constantly during the year.

Old Mine: Operations in this mine have been chiefly confined to pillar-extraction in the C Tunnel. Six pairs of miners were employed.

D Extension: This is a new area of 70 acres under development similar to the old D section. The average height of seam is 10 ft. The output from this seam is delivered by a flume, one mile in length, to a receiving bin near B Tunnel rope-road. Six pairs of colliers were engaged in this section driving out winning headings in readiness for an increase of output.

The construction of the main flume continues and should shortly be completed. The full length of the flume is five and a half miles, four miles of which have been erected and are now ready to receive the galvanized-iron casing. When completed the whole output from the mine will be carried by water from the new 750-ton bin near the new mine to the receiving-bin at Ngakawau.

Millerton Mine.—In the north-east section adjoining the Stockton area the winning-places are nearing the boundary. Two pairs of colliers are engaged on pillar-extraction, and nine pairs on solid work. During the year permission was granted to withdraw the safety-lamps from this section, and naked lights are now being used.

Mangatina section: During the year two pairs of colliers were engaged removing top coal near the blacksmith's shop.

Across the creek a small area, containing approximately 1 acre cut off from the main Mangatina area by an upthrow fault, is being worked. The coal is 40 ft. in thickness, and the overburden varies from 3 ft. to 12 ft. Where the overburden does not exceed 4 ft. stripping is in progress.

Sixth west section: This small area, 7 acres in extent, is now being developed. The coal is 30 ft. in thickness, and ten pairs of colliers are employed.

Second Mangatina: This section lies to the south of the Mangatina boardinghouse, and has not been worked from the main seam because of an upthrow fault; three pairs of colliers are employed.

Fourth west solid section: This section is now approaching what is known as the barren area, and the coal is thinning; eight pairs of colliers were employed.

Third west pillars: Six pairs of colliers are employed in this section on pillar-extraction. The coal is 50 ft. in thickness.

Evans Daylight Section: Five pairs of colliers are employed in this section on pillar-extraction. The coal is 30 ft. in thickness, and the overburden varies from 20 ft. to 60 ft.

No. 1 Dip Pillars: Four pairs of colliers are employed on pillar-extraction. Indications of heating in this section are still being found. During the period under review two Babcock and Wilcox boilers have been erected at Mine Creek Power-station, making in all eight boilers at the power plant. A three-phase 250 K.V.A., 3,300-volt generator has been installed for power and lighting purposes. Electric safety-lamps, both cap and hand, have been procured and will shortly be issued to the miners. A new lamp-cabin in concrete and wood, 45 ft. by 24 ft. has been erected to accommodate the lamps and charging-racks.

DENNISTON COLLIERIES.

Coalbrookdale.—In the Wareatea section of this mine the workings are still being extended, the main south headings having been driven a distance of 37 chains. So far little ordinary mining has been done, work having been confined to development. This also applies to the headings being driven south-west. This section will in the near future be the main source of output. As the coal is liable to spontaneous combustion the panel system of mining has been adopted, and it is hoped that this method will result in a more complete extraction of the coal. Preparations are well advanced for the extension of the main haulage-system.

Wareatea Extended.—The output from this section is maintained from solid workings and pillar-extraction. The solid workings are trending south-west. The area of coal is known to be small, and much faulted. It is anticipated that a holing will be effected to Wareatea section within the next few months.

Cascade Section, Calligan's Dip: This area is now practically exhausted.

No. 8 Section: The whole of the output is derived from pillar-extraction. During the year considerable trouble with fires has been experienced in this section. Owing to the crushed nature of the coal and the thickness of the seam the stoppings erected have not been effective. The stoppings are in places 20 ft. high and 6 ft. in thickness. During the latter part of the year it was found necessary to seal off a large portion of this area and shorten the haulage. As the roof in the vicinity of the latest fire-stoppings is of an exceedingly hard nature it is only a matter of time when another retreat will be necessary. To attempt to extract the pillars as the matter now stands will be a difficult undertaking.

Ironbridge Mine.—Coal-winning operations in this mine are now confined to pillar-extraction in Kruger's, Kiwi, and No. 1 sections.

In Kruger's section twelve pairs of colliers are engaged in pillar-extraction. In the lower part of the section, known as Kruger's Right, pillars are being prepared for extraction. The top seam, 6 ft. thick, and the bottom one, approximately 20 ft., are separated by 1 ft. to 2 ft. of fireclay and mudstone. The top seam was pillared some years ago, also the top portion of the bottom one, leaving a sufficient thickness below to be again worked. This is now being done by opening out narrow places 6 ft. to 9 ft. wide, and 6 ft. to 7 ft. high. The coal roof thus formed appears to be effective in keeping up the waste ground overhead.

No. 1 section: Three pairs of colliers are engaged on pillar-extraction. The coal is from 16 ft. to 18 ft. in thickness, and is not liable to crush, as the main roof breaks readily.

Kiwi section: Five pairs of colliers are engaged on pillar-extraction. The coal-seam in this section is over 30 ft. in thickness and of an extremely hard nature. In consequence of the thickness and nature of the coal the upper portion is being worked first, leaving the lower portion to be extracted later.

Deep Creek (New Mine).—This mine consists of a series of small areas of coal, in each of which development has been rapid. Owing to breaks and gutters in the roof the main headings in the Cliff section had to be stopped. It is intended to commence driving a pair of new headings more to the centre of the field.

Kiel's Flat: This section has been opened up during the year. In all twenty pairs of colliers are employed in the Deep Creek new mine sections.

Workmen's Cottages: Seventeen new cottages have been erected by the Westport Coal Company during the last eighteen months, thus establishing a new township called Marshallvale on the plateau between Denniston and Burnett's Face.

Clydevale Coal-mines (Limited), Seddonville.—The plant to be used in the working of this mine is now in course of erection. It is intended to commence operations in the most northerly portion of the lease, from which point to a site near the State Mine bin an aerial ropeway of a capacity of 40 tons per hour (mono-cable system) is being erected. Trestles for the ropeway are constructed of steel and vary in height from 12 ft. to 70 ft. There are thirteen of these trestles, the longest span, 10 chains, being across Chasm Creek. A bin of 600-ton capacity has been erected at the railway. To facilitate the transport of coal from the mine-trucks to the aerial a second bin of 100-tons capacity has been erected at the upper end near the mine. From this bin a tramway, 9 chains in length, has been laid to the mine-mouth. At the present rate of progress coal should be produced by the end of May, 1925.

Regan and O'Brien's Mine.—All pillars having been extracted from this area the mine is now closed. Shortly after the mine was abandoned fire was discovered in the fallen ground, and attempts were made by the parties interested in the adjoining properties to seal off the fire, but only with partial success. Prospecting is now being carried out on the northern portion of the lease.

Dove's Mine (Old Cardiff).—Coal-winning during the year has been confined to pillar-extraction. On the 6th September a fire broke out in the portion of the lease known as Regan and O'Brien's Mine; stoppings were erected, and a line of pillars extracted to seal off the fire.

Coal Creek Mine.—Work during the year has been confined to pillar-extraction in the south-western portion of the area. During the latter portion of the year mining operations were suspended owing to slackness in the coal trade.

Cardiff Bridge Mine.—The workings in this colliery are now trending south-west, but no particular plan of development is in progress. From a point near the mine-mouth where a gully forms a natural bin a flume has been constructed to the bin at the railway. This flume is approximately one mile in length, and is built of 12 in by 1 in. planks supported on frames. The bottom of the flume is lined with iron plates $\frac{1}{16}$ in. in thickness. So far this method is successfully dealing with the output of 600 tons per week.

Westport-Mokihinui Mine.—This party has made very little progress during the year, coal-winning being principally confined to winning outcrops and bottom coal.

Zealandia Mine.—Only 302 tons of coal were won during the year, mining operations having been suspended.

Murray's Mine.—Slackness of trade has caused the closing-down of this mine.

Chester's Mine.—Three men have been employed continuously throughout the year.

Ngakawau Mining Syndicate.—Very little work has been done on this property, as the party have been unable to dispose of the output.

Westport-Granity Mining Syndicate.—This syndicate hold an area of approximately 90 acres on the western boundary of the Westport Coal Company's lease. A bin of 200-ton capacity has been erected one and a quarter miles south of the Granity Railway-station. Coal is conveyed from the mine to the bin by means of jigs, four in number. First jig, length 13 chains, grade 7°; second, 22 chains, maximum grade 38°, deflection 30°; third, 12 chains, maximum grade 38°, deflection 10°; fourth, 18 chains, maximum grade 19°. The average thickness of coal has not yet been ascertained, but will probably be 30 ft. A considerable area will be worked opencast. The mine will produce coal early in January, 1925.

Whitecliff Mine, Buller Gorge.—Very little work has been done in this mine during the year.

Rocklands Mine, Buller Gorge.—No work of any consequence has been carried out in this mine during the past year.

Inangahua District.

Reefton Coal Company, Burke's Creek.—During the year the greater part of the output was produced from the old dip section.

Preen's Jig: The pillars in this section are nearing exhaustion, and this section will shortly be closed.

Anzac Section: This section has been let to a party of co-operative contractors; four men were employed.

Sherwood Mine (Morris and Learmont's).—No new work has been done at this mine during the year.

Calliope Mine.—Preparations have been made to construct an aerial tramway from the mine to a point near the Reefton Railway. A considerable amount of plant has arrived but is not yet installed. All mining operations are suspended.

Phoenix and Venus Mine.—The output for the year was 1,975 tons which, was disposed of locally.

Big River Mine (Big River).—The main drive going north is in very loose ground. Crosscutting has proved the coal in a westerly direction. Going east the coal becomes thin and dirty. As the coal lies at a very steep angle the stoping method is used.

Doran's Mine, Capleston.—This mine is at present closed.

Ferndale-Timaru Coal Company, Burke's Creek.—Work on the No. 4 seam (Lockington's lease) has been practically suspended during the year, only 632 tons of coal being extracted. The No. 2 seam (Lishman's area) was opened up in October and a main heading extended 10 chains. Development to the rise in a south-easterly direction has been continued to within 1 chain of the Empire Coal Company's boundary. A fault running south-east has now been pierced, and coal of a fair quality proved, but this coal still contains stone intrusions. The main dip was stopped after being driven a distance of 3 chains. During the year the following plant has been installed: One gravity screen, one 35 in. steam-driven Sirocco fan. The mine has suffered considerably during the year through lack of trade.

Mr. A. R. Ayson, general manager of the Ferndale-Timaru Coal Company, with a view to utilizing the slack coal, which is now being dumped, has for some time past been experimenting with a view to producing a household coke and oil on a commercial basis. With a small cast-iron retort, 5½ lb. capacity, a large number of tests were made, with the following results:—

Coal from	Slack.	Coke produced.	Tar, Oil, and Ammonia-water.
	Oz.	Oz.	Oz.
No. 2 seam	311	172	82
No. 1 seam	77	42	22
No. 4 seam	169	95	45
No. 4 seam	152	103	31

The oil has been analysed and found to be of good quallty. Further tests are being carried out with the object of improving the coke.

Empire Mine.—This mine has closed down owing to financial difficulties.

Woodlands Mine.—This mine has been temporarily closed owing to lack of trade.

Nelson District.

Puponga Mine.—Development continues to the rise. In the B mine five colliers are engaged on pillar-extraction. The coal in this section is 7 ft. in height, but is split by a stone band 15 in. to 18 in. in thickness. This section will shortly be exhausted. In the C mine, lying to the west of B mine, the main level has been extended in a westerly direction as a prospecting level. The thickness of coal is 3 ft. 6 in., split by two stone bands each 4½ in. thick. The coal in the incline going south has been cut by a fault. Two stone headings driven through the fault intercepted a coal-seam 5 ft. in thickness, split by two stone bands 2 in and 1 in. respectively.

North Cape Mine.—A new seam approximately one mile south-west from the old mine is being developed. This new seam dips irregularly from 75° to 80°, the thickness of coal being 6 ft. to 8 ft. The coal is of a soft friable nature. A dip on a gradient of 1 in 3½ is being driven north-east. Levels 30 ft. apart have been extended 500 ft. in each direction. The stoping method is being used to win the coal.

Golden Bay Mine.—The main level is being driven in a westerly direction. Very little development-work has been done during the year.

Waikohatu Mine.—This mine has been closed during the greater portion of the year.

O'Rourke's Mine, Murchison.—Only a few tons of coal were produced from the rise workings.

Dangerous Occurrences, notified under Regulation 81.

Blackball Mine.—On Wednesday, 7th May, signs of heating were noticed in an old bord in the No. 10 bank No. 3 dip of this mine, and the area was immediately sealed off.

Regan and O'Brien's Mine.—On the 6th September a fire broke out in the old workings known as Regan and O'Brien's mine. As these workings were connected with those of Dove's mine, stoppings were immediately erected, and the fire sealed off. Later a line of pillars was extracted and the fire area thus completely blocked off.

Cascade Mine, Denniston.—On the 20th October an old fire in the No. 8 section of the Cascade mine at Denniston broke through the stoppings. Additional stoppings were erected, and the fire again sealed off.

New Tyneside Mine, Brunner.—During November water was noticed issuing from a break in the roof of the workings in the New Tyneside mine. The water had the smell common to water from old workings. As the mine is adjacent to the flooded area of the Old Tyneside Mine operations were suspended.

Fatal Accidents.

Seven fatalities occurred to workmen employed in or about the mines of the West Coast Inspection District during the year, and in addition two other persons not employed in mining lost their lives on the haulage-roads. A striking feature was the number of accidents on the haulage-roads whereby elderly men lost their lives.

On the 10th January a young man named Treyton Potter, employed as brakesman on the Stockton locomotive road, lost his life through being crushed between the brake-car and the centre rail. There was no evidence to show how deceased was caught by the brake-car.

On the 3rd March a general labourer named John Kennedy, aged 65 years, employed at the Liverpool State Mine, Rewanui, was crushed between a full truck and an overhead tramway, and died shortly afterwards as a result of his injuries.

On 12th March an elderly man named Thomas Riley, a rope-road attendant, was run over by a full truck on the Mine Creek rope-road, Millerton Mine, and died in the Westport Hospital the following day. Medical testimony attributed his death to cirrhosis of the liver combined with the shock of his injuries.

On the 9th June a deputy named William Gilmour, 69 years of age, was killed by a fall of coal on the Mine Creek rope-road, Millerton Mine. Deceased was engaged trimming the roof and had succeeded in loosening a large piece of coal when he decided that it would be safer to work from the opposite side. He was passing underneath the loosened coal when it fell on him, killing him instantly.

On the 23rd July Joseph Higson received injuries from which he died four days later in the Greymouth Hospital. Deceased was engaged as a shiftman in the No. 3 mine, Liverpool Collieries. He had commenced to walk up a jig that was working when two trucks became detached from the rake and ran down the grade, striking deceased.

On the 5th September a collier named Albert Manderson was killed by a fall of stone in Manderson's Co-operative Mine at Dunollie. Deceased and his mate were engaged retimbering a level when a bump displaced several sets, thus allowing the roof to fall. Strenuous attempts at rescue had partially succeeded when a second fall occurred and deceased was slowly crushed to death.

On the 25th September Moses Harry, a rope-road worker, 71 years of age, was run over and killed on the Denniston rope-road. It is surmised that deceased attempted to cross over the roads while the rope was in motion, and was knocked down and run over by a full truck.

Serious Non-fatal Accidents.

On the 21st February W. Morgan while jigging a truck in the Millerton Mine met with an accident resulting in a broken leg.

On the 9th June Charles Thompson, a trucker, employed at the James Mine, State Collieries, slipped whilst pushing a truck, fell, and fractured his pelvis.

On the 13th June C. Gillespie, a collier, employed in the Taipo section of the Ironbridge Mine, Denniston, received a fracture of the small bone of his leg. A piece of stone fell from the roof striking his leg.

On the 12th August W. Heslop and his mate, P. McFadgen, both had their legs broken by a fall of roof-stone in the Hawkin's section of the Cascade Mine.

On the 23rd July Edward McCaffrey, pump attendant, received a compound fracture of the right leg. McCaffrey was attempting to board a train on the Stockton electric locomotive road when he slipped, with the above result.

On the 30th August Charles Dobson, a bushman, employed by the Reefton Coal Company, received a fracture of the right leg through a tree swinging and striking him.

On the 13th September Henry Griffiths, a fitter, employed by the Westport Coal Company, fell a distance of 11 ft. 3 in., severely injuring his head.

On the 18th September Samuel Short, a miner, employed in the North Cape Mine at Puponga, received a compound fracture of the right leg. A piece of stone fell from the hanging-wall, striking him on the leg.

On the 1st December Isaac Malpas, a miner, employed in Hunter and Party's Co-operative Mine at Dunollie received a fractured pelvis and two broken ribs through a piece of stone falling from the roof and striking him.

Prosecutions.

On the 14th May two colliers employed in the Old Cardiff Mine were convicted and fined—(1) £3 and costs for failing to erect roof-supports in a systematic manner; (2) £5 and costs for taking into the workings explosives not in a securely covered case or canister.

On the 14th May the owner of coal lease No. 5700 was fined £6 for failing to contribute to the Coal-miners' Relief Fund the sum of £2 1s. 2d., being the sum equivalent to ½d. per ton on all coal sold during the two preceding periods of three months.

On the 9th July a collier in the safety-lamp portion of the Millerton Mine was fined £1 and costs for having in his possession cigarette-papers.

On the 23rd October the following charges were laid against a deputy employed by the Reefton Coal Company: (1) That he did fail to inspect the mine with a locked safety-lamp two hours before commencement of work in the mine; (2) That he did fail during his rounds to examine the roof and sides of such mine; (3) That he did fail to mark with chalk the day of the month upon each working-face. All charges failed.

On the 20th November the mine-manager of the Golden Point Mine, Soldiers' Road, Reefton, was fined £1 and costs for failing to inspect the mine with a locked safety-lamp before the men entered the mine; and two men employed at the mine were each fined 5s. and costs for proceeding towards their working-face before it had been intimated to them by the fireman-deputy that the mine had been examined.

On the 18th December the mine-manager of the A 1 mine at Burke's Creek, Reefton, was fined £1 and costs for failing to inspect the mine with a locked safety-lamp before the men entered the mine; and two workmen employed at the mine were each fined 5s. and costs for proceeding towards their working-face before it had been intimated to them by the fireman-deputy that the mine had been examined.

SOUTHERN INSPECTION DISTRICT (MR. GEORGE DUGGAN, Inspector).

Coal-output.

The output of coal for the year, 455,070 tons, shows a decrease of 31,870 tons to that of 1923.

This decrease is not confined to any one portion of the district, Canterbury having suffered to the extent of 5,552 tons, Central Otago 1,719 tons, and North Otago 541 tons.

The mines in the South Otago field are the principal sufferers, as 20,782 tons less than 1923 were produced there.

Southland's output, which is 3,276 tons less than last year, would probably have shown an increase had not labour trouble occurred in the Ohai Coalfield from July to September. On the 9th July the Birchwood, Linton, and Wairaki miners ceased work. They resumed on the 21st July, but the Birchwood men again stopped on the 29th and resumed on the 2nd August. On the 27th August the Linton Mine was again idle, the men resuming work on the 14th September.

Mount Torlesse Mine.—On account of the very disturbed nature of the country the mine-workings became very restricted during the year, and in November only one place on the west side was being worked. The coal in this place was of fairly good quality and about 9 ft. in thickness. Safety-lamps continued to be used during the year. In Sittleton's heading, on the east side, 500 cubic feet of 4-per-cent. mixture was reported on the 16th June, and inflammable gas was reported on several other occasions during the early part of the year.

Springfield Mine.—A few tons were won from the remaining coal near the surface.

Homebush Mine.—A few pillars in the 7 ft. (main) seam are now being extracted, as the 3 ft. seam workings became exhausted.

Bush Gully Mine.—Three miners continued extracting a few pillars from the upper seam. They also drove into the lower seam, 40 ft. below the upper, which shows 3 ft. of clean coal with 6 in. to 12 in. of stone above and then 12 in. of top coal. The party purchased a 1½-ton motor-truck, which was used to convey the coal to Coalgate Railway-station. They sold their interest to another party of working-miners towards the end of the year.

Steventon Mine.—Arrangements are in hand to cross the downthrow fault, of 14 ft. displacement, at which the main dip was stopped. A crosscut was driven through the standing pillars early in the year, and this is now used as the main haulage-road. The fault will be crossed at the face of this crosscut. Owing to the coal on the south side becoming stony and unprofitable to work no further development was done in that direction. A level going north was being driven, practically following the fault-line, but as the pillars had been extracted above this level there was no return airway, and the manager was instructed to stop the place until a return could be provided.

Clearview Mine.—The incline and shaft to the surface were completed early in the year, and the ventilation was considerably improved thereby. Although the face of the main level is over a quarter of a mile from the mine-entrance, it is only a narrow strip of coal-bearing country with about 4 chains from the main level to the outcrop on the west side. The main level met poor coal, but, after driving about a chain in this, good coal was again met. Places are driven narrow; about 7 ft. in width.

Tripp's Mine.—The coal is proving very soft and contains much stone. The former pillar area is now closed owing to large falls. The present workings are being driven narrow.

Burnwell Mine.—Worked intermittently during the year. Development is confined to the two levels and the necessary cut-throughs. A large "roll" was met in the main level, and the coal was very soft and friable, with a steep inclination to the north-west. The face of this level is about 2 chains from the northern boundary of the lease.

Albury Mine.—The underground fire in the old workings to the west proved very troublesome during the year, and fears are entertained that it will eventually reach the coal underlying the traffic-road. As there are only a few feet of cover it is impossible to seal off the fire. As a possible means of confining the fire all the coal is to be removed for a width of at least 12 ft. and for about 7 chains in length parallel with the road. This will afterwards be filled in with clay and gravel, which will form a barrier to the fire. The coal to the north is dirty and unsaleable, and the workings are at the boundary on the east side, so little workable coal appears to remain.

Woodbank Pit.—This is a small opencast pit, opened during the year, about 12 chains east of the Albury Mine. The coal is dipping to the south, and the cover is rapidly thickening, so drives will have to be put in and the mine worked bord and pillar.

Allanholme Mine.—The main dip has been stopped for some time, and the water has been allowed to rise to within 4 chains of the mine-entrance. A level about 3 chains down, and going west, has been continued, and places are also going to the north off this level. All the places are 8 ft. high and 12 ft. in width.

Meadowbank Mine.—No output for the year.

Wharekuri Mine.—The extraction of the small pillars, formed in the workings about sixty years ago, was completed. Early in the year two stone prospect drives were put in at a lower level than the old workings. One of these drives was soon abandoned, and the other, which was anticipated to be entering virgin country, met old workings. The prospects of this mine are now very poor.

Prospecting at Awahokomo Creek.—This is about two and a half miles south-east of the Wharekuri Mine, and a coal lease of 100 acres has been applied for. The coal outcrops near the north bank about 10 ft. above the bed of the creek. The coal will be conveyed by motor-lorry to Kurow. A road can be cheaply formed near the bank of the creek to connect with the Omarama–Kurow traffic-road.

Prince Alfred Mine.—The remaining pillars are being split south of the main dip. The return below these places is closed through "creep," and, although the air down the old dip is rather warm, there is no sign of heating. To again work the dip area many of the timber supports will require renewing.

Ngapara Mine.—Development was continued during the year in the places north of the main haulage-road, and no work was done on the west side.

Shag Point Mine.—The coal at the face of the south level, the only working-place, is now 5½ ft. in thickness. This level was being driven too wide, so instructions were given to reduce it to 12 ft.

Shag Point Coal-mining Company's Mine.—During the first half of the year the outlook for the mine was very discouraging. The coal in the bottom west level was then only 3 ft. thick, and that in the east level 3½ ft. thick. Work on the east side has been discontinued, but on the west side the coal has thickened to 7½ ft., and six working-places are being driven there. A dip, going north-west, is now 6 chains below the bottom west level, and the coal at the face is 3 ft. 8 in. in thickness, clean, and of excellent quality. In the No. 1 level west an upthrow fault of 28 ft. displacement was met. A short steep jig was made to cross this fault, and the coal is now about 5 ft. thick. Owing to the lengthy and circuitous haulage from the face to the mine-mouth, it is proposed to put down a stone drive from the surface at Hailstone Gully, about half a mile nearer the Shag Point Railway-station than the present entrance. This drive will dip at a grade of 1 in 3. It will be 450 ft. in length, and it is expected to intersect the seam at a point 5 chains ahead of the north-east dip, the most northern working-place. If this drive is proceeded with, the screening plant will be removed to a new site on the branch railway near Hailstone Gully. A borehole was put down near the seashore about 5 chains north of Hailstone Gully. It was stopped at 390 ft., no workable seam having been met.

Kyeburn Diggings Mine.—A small mine supplying local requirements.

Gimmerburn Coal-pit.—Another opencast pit for local supplies.

Rough Ridge Pit.—A small output was got for local use.

Idaburn Pit.—The output, which has considerably decreased during the previous year, again rose to normal during 1924.

Oturehua Pit (Becker Bros.).—An opencast pit worked for local supplies.

Dillon's Pit.—A small pit worked for private use.

St. Bathan's Pit.—This pit continues being worked opencast. The overburden is light and is used for road-metal.

Cambrian Pit.—Trade for this lignite has considerably decreased; opencast workings.

Lauder Lane Pit.—A small output is still being produced from opencast workings.

Alexandra Mine.—Pillaring is now being done on the east side, that on the west having been stopped. Owing to the heaving floor and the roof being of running sand a large percentage of coal will be lost. When the pillars, at present being worked, are extracted another return airway must be driven, as all the former working-places between the present return airway and the main dip are closed through the heaving of the floor.

McPherson's Pit.—An opencast pit worked in benches. Water is laid on to combat the fire, which has been burning for years.

Cromwell Mine.—A small output was produced early in the year. In endeavouring to seal off an underground fire the mine-manager was overcome by carbon monoxide, from which he died. The mine has not been worked since and it will most probably not be reopened.

Shepherd's Creek Mine.—Three miners on pillar-extraction. Ventilation fairly good, but the stoppings needed renewing.

Cardrona Pit.—A small output was produced early in the year. A large slip came from the hillside and covered the pit, and this is now being sluiced away.

Nevis Pit.—An opencast pit from which a small output is produced for local use.

Nevis Crossing Pit.—Another opencast pit for local requirements.

Doolan's Creek Mine (near Gibbston).—A thick seam of lignite has been proved near the south bank of the creek. A drive, 6 ft. by 6 ft., going south, is now in 30 yards. This mine is very inaccessible. The output is hauled in drays up to the top of the Gibbston Hill, 1,000 ft. above the mine, and from there to Gibbston, a fall of 2,000 ft. If the outlook warrants it, a fluming for conveying the coal could be constructed down Doolan's Creek, thence down the Nevis River to its junction with the Kawarau River.

Fernhill Mine.—A level, going north, has pierced into old workings driven about 1880 and sealed off owing to an underground fire. These places are almost closed, and the fire is long since dead. The old level will be cleaned out to Shaw's old main drive. That also will be reopened and used as a main haulage-road, it being a shorter and better route out than the one now in use. A lot of old standing pillars, sealed off owing to the fire, and a few acres of virgin ground to the east can also be worked from Shaw's drive.

Freeman's Mine.—The haulage plant, near the railway terminus, was dismantled early in the year, and the output is now conveyed through the low level on the south end of the mine. The pillars are being extracted near the old haulage-road. A little heating was apparent recently in the low-side pillars; if it increases these pillars can easily be stopped off from the rest of the mine.

Jubilee Mine.—The workings on the south side of the main dip, in the lower seam, adjoining and including portion of Messrs. Christie Bros.' area, are now completed. Pillaring has been resumed in the first north level section, and six miners are working there. Two boreholes were put down with a percussive (Keystone) drill—one about 3 chains south of the line of the dip. No coal was met, the borehole, being apparently in a washout, was stopped at 95 ft. In the second borehole, near the eastern boundary, 3 ft. of coal was pierced and a large volume of water met at 128 ft. A new dip has been commenced from the surface going in an easterly direction.

Saddle Hill No. 1 and Walton Park Mines.—All the available coal having been extracted these mines were closed and all entrances filled up early in April.

Mosgiel Mine.—A prospect drive was put down by Messrs. Christie Bros. towards the end of the year, between Sneddon's old Mosgiel workings and the East Taieri Mine. After dipping about a dozen yards, at a grade of 1 in 5, the coal was struck. This drive will command the few remaining acres of unworked coal in this locality.

East Taieri Mine.—This is another mine which, after many years' production, has become exhausted. It was closed down on the 6th December after all the available coal near the entrance was extracted.

Willowbank Mine.—An air-shaft, 6 ft. by 4 ft., was sunk for a depth of 50 ft., and the natural ventilation was much improved in consequence. All places are driven narrow—about 6 ft. The coal in the upper seam proved very soft, and efforts are now concentrated on the dip, which is being driven to work the bottom seam. If this does not prove profitable to work the mine will be closed down.

Harris's (Burnweil) Mine.—The dip drive, which Messrs. Christie Bros. put down, has been continued and a few places broken away on the east side. These are in from 25 to 30 yards, but as the coal thinned rapidly they soon became unprofitable to work. At the face of the dip, which was under water, I am informed, there is only about a foot of clean coal. A shaft has been sunk 60 ft. from the surface, and the mine is now well ventilated.

Brighton Mine.—The cloth-brattice separation-doors have been replaced by wooden ones, and the return airway again cleaned up of debris carried in during floods. The stoppings around the heated area are all cool and well attended to. A level is being driven to the west, and a couple of places have been broken away on the north side. These places are narrow, about 7 ft. in width, and only 6 ft. in height, so no timber is needed. Owing to the pitch of the seam water accumulated in them, and they have been stopped until a lower level intersects them.

Waromui Mine.—The prospecting dip was continued and a fault of from 1⅛ ft. to 2 ft. met. The dip was stopped in August, as the coal became too thin to work, being less than 2 ft. in thickness. A crosscut has been driven south-west off the dip to open up a section called No. 5. One place in this section, going south-east, is in good clean coal, 6 ft. to 8 ft. in thickness, but the others are in stony and mushy coal. Two places are still going north-east off the dip, but only a small workable area is anticipated there. A few places are also being worked near the old No. 1 mine workings. These are in good hard coal 7½ ft. thick. A drive is also being put down from the surface to some pillars which remain in the No. 1 mine. Two boreholes, put down from the surface near a swamp—one 7 chains north-east and the other 9 chains south-east from the face of the prospecting dip—proved disappointing. One borehole was stopped at 136 ft., and the other at 142 ft., no coal being met in either.

Crichton Mine.—This mine was worked intermittently during the year. At present the output is being produced from an outcrop on the west side. A little stripping has been done, and a drive to the north-west will later be driven into this area of coal. The old workings have been fenced off.

Taratu Mine.—Shaft section: The temperature outside a concrete stopping, in a cut-through only 16 yards from the main haulage-road, and about 200 ft. from the bottom of the winding-shaft, registered 114° F. on the 5th May. Two cylinders, each holding 40 cubic feet of CO_2, were emptied behind this stopping. Then another reinforcing stopping was built. This was successful for seven months, but on the 2nd January, 1925, a large fall occurred on the main haulage-road, which allowed air to enter the heated area. After endeavouring to beat back the fire for a week the shaft section had to be closed. All machinery and plant that could be recovered—a good deal was lost in the dip workings—was sent to surface. Both winding and return air-shafts are being filled in. Pillars had been worked during the year both north and south of the dip extension.

Taratu Mine.—Barclay's section: The pillar section south of the solid workings showed signs of heating on the 5th August, so fire-stoppings were built around the area, thus effectually segregating it. A barrier pillar 45 ft. wide has been left in, east of the pillars, and on the north side a narrow barrier, 20 ft. to 40 ft. in width, has also been formed. Ten chains west of the first-mentioned barrier another will be formed, but the width of the panel will depend on the nature of the country met during development. On the west side the places are temporarily stopped, owing to inferior coal in the vicinity of an upthrow fault of about 30 ft. displacement. Development is proceeding in the east and south sections, and the coal continues clean and hard except in one place going south. Owing to an old fire from Barclay's old mine, which was sealed off years ago, breaking through to the outcrop, a good deal of work had to be done to stop off the coal adjacent to the fault, which crosses at the mine-entrance. This was replaced by fine sand and gravel to form an incombustible barrier.

Tuakitoto Mine.—A small output, conveyed by motor-lorry to Kaitangata, was produced for the year.

Kaituna Mine.—In the level driven on the east side, and about 3½ chains from the crosscut, thick clay partings are showing in the coal. The crosscut, down about 7 chains from the junction, is in good clean coal, and the west side places are also in clean coal, averaging 6½ ft. in thickness.

In September the Kaituna Coal Company went into liquidation, and the mine and plant were put up at auction, but passed in without a sale being effected. Mining was again resumed near the end of the year.

Wangaloa Mine.—No coal mined during the year.

Kaidale Mine.—The dip, going north-east, was driven about a chain during the year. It has now entered the south-east corner of the Kaibrook lease, a portion of which has been sublet to permit this dip being continued in a direct line. Bords to the north and south have been broken away and driven a short distance.

Kaibrook Mine.—No work was done in the main dip, but another, going to the full dip and in a more northerly direction, was started from the bottom level. This has only been driven a pillar length. Pillars were extracted on the east side.

Kaitangata No. 1 Mine.—Owing to the slackness of trade miners on tonnage rates were only employed from May to September, when a section of pillars was worked out in Pimblett's dip. This section was then stopped off. Pillars have also been extracted at the bottom of Staniford's dip, and a section was also sealed off there. North of the stone drive, in No. 3 seam, coal has been proven of good quality, and the levels are now in about 10 chains. A large "roll" was met, running alongside the back level and almost parallel with it. The fourth north heading was driven through this "roll" and good coal again found. The air-shaft was sunk another 140 ft. and down to the 6 ft. seam. On the completion of the sinking the whole of the Barclay's drive section was then sealed off. This section has always been a difficult one to supervise owing to spontaneous heating, and its sealing-off has resulted in a considerable improvement of the mine.

Kaitangata No. 2 Mine.—The No. 1 section, in which pillars are being worked, will soon be exhausted. A new dip, going almost due north at a grade of 1 in 3, is being driven from near the bottom of the present dip. This will prove the area north of the fault met in the No. 1 section workings.

No. 4 section: A dip has been driven to the north-west into the No. 4A seam, and levels are now being extended northward. They will connect, when driven another eight chains, with the former No. 4 section workings, which are of very small extent and in which a fair area appears to remain to be worked. Some of the old south side pillars in the Kaitangata No. 1 Mine are immediately over portion of the former No. 4 section workings. They can probably be extracted through these workings.

No. 5 section: Development is progressing to the south in No. 5 seam. A dip has been driven a distance of 600 ft., and an upthrow fault was met running south-west. Levels are being driven to the south from this dip, and there is every indication of a large area of good coal to be worked.

The places going east in No. 5 seam met a large fault and are now stopped. A good deal of work was done to prove the extent of the fault, but without definite results. The workings to the north and east have therefore been stopped off.

Castle Hill Mine.—The only section working during the year, and that only for a few months, was the No. 5 dip section on the north side of the main extension, where a few pillars were extracted. A good deal of repair work was done on the main haulage-road, including another 72 ft. of concrete arching, where it passes through the 11 ft. seam, which effectually seals off the old workings in that seam. The air-shaft and all old workings connected with it were securely sealed off on the 28th June. The new inclined return airway being completed the air-shaft was no longer required. In June the two air-compressors were removed from their old site to another and more suitable one, and a third compressor from Orepuki was put up alongside the others. The mine was only coal-producing for three months during the winter season, and work is now confined to supervision and general upkeep.

Benhar Mine.—A small section of pillars, on the south side, were extracted during the year. The main dip has been extended a distance of 50 yards, and two downthrow faults were met, of 3 ft. and 7 ft. respectively. Many clay backs are showing at the face of the dip. One of the levels on the north side is in over 15 chains. A stone band came in about 3 ft. from the floor and has thickened to 4 ft.

Pukerau Mine.—No coal was produced during the year.

Whiterig Mine.—Owing to the haulage difficulties experienced through the main drive not having been driven on the full dip, another drive will soon be commenced, going north-west. The output of from 70 to 80 tons per week is still being maintained.

Green's Mine.—The main haulage-road was only extended a few yards during the year, and all the output was produced from the south side of the main dip. One of the south levels is now in 8 chains in good lignite 20 ft. in thickness, on which 12 ft. is being worked.

Riverview Pit.—A small opencast pit worked for private use.

Springfield Pit.—A small output was produced early in the year from this opencast pit.

Glenlee Mine.—Three levels have been driven into a strip of ground between two sets of opencast workings.

Ramsay's Pit.—Recently they have stripped the few feet of overburden from the standing pillars, so this is now an opencast pit.

Rossvale Mine.—The old workings are exhausted, and the owner was recently putting in a small drive through the large "slip" to work a supposed block of coal which a "diviner" claimed to be ahead. The drive was only timbered for about 25 yards, so he was instructed to timber the drive right to the face. Shortly after this the lease was surrendered.

McIver's Pit.—A small patch of lignite is being worked opencast. The wash overlying the coal contains a little gold, so it is being put through boxes.

Landslip Pit.—An occasional ton or two of lignite is being mined. The stripping is about 15 ft. in thickness, and the seam is only a thin one.

Argyle Pit.—The south end of the face has rather heavy stripping, and a large portion of the face was covered by a slip which, owing to lack of water, could not then be sluiced away. There appears to be about a couple of years opencast work yet in sight.

Terrace Mine, Kingston Crossing.—The output from this small mine showed a considerable decrease, being 317 tons less than the amount produced during 1923.

Princhester Creek Pit.—A small opencast pit worked for local supplies.

Lynwood Pit.—An opencast pit; output used by the Tourist Department for the steamer plying on Lake Te Anau; seam 6 ft. with 7 ft. of overburden.

Mataura Colliery.—North of the main dip four of the levels were further advanced about 3 chains, and the required cut-throughs were driven. Owing to lack of trade the mine was closed in November.

Boghead Pit.—Most of the output was produced from opencast working. One of the old standing pillars was split to release some water which when drained away would permit further opencast work.

Mataura Lignite-mine.—No work has been done to extend the main dip for two years, development being confined to the places east and west off the bottom of the dip. Those on the east side are almost at the boundary of the freehold. The lower west levels are in 4 chains. Pillars are now being made 15 yards by 11 yards. Sounding-rods have been procured for the high working-places. The manager was instructed to replace the cloth-brattice stoppings near the fan-drive with more substantial ones of stone.

Ota Creek Pit.—An opencast pit from which 423 tons were mined for the year. The seam is 5 ft. to 6 ft. in thickness, overlain by gravels varying from 2 ft. to 15 ft.

Clarke's (Wyndham) Pit.—About 2 to 3 acres have been worked at this opencast pit. There is about 13 ft. of lignite, overlain by 6 ft. of gravel and 2 ft. of mixed clay and sand.

Diamond Lignite Pit.—An opencast pit from which 1,351 tons were produced for the year.

Wattle Mine (formerly Nightcaps No. 1 Mine).—The results of the circular prospecting-shaft proving disappointing it was stopped and efforts confined to work in the little dip section. This dip for a time was driven through coal containing many clay backs, and also a band of stone 4 in. in thickness. At the face of the dip the coal is now fairly clean, and a level, broken away on the west side, is now in over 2 chains and showing 8 ft. of clean coal, the bottom 6 ft. of which are being worked. A place on the west side was stopped when in 12 yards owing to meeting a large clay "back." Some of the clay later fell away, proved the "back" to be only a foot in thickness, and exposed good coal ahead.

The miners are discussing hiring plant to prove whether or not another seam underlies the one at present being worked.

Black Diamond Mine.—The seam is 40 ft. in thickness, and the manager is considering working another set of places immediately over the present ones. The pillars are now being made 16 yards square, and a modified panel system has been adopted.

New Brighton Mine.—The main haulage-road has been advanced 7 chains beyond the upthrow fault, but since September no work has been done there. The face of the dip is now 23 chains from the surface. The levels on the west side, near the bottom of the dip, met a large "roll" when about 30 to 40 yards in. One of these levels has been continued through the troubled ground and is now in good clean coal. On the east side in the higher levels a large fault, apparently a downthrow, was met. After some months it was decided to prove this fault, and after driving 5 or 6 yards the coal was again met, and is now 4 ft. to 5 ft. in thickness. In the lower levels on the east side the pillars have been split.

A lease of the Wairio–Moretown Railway is being arranged, thus avoiding the construction of a long surface tramway to connect with the Wairio–Ohai Railway. Failing this arrangement it was stated that it would be unprofitable to continue working the mine. The management will soon have to decide whether to install a larger haulage plant or put down a new dip drive from the surface to the unworked coal south of the present workings.

Early in the year an ignition of fire-damp occurred, and a miner was slightly burned. As a consequence safety-lamps had to be installed. Numerous reports of inflammable gas have since been recorded by the examining deputy

Wairio Mine.—The few remaining pillars in the old section were exhausted by September, and a new section was opened near the top of the hill. Five level drives were put in from the outcrop. Near the outcrop the lower 2 ft. is splint, but at the face of one of the levels, in 3 chains from the entrance, the coal is 4 ft. thick and fairly clean. I anticipate the seam to again thin as driving proceeds and that very little coal will be produced from these workings.

Mossbank Mine (No. 2).—Coal-mining in this mine was confined to pillar-extraction, and, as the available area is now very restricted, within a few months the mine will be exhausted.

Mossbank No. 1 Mine.—On a 20-acre lease, east of the Wairaki No. 1 Mine and about 5 chains from the Linton Tramway, a dip is being put down, going south-west at a grade of 1 in 5. Two chains from the surface 6 ft. of clean coal was showing in the face with 4 ft. of stony coal above. The floor has not been reached, and it is expected that there are 10 ft. of coal below that now showing.

Wairaki No. 1 Mine.—In the main dip drive, 19 chains from the surface, a band of stone is now showing about 6½ ft. from the floor. The coal below the band is being worked and is very hard and clean. On the west side, 4 chains from the face of the dip, a pair of levels have been driven 4 chains in clean coal. The eastern workings entered a stony area, but in the bottom east level the coal is much improved, and the dirty "backs" are less in number.

Wairaki No. 2 Mine.—The only development now being done is in the north level off the bottom of the main dip. This went through a small downthrow fault. The coal beyond is 9 ft. thick and fairly clean. To further prospect this area another dip, going about due east, will be driven from near the face of the level and a small compressed-air plant installed for haulage and pumping. A few miners are also engaged in splitting the pillars under the swamp area on the east side. A section of pillars on the west side, sealed off some time ago owing to heating, was reopened at Easter with the intention of working the pillars, but as signs of heating again appeared the section was resealed.

Linton Mine.—Development in the No. 4 section was continued, and the main drive is now 14 chains from the surface and in excellent coal, 36 ft. in thickness, with 4 ft. of stony coal above. A small band of stone came in, 3 ft. 9 in. from the floor, and the places are now being driven above the band. This section is to be worked panel system, the panels being 6 chains by 10 chains. The ventilation is good, as brick stoppings are being built between the intake and return airways. The largest of these stoppings is only 8 ft. by 7 ft. A Robinson ventilating-fan has been ordered for this section, with a capacity of 64,000 cubic feet of air per minute at a W.G. of ½ in. This fan will be equipped with means for air-reversal. A new Sullivan 14 in. by 12 in. single-stage air-compressor has been installed, compressing 500 cubic feet of free air per minute to 75 lb. per square inch. A slight ignition of inflammable gas occurred on the 30th July without injury to any person, and on the 16th October and 28th November small quantities were reported by the examining deputy. Inflammable gas was also reported, for the first time, in the 6 ft seam. This section was shortly afterwards stopped. In the main-seam pillars better methods of timbering have been adopted. Some top coal is being worked, and a few pillars are being split.

Ohai Coal Company's Mine.—The seam at this mine is dipping almost due west, and, so far, has been much faulted. The main dip drive did not reach workable coal until it was down 3 chains. At about 8 chains from the surface an upthrow fault of about 30 ft. displacement, running north-west and south-east, was struck, and in consequence a good deal of regrading-work has had to be done.

On the north side the places are in stony coal, and in the third north level troubled ground was met when about 4 chains in from the dip. This proved to be a large "roll," and after driving through it, and another 12 yards in coal more troubled ground was met, and the coal was found to be thinning. A small quantity of inflammable gas was reported in this place on the 11th October. Only a few places are being worked on the south side, going towards the Morley Stream, and these are in good coal. Until recently the coal was conveyed by horse haulage along a surface tramway to the Linton Mine haulage-system. The owners have now constructed their own surface tramway to the Ohai Railway, thus shortening the haulage by 60 chains. Production from the mine was suspended while this new tramway was being made.

Birchwood Mine.—The prospects of this mine are very bright, as the coal continues clean, and it has thickened to 9 ft. in the lower levels. No faults, except the one near the top of the dip, have been met, and the grade has flattened to 1 in 5½. The roof, which formerly appeared to be a good one, commenced to flake and go up into potholes between the props, so sets are now being used. The main dip is down 13 chains, and most of the output is obtained from the east side, where four of the levels are in over 9 chains. A modified panel system of working is being adopted. The first barrier pillar on the east side is at No. 7 level, and that on the west side at No. 1 level. The panels will be about 5 acres each. A borehole was put up from the dip about 9 chains from the surface, and at 16ft. above the present workings a 4 ft. seam of mushy coal was met. The heated area in the old pillar section of the upper seam has been well sealed off. The breaks to surface were filled in and a good brick stopping built in the old horse level.

Bridgehead Mine.—Near the six-mile peg on the Wairio–Ohai Railway two miners have commenced to put down a drive at a grade of 1 in 5 and dipping to the north-west. The coal was struck within a few yards, but the drive is in between two clay backs, and the thickness of the seam has not yet been ascertained.

Boring at Morley.—A borehole was put down with the Keystone drill about 12 chains north of the traffic-road and to the north-east of the deep borehole. This second borehole was in papa for 350 ft., them it entered broken country, and it was stopped at 550 ft. without any coal being met. A third is now being drilled three-quarters of a mile south-east of the second one and near the traffic-road. It is now down 550 ft., and I am informed that coal has not yet been met.

Fatal Accident.

Cromwell Mine.—11th March: Robert Thomson, 55, permitted mine-manager, died from the effects of carbon-monoxide poisoning. Heating was noticed in a confined place in the old workings of the Cromwell Mine, which is naturally ventilated. The deceased had, with a young man named Conn, been endeavouring to seal off the fire, and they had been working there from 8 a.m. until 2 p.m. On their way to the surface both were overcome, but the younger man soon recovered. Although deceased appeared to revive slightly when artificial respiration was applied, he never regained consciousness, but died shortly after.

Serious Non-fatal Accidents.

Shag Point Coal-mining Company's Mine.—14th January: William Wilde, 27, miner—hernia caused through slipping whilst turning a truck on a flat sheet.

Waronui Mine.—26th February: Henry Chilvers, miner—fracture of the right tibia, caused through a lump of sandy claystone falling from the roof of his working-place. Prior to the lunch-hour he had been trying to pull the piece down, but without success. He recommenced working after lunch at the face, when the piece, which weighed about 1 cwt., fell, striking his leg.

Black Diamond Mine.—16th April; Samuel Lee, 65, miner—received an injury to his eye from a piece of coal flying from his pick. He resumed work on the 21st July.

Black Diamond Mine.—Herman Braithwaite, 32, miner—was injured in the left eye by a piece of coal flying from the face. His eye had subsequently to be removed owing to the accident.

Kaitangata No. 1 Mine.—Samuel Worsley, shiftman—fracture of the right tibia and fibula by being struck by a derailed empty tub which was being lowered into a laybye. He was employed that day detaching the empty sets of six tubs and attaching the full sets to the rope. The empty set had been stopped 20 ft. above the crossing and Worsley signalled for it to be lowered. On going over the crossing the fifth and last tub became derailed, and Worsley, who was standing alongside the rail, was struck on the shin, breaking both bones.

Dangerous Occurrences notified under Regulation 81.

New Brighton Mine.—17th January: Andrew C. Dixon, a miner, and George Dickson, blacksmith, were slightly burned by an ignition of inflammable gas. The cloth brattice, conducting air into a level, was down while these men were laying a crossing from the dip into the level. On completion of the work they commenced to replace the brattice, and Dickson, the taller of the two, was holding it up for Dixon to nail when the ignition occurred. As a consequence naked lights were then debarred from use in the mine.

Taratu Mine.—In May the temperature at the outside of a concrete stopping, only 16 yards from the main haulage-road in the shaft section, registered 114° F., having risen from 102° F. in a couple of weeks. Two cylinders of CO_2, each containing 40 cubic feet, were emptied behind the stopping and a reinforcing stopping built outside the concrete one. This enabled work to continue in the shaft section for the remainder of the year.

Mount Torlesse Mine.—23rd May: While making the morning inspection the mine-manager discovered smoke in the main level of the Rise section and that a fire had broken out in the return airway. It had started from a fall in the old workings overhead. A large fall to the surface occurred south of the seat of the fire and checked it from spreading in that direction. Breaks to the surface were filled in with clay, a strong stopping put in near the mouth of the drive, and the section completely sealed off.

Birchwood Mine.—7th May: At 5 p.m. a little smoke was seen rising from a hole at the surface above the old pillar workings in the horse level. The hole was closed up immediately. Stoppings had been put in the entrances to this section a month previously.

Linton Mine.—10th July: Falls had occurred in the top coal near the prehistoric fire area, and this, together with dross left in the first working a couple of years ago, caused heating. Five stoppings were put in the first line, three of brick and the last two of timber. These timber stoppings were reinforced by 9 in to 12 in. of sand, then another wooden stopping was put up, then 6 in. of ashes, and finally a third stopping of wood plastered with clay on the outside. This first line of stoppings confined the fire, and was completed at midnight on the 12th July. A second line of eight brick stoppings was then built, with a small opening left in two of them to permit of inspection between the two lines of stoppings. These eight stoppings are 9 in. thick and plastered on the outside. These stoppings are regularly examined, and the warmest temperature recently recorded, about 60° F., was at No. 5 stopping.

Albury Mine.—The underground fire which has been burning for years past in the old workings to the south-west came through the hill, and unless it can be segregated it will eventually reach the coal underlying the MacKenzie Pass traffic-road. Efforts are being made to beat the fire back, but if this cannot be accomplished the road will have to be closed.

ANNEXURE B.

COLLIERY STATISTICS, 1924.

Name of Mine and Locality.	Name of Mine-manager.	Name and Address of Owner.	Number of Years worked.	Classification of Coal	Number of Seams worked.	Thickness of Coal-seams.	Thickness worked.	System of Underground working.	Number of Winding-shafts.	Total Output for 1924.	Total Output to 31st December, 1923.	Total Output to 31st December, 1924.	Number of Persons ordinarily employed.			Means of Ventilation.
													Above.	Below.	Total.	
NORTHERN INSPECTION DISTRICT.																
North Auckland District.										Tons.	Tons.	Tons.				
Hikurangi P.W. Mine, Hikurangi	A. Ball	Hikurangi Coal Co., Ltd., Auckland	32	Bituminous	1	6½′	6½′	Bord and pillar ..	..	6,530	1,420,010	1,426,540	2	11	13	Natural.
Hikurangi New Shafts, Hikurangi	E. Nelson ..	Hikurangi Coal Co., Ltd., Auckland	2	,,	1	10′ 6″	8′	Ditto ..	2	50,176	20,278	70,454	34	128	162	Waddle fans (2)
Kerr & Co. (McLeod's), Hikurangi	A. H. Taylor ..	Kerr & Wyatt, Hikurangi ..	4⅛	,,	1	4′ to 6′	4′ to 6′	,, ...	..	6,147	16,298	22,445	5	15	20	Natural.
Silverdale Colliery, Hikurangi ..	J. Doel	Foot & Doel, Hikurangi ..	6½	,,	1	3′ 6″	3′ 6″	,, ...	..	456	21,049	21,505	1	5	6	,,
Northern Co-operative, Hikurangi	E. A. Cunningham(P.)	E. A. Cunningham & Co.,Hikurangi	6	,,	1	4′	4′	,, ...	..	505	27,707	28,212	1	2	3	,,
Christie's Co-operative, Hikurangi	H. Tipton ..	Reyburn Lime Co., Whangarei ..	4½	,,	1	5′ to 6′	5′ to 6′	,, ...	..	3,759	17,698	21,457	2	5	7	,,
Foot's Colliery, Hikurangi ..	S. G. Foot ..	Foot Bros., Hikurangi	2¼	,,	1	4′	4′	,, ...	..	2,295	1,501	3,796	2	3	5	,,
Wilson's Colliery, Hikurangi ..	G. Davidson ..	Wilson's Colls., Ltd., Auckland ..	7	,,	1	8′	8′	,, ...	..	56,189	122,800	178,989	34	111	145	Sirocco fan.
Waro Colliery, Whangarei ..	J. Cadman ..	N.Z. Coal & Cement Co., Ltd., Whangarei	14	,,	1	5′ to 9′	5′ to 9′	,, ..	1	2,291	39,548	41,839	2	6	8	Natural.
Rautangata Colliery, Kamo ..	R. Dickson (P.) ..	Kamo Potteries, Ltd., Whangarei	4¼	,,	1	10′	8′	,, ...	..	1,126	1,148	2,274	..	3	3	,,
Glen Nell Colliery, Hikurangi ..	J. McIntyre (P.) ..	J. McIntyre, Hikurangi ..	1	,,	1	4′ to 5′	4′ to 5′	,, ...	..	300	104	404	1	2	3	,,
Kawakawa Colliery, Kawakawa..	S. G. Foot ..	Wm. Tunstall & others, Kawakawa	¼	,,	1	10′	8′	,, ...	..	153	771	924	4	3	7	,,
Waikato District (including Mokau).																
Taupiri Extended Mine, Huntly ..	J. Makinson ..	Taupiri Coal-mines, Ltd., Auckland	35⅛	Brown ..	2	10′ to 34′	20′	Bord and pillar	2	13,754	3,096,310	3,110,064	10	28	38	Sirocco fan.
Rotowaro Colliery, Rotowaro ..	A. Penman ..	Taupiri Coal-mines, Ltd., Auckland	7	,, ..	2	6′ to 19′	6′ to 13′	Ditto	..	131,960	470,879	602,839	57	208	265	Waddle fan and Sirocco fan (2).
Pukemiro Collieries, Pukemiro ..	A. Burt	Pukemiro Colls., Ltd., Auckland..	9	,, ..	1	5′ to 18′	5′ to 14′	,, ...	..	136,232	882,062	1,018,294	75	165	240	Fans (2).
Waipa Colliery, Glen Massey ..	T. Thomson ..	Waipa Railway and Colls., Ltd., Wellington	11	,, ..	1	8′ to 10′	6′ to 8′	,, ...	..	64,326	672,285	736,611	29	88	117	Sirocco fan.
Waikato Extended, Huntly West	D. Nicholson ..	Roose Shipping Co., Ltd., Mercer	8½	,, ..	1	16½′	15′	,, ...	..	7,823	36,588	44,411	4	9	13	Natural.
Glen Afton Colliery, Glen Afton ..	P. Hunter ..	N.Z. Co-op. Dairy Co. Ltd., Auckland	4⅛	,, ..	1	8′ to 17′	8′ to 9′	,, ...	..	131,330	48,302	179,632	68	167	235	Sirocco fan.
Pukemiro Junction Mine,Pukemiro	C. V. Molony ..	Clare & partners, Pukemiro Junc.	4	,, ..	1	2′ to 25′	2′ to 18′	,, ...	..	11,304	22,456	33,760	6	9	15	Natural.
Huntly Coal-mine, Huntly ..	J. Lamont ..	Lamont & Starr, Huntly ..	3½	,, ..	1	14′	12′	,, ...	..	2,420	9,970	12,390	2	5	7	,,
Taupiri East Mine, Kimihia ..	J. Thomson ..	Holland & party, Huntly ..	3	,, ..	1	17′	10′	,, ...	..	1,700	1,998	3,698	..	4	4	,,
Campbell Coal-mine, Whatawhata	W. Wood ..	Campbell Coal Co., Hamilton ..	2½	,, ..	1	11′	8′	,, ...	..	442	3,845	4,287	1	2	3	,,
Greencastle Colliery, Aria ..	A. Morgan (P.) ..	A. Morgan, Aria	8	,, ..	1	15′	10′	,, ...	..	226	1,924	2,150	..	2	2	,,
Old Stockman, Mokau	C. Wright (P.) ..	Chambers Bros., Awakino ..	4	,, ..	1	4′ 6″	4′ 6″	,, ...	..	100	1,096	1,196	..	1	1	,,
Graham Colliery, Glen Afton ..	W. Mills	Graham Coal Co., Pukemiro ..	1½	,, ..	1	5′ 9″	5′ 6″	,, ...	..	5,682	300	5,982	3	12	15	,,
Bombay Colliery, Bombay ..	W. Brown (P.) ..	W. Brown, Bombay	1	,, ..	1	6′	4½′	,, ...	..	150	163	313	1	4	5	,,
Hunua Colliery, Hunua ..	E. R. Ellens (P.) ..	Hunua & Opaheke Coal Co., Ltd., Auckland	4½	,, ..	1	5′	3′	,, ...	..	19	1,934	1,983	1	1	2	,,
Kimihia Colliery, Kimihia ..	J. Connelly ..	R. Johnson, Huntly	1⅛	,, ..	1	11′	7′	,, ...	..	100	341	441	..	3	3	,,
Output of collieries included in previous statements at which operations are abandoned or suspended											4,817,938	4,817,938	..	..	..	..
WEST COAST INSPECTION DISTRICT.																
Nelson District.																
M.G.O.	..	M.G.O. Proprietary, Ltd., Collingwood	1	Bituminous	1	..	..	Bord and pillar ..	..	195	..	195	2	4	6	
Puponga	A. J. McHardy ..	Puponga Syndicate, Puponga ..	21	,,	2	3′ 6″ / 7′ 6″	3′ / Full height	Ditto ..	..	7,079	236,253	243,332	6	14	20	Natural.
North Cape	R. Alison ..	North Cape Coal Co., Nelson ..	14	,,	1	5′	,,	Stoping ..	..	3,065	99,721	102,786	20	15	35	,,
Golden Bay	J. McDougall (P.) ..	J. McDougall, Takaka	5	Lignite ..	1	4′ 6″	,,	Bord and pillar	..	320	1,718	2,038	..	2	2	,,
Waikohatu	R. Stone (P.) ..	Stone Bros., Takaka	5	,,	2	19″ to 22″		Ditto ..	..	18	680	698	..	2	2	,,
O'Rourke's	J. Burgess (P.) ..	A. O'Rourke, Murchison ..	5	Brown ..	1	2′ 6″	,,	Stoping ..	..	166	236	402	..	2	2	,,

COLLIERY STATISTICS, 1924—*continued.*

Name of Mine and Locality.	Name of Mine-manager.	Name and Address of Owner.	Number of Years worked.	Classification of Coal	Number of Seams worked.	Thickness of Coal-seams.	Thickness worked.	System of Underground working.	Number of Winding-shafts.	Total Output for 1924.	Total Output to 31st December, 1923.	Total Output to 31st December, 1924.	Number of Persons ordinarily employed.			Means of Ventilation.
													Above.	Below.	Total.	
WEST COAST INSPECTION DISTRICT—*continued.*																
Buller District.										Tons.	Tons.	Tons.				
Westport-Stockton	J. Fletcher	Westport-Stockton Coal Co., Christchurch	16	Bituminous	2	4′ to 30′	Full height	Bord and pillar		99,425	1,898,997	1,998,422	98	165	263	Fan.
Millerton	T. King	Westport Coal Co., Dunedin	33	,,	1	4′ to 20′	12′			257,121	6,625,537	6,882,658	111	427	538	,,
,,	W. Pearson	Westport Coal Co., Dunedin	33	,,	1	..	..	..								
Ironbridge	G. Smith	Westport Coal Co., Dunedin	33	,,	2	3′ to 30′	Full height	Bord and pillar		187,375	8,503,211	8,690,586	70	160	230	,,
Coalbrookdale	W. Hewitson	Westport Coal Co., Dunedin	44	,,	..	..	..	..					70	170	240	,,
Regan & O'Brien's	G. Gilbert	J. T. Dove, Seddonville	4	,,	1	20′	Full height	Bord and pillar		6,255	58,687	80,987	5	9	14	Natural.
Dove's	T. Murray	,, ,,	3	,,	1	..	,,	..		16,045			4	16	20	,,
Coal Creek	W. McGuire	McGuire & party, Seddonville	9	,,	1	4′ to 50′	8′	Bord and pillar		6,855	61,899	68,754	3	12	15	,,
Cardiff Bridge	J. Dymond (P.)	Mulholland & party, Seddonville	4	,,	1	8′ to 20′	12′	Ditto		14,342	20,514	34,856	10	17	27	,,
St. Helens	C. R. Martin (D.)	McAllister & party, Seddonville	6	,,	1	4′	Full height	,,		1,201	18,728	19,929	..	3	3	,,
Westport-Mokihinui	W. O'Rourke (Second)	Westport-Mokihinui Coal-mines, Ltd., Seddonville	4	,,	1	6′ to 12′	6′	,,		3,506	7,762	11,268	3	6	9	,,
Zealandia	T. L. Bennett (P.)	T. L. Bennett, Seddonville	2	,,	1	6′ to 12′	Full height	,,		302	259	561	..	4	4	,,
Murray's	C. Murray (P.)	F. E. Murray, Seddonville	4	,,	1	7′	,,	,,		434	3,141	3,575	1	2	3	,,
Chester's	W. Jenkins (P.)	Chester & party, Seddonville	5	,,	1	3′	,,	,,		1,456	6,771	8,227	1	2	3	,,
Ngakawau	G. H. Williams (P.)	Ngakawau Mining Syn., Ngakawau	3	,,	1	2′ to 12′	,,	,,		1,787	1,076	2,863	1	3	4	,,
Quinn and party's	T. Quinn (P.)	T. Quinn & party, Seddonville	1	,,	1	5′	,,	,,		898	..	898	1	3	4	,,
Wynn's	G. Wynn (P.)	G. Wynn, Seddonville	1	,,	1	4′ 6″	,,	,,		375	..	375	..	3	3	,,
Whitecliffs	J. H. Burley (P.)	J. H. Burley, Berlin's, Buller Gorge	2	Brown	1	18′	12′	,,		55	147	202	..	2	2	,,
Rocklands	John P. Burley (P.)	John P. Burley, Berlin's, Buller Gorge	22	,,	1	27′	8′	,,		293	8,137	8,430	..	2	2	,,
Mitchell's	F. T. Mitchell (P.)	F. T. Mitchell, Charleston	2	Lignite	1	8′	Full height	Opencast		24	12	36	1	..	1	,,
Reefton District.																
Coghlan's	J. Coghlan (P.)	J. Coghlan, Reefton	28	Brown	1	12′	9′	Bord and pillar		940	10,720	11,660	1	2	3	,,
Doran's	J. J. Doran (P.)	J. J. Doran, Capleston	4	,,	..	..	..	Ditto		247	1,421	1,668	1	2	3	,,
Reefton Coal Co's.	E. W. Tattley (First)	Reefton Coal Co., Reefton	23	,,	1	7′ to 12′	Full height	,,		18,846	90,883	109,729	16	42	58	Fan.
Phœnix & Venus	L. W. Kearns (P.)	Collins & Kearns, Reefton	33	,,	2	1′ to 40′	10′	,,		1,975	51,555	53,530	2	2	4	Natural.
Clele	I. Rhodes (P.)	Alborn & Pascoe, Reefton	38	,,	..	..	..	,,		583	21,654	22,237	3	..	3	,,
Big River	W. Kirwan (P.)	Big River G.M. Co., Reefton	12	,,	2	9′	..	Stoping		1,202	9,087	10,289	1	2	3	,,
Sherwood	J. Baxendale	Morris & Learmont, Reefton	12	,,	2	16′ to 20′	8′	Bord and pillar		3,592	26,427	30,019	3	8	11	,,
Woodlands	A. Chadwick	McKenzie & party, Reefton	4	,,	1	9′	5′	Ditto		624	2,224	2,848	1	2	3	,,
Lankey's Creek	J. Bolitho (P.)	Bolitho & Nicholls, Reefton	3	,,	2	2′ to 8′	Full height	,,		1,097	1,806	2,903	1	3	4	,,
Ferndale-Timaru Co.'s	W. Lowden	Ferndale-Timaru Co., Reefton	22	,,	3	8′ to 20′	,,	,,		5,265	28,505	33,770	6	19	25	,,
Slab Hut	A. J. Griggs (P.)	A. J. Grigg, Reefton	2	,,	1	4′	,,	,,		210	60	270	..	1	1	,,
Golden Point	C. Curtis (P.)	T. S. Patterson, Reefton	11	,,	1	4′ 6″	,,	,,		12	16,091	16,103	1	3	4	,,
White Rose	W. Osborn (P.)	W. Osborn, Merrijigs	1	,,	1	4′	,,	,,		20	..	20	..	1	1	,,
Empire	H. L. Morgan (P.)	D. Blackadder, Reefton	4	,,	1	20′	,,	,,		6	4,669	4,675	..	1	1	,,
Loughnan's	E. W. Loughnan	E. W. Loughnan, Reefton	1	,,	..	..	..	..		40	..	40	..	1	1	,,
Greymouth District.																
Paparoa	A. O'Donnell	Paparoa Coal Co., Wellington	16	Bituminous	2	5′ to 25′	8′ to 25′	Bord and pillar		47,329	421,984	469,313	31	70	101	Fan.
Blackball	W. Parsonage	Blackball Coal Co., Christchurch	33	,,	2	17′	15′	Ditto		103,565	3,166,689	3,270,254	55	225	280	,,
Armstrong and party	V. Armstrong	Armstrong & party, Runanga	3	,,	2	3′ to 14′	9′	,,		4,786	9,041	13,827	2	8	10	Natural.
Baddeley's	J. Rowse (D.)	Baddeley & party, Runanga	4	,,	1	5′	Full height	,,		3,312	9,530	12,842	2	6	8	Fan.
Brae Head	R. Gore (D.)	Boote & party, Runanga	3	,,	2	6′ & 12′	,,	,,		2,863	4,499	7,362	4	4	8	,,

Dixon's	G. R. Dixon (P.)	H. E. Hothersall, Wellington	..	,,	1	14′	,,	,, ..	..	1,517	1,250	2,767	1	2	3	Natural.
Duggan's	W. Richmond (D.)	Duggan & party, Runanga	3	,,	1	4′ 6″	,,	,, ..	..	3,600	6,502	10,102	..	7	7	,,
Hillside	W. S. Clark (U.–V.)	Hillside Co-op. party, Runanga	4	,,	1	5′	,,	,, ..	..	3,721	14,608	18,329	2	6	8	Fan.
Hunter's	A. Hill (D.)	Hunter & party, Runanga	4	,,	1	3′ 8″	,,	,, ..	..	3,106	7,253	10,359	1	7	8	,,
Manderson's	P. Manderson (U.–V.)	Manderson & party, Runanga	3	,,	2	5′ & 10′	5′ & 8′	,, ..	..	5,836	4,439	10,275	2	7	9	,,
McIvor's	G. Little (D.)	McIvor & party, Runanga	4	,,	1	5′	Full height	,, ..	..	1,279	2,034	3,313	1	3	4	Natural.
Moody Creek	W. Robertson (D.)	Moody Creek Syndicate, Runanga	2	Bituminous	1	8′ 6″	,,	Bord and pillar	..	4,723	3,551	8,274	2	5	7	,,
Smith's	T. Halliday (D.)	Smith & party, Runanga	4	,,	1	6′	,,	,, ..	..	6,161	12,481	18,642	3	5	8	,,
Spark's	S. A. Butler (D.)	Spark & party, Runanga	2	,,	1	9′	,,	,, ..	..	2,628	3,422	6,050	2	6	8	Fan.
Boustridge's	H. Boustridge	Boustridge & party, Brunnerton	1	,,	1	9′	,,	,, ..	..	716	..	716	..	2	2	Natural.
Allan's	J. Allan (P.)	Allan & party, Brunnerton	1	,,	1	9′	6′ to 9′	,, ..	..	600	..	600	2	5	7	,,
Dobson	W. Leitch	Grey Valley Collieries, Christchurch	2	,,	1	9′	Full height	,, ..	..	1,513	2,774	4,287	2	4	6	,,
Kiwi Shaft	D. Tennant (P.)	H. E. Hothersall, Wellington	1	,,	1	9′	,,	,, ..	..	822	..	822	5	7	12	,,
Liverpool No. 1	O. J. Davis	N.Z. Government	12	,,	2	6′ to 20′	,,	,, ..	..	79,718	1,243,475	1,362,995	79	130	209	Fan.
Liverpool No. 2	O. J. Davis	N.Z. Government	11	,,	2	8′ to 16′	8′	,, ..	..	14,594			17	44	61	,,
Liverpool No. 3 & Extended	O. J. Davis	N.Z. Government	3	,,	2	4′ to 12′	Full height	,, ..	..	25,208			17	45	62	,,
James	J. Armstrong	N.Z. Government	3	,,	1	4′ to 8′	,,	,, ..	..	29,764	18,506	48,270	23	52	75	,,
Output from mines shown in previous statements, but since closed down			..	..	..	..	..	..	..	..	7,176,119	7,176,119	..	..	..	

SOUTHERN INSPECTION DISTRICT.

Canterbury District.																
Mount Torlesse, Avoca	G. G. Littlewood	Mount Torlesse Coll., Christchurch	7	Brown	3	12′	All	Bord and pillar	..	3,575	62,596	66,171	7	9	16	Fan.
Springfield, Springfield	James Taylor (D.)	J. Taylor, Springfield	44	,,	1	4′	,,	Ditto	..	74	92,710	92,784	1	1	2	Natural.
Homebush, Glentunnel	A. Smith (P.)	Homebush Brick & Coal Co., Ltd., Glentunnel	51	,,	1	3½′	,,	,, ..	..	1,750	341,157	342,907	2	4	6	,,
Bush Gully, Coalgate	James McQueen (P.)	Homebush Brick & Coal Co., Ltd., Glentunnel	7	,,	1	5′	5′	,, ..	..	874	37,785	38,659	1	2	3	,,
St. Helens, Whitecliffs	J. Sutherland (P.)	J. Sutherland, Glentunnel	43	,,	1	6′	6′	,, ..	..	763	31,822	32,585	1	3	4	,,
Steventon, Whitecliffs	J. T. Leeming (D.)	Campbell & Leeming, Glentunnel	5	,,	1	4½′	All	,, ..	..	3,377	8,911	12,288	2	6	8	,,
Clearview, Glenroy	George Aitken (D.)	Smith & Marsh, Glentunnel	5	,,	1	9′	6½′	,, ..	..	1,352	4,062	5,414	2	3	5	,,
Tripps, Mount Somers	J. B. Harris (P.)	Burnwell Coal Co., Mount Somers	58	,,	1	20′	8′	,, ..	..	1,510	79,802	81,312	1	4	5	,,
Burnwell, Mount Somers	Thomas Harris (D.)	Burnwell Coal Co., Mount Somers	2	,,	1	6′	6′	,, ..	..	774	856	1,630	..	2	2	,,
Cavendish, Mount Somers	G. Harris (P.)	Mrs. F. J. M. Morgan, Mount Somers	5	,,	1	14′	6′ to 8′	,, ..	..	..	1,186	1,186	..	..	..	,,
Albury, Albury	T. F. Slowey (P.)	T. F. Slowey, Albury	33	Lignite	1	15′	8′	,, ..	..	389	24,228	24,617	1	1	2	,,
Woodbank, Albury	W. H. Hogue (P.)	W. H. Hogue, Albury	1	,,	1	7′	All	Bord and pillar and opencast	..	221	8	229	1	1	2	Opencast.
Allanholme, Waihao Forks	James Craig (D.)	Allanholme Coal Co., Waimate	9	,,	1	16′	8′	Bord and pillar	..	505	9,799	10,304	1	1	2	Natural.
Meadowbank, Waihao Forks	A. E. Kirk	A. E. Kirk, Waihao Forks	7	,,	1	26′	8′	Ditto	..	..	3,077	3,077	..	..	..	,,
North Otago District.																
Wharekuri, Wharekuri	Peter Campbell	J. C. & T. D. Shanks, Wharekuri	5	Lignite	1	30′	6′	Bord and pillar	..	467	3,520	3,987	..	3	3	Natural.
Prince Alfred, Papakaio	A. Beardsmore (P.)	Mrs. J. E. Willetts, Papakaio	55	,,	1	7′ to 12′	6′ to 7′	Ditto	..	803	69,556	70,359	1	1	2	,,
Ngapara, Ngapara	W. Nimmo (P.)	W. Nimmo, Ngapara	46	,,	1	25′	8′ to 10′	,, ..	..	1,078	37,968	39,046	1	3	4	,,
Shag Point, Shag Point	W. McLaren (P.)	Waronui Coal Co., Dunedin	10	Brown	1	4′	All	,, ..	..	686	413,227	413,913	1	2	3	,,
Shag Point C.M. Co., Ltd., Shag Point	J. Hughes	Shag Point C.M. Co., Ltd., Dunedin	16	,,	1	4′	,,	,, ..	..	16,123	142,589	158,712	13	49	62	Fan.
Central Otago District.																
Gimmerburn, Gimmerburn	C. Dougherty	C. Dougherty, Gimmerburn	68	Lignite	1	12′	All	Open	..	24	3,409	3,433	..	..	..	Opencast.
Wedderburn, Wedderburn	M. Shea (P.)	M. Shea, Wedderburn	1	,,	1	5′	,,	,, ..	..	..	120	120	..	..	..	,,
Botting's, Idaburn	G. Botting	G. Botting, Naseby	2	,,	1	20′	12′	,, ..	..	..	74	74	..	..	..	,,
Rough Ridge, Oturehua	E. Beck (P.)	Margaret Beck, Oturehua	38	,,	1	20′	All	,, ..	..	21	35,508	35,529	1	..	1	,,
Idaburn, Oturehua	R. K. Deaker (P.)	R. K. Deaker, Oturehua	54	,,	1	20′	,,	,, ..	..	884	51,113	51,997	3	..	3	,,
Oturehua, Oturehua	J. R. Becker (P.)	Becker Bros., Oturehua	30	,,	1	17′	7′	,, ..	..	156	4,799	4,955	2	..	2	,,
Dillon's, Blackstone Hill	J. Dillon	J. Dillon, Blackstone Hill	27	,,	1	12′	All	,, ..	..	12	325	337	1	..	1	,,
Wade's, Blackstone Hill	W. J. Wade	W. J. Wade, Blackstone Hill	2	,,	1	6′	,,	,, ..	..	..	14	14	..	..	..	,,
Armitage's, Blackstone Hill	J. Armitage	J. Armitage, Blackstone Hill	44	,,	1	16′	,,	,, ..	..	..	4,734	4,734	..	..	..	,,
St. Bathan's, Blackstone Hill	J. Enright (P.)	J. Enright, St. Bathan's	27	,,	1	30′	,,	,, ..	..	89	6,946	7,035	2	..	2	,,
Cambrian, Cambrian	O. Jones (P.)	Vinegar Hill Hydraulic S. Co., St. Bathan's	63	,,	1	18′	,,	,, ..	..	223	50,827	51,050	1	..	1	,,
Lauder Lane, Cambrian	M. Andrew	F. Kippenberger, Beck's	20	,,	1	12′	6′	,, ..	..	117	2,858	2,975	1	..	1	,,
Alexandra, Alexandra	D. Mathias (P.)	Alexandra C.M. Co., Alexandra	43	,,	1	9′	6′	Bord and pillar	..	869	107,511	108,380	1	2	3	Exhaust steam.
McPherson's, Coal Creek Flat	N. Harlewich (P.)	N. Harlewich, Roxburgh	54	,,	1	6′	All	Open	..	1,885	83,890	85,775	2	..	2	Opencast.
Cromwell, Cromwell	R. Barber (D.)	Alfred Scott, Cromwell	10	,,	1	12′	7′ up to 10′	Bord and pillar	..	126	10,960	11,086	1	1	2	Exhaust steam.
Shepherd's Creek, Bannockburn	J. Hodson, jun.	Bannockburn C.M. Co., Bannockburn	47	,,	1	12′ to 6′	7′ up to 10′	Ditto	..	2,068	111,060	113,128	1	4	5	,,

COLLIERY STATISTICS, 1924—*continued.*

Name of Mine and Locality.	Name of Mine-manager.	Name and Address of Owner.	Number of Years worked.	Classification of Coal	Number of Seams worked.	Thickness of Coal-seams.	Thickness worked.	System of Underground working.	Number of Winding-shafts.	Total Output for 1924.	Total Output to 31st December, 1923.	Total Output to 31st December, 1924.	Number of Persons ordinarily employed.			Means of Ventilation.
													Above.	Below.	Total.	
SOUTHERN INSPECTION DISTRICT—*continued.*																
Central Otago District—continued.										Tons.	Tons.	Tons.				
Cardrona, Cardrona	R. McDougall	R. McDougall, Cardrona	40	Brown	2	20′ to 30′	All	Open		744	26,698	26,742	1	..	1	Natural.
Nevis, Nevis	E. J. Williams (P.)	E. J. Williams, Nevis	24	,,	1	10′	6′	Levels		47	7,326	7,373	1	..	1	,,
Nevis Crossing, Nevis	R. Ritchie (P.)	R. Ritchie, Nevis	21	,,	1	16′	6′	Open		480	15,906	16,386	2	..	2	Opencast.
George's, Naseby	P. George	P. George, Naseby	1	Lignite	1	6′	6′	,,		90	..	90	1	..	1	,,
Henderson's, Gibbston	D. Henderson	Henderson & others, Arrowtown	1	Brown	1	15′	6′	Bord and pillar		21	..	21	..	..	..	Natural.
South Otago District.																
Fernhill, Abbotsford	James Dunlop (P.)	Fernhill Coal & Sand Co., Dunedin	47	Lignite	1	8′	6′	Bord and pillar		2,357	177,580	179,937	1	4	5	Natural.
Freeman's, Abbotsford	William Evans (U.)	Freeman's Coal Co., Abbotsford	44	,,	1	10′ to 14′	All	Ditto		3,063	591,137	594,200	1	5	6	Furnace.
Jubilee, Saddle Hill	T. Barclay	Jubilee Coal Co., Dunedin	27	,,	1	7′ to 11′	,,	,,		19,924	436,614	456,538	9	20	29	Fan.
Saddle Hill (No. 1), Saddle Hill	R. Hill	Christie Bros., Mosgiel	52	,,	1	20′	,,	,,		1,670	284,021	285,691	3	3	6	,,
Harris's Burnweil, Saddle Hill	Adam Harris	A. Harris, Saddle Hill	35	,,	1	20′	,,	,,		668	80,149	80,817	1	2	3	Natural.
Walton Park, Fairfield	R. Hill	Christie Bros., Mosgiel	4	,,	1	10′	,,	,,		3,334	13,536	16,870	6	15	21	Fan.
East Taieri, Riccarton	E. Charles	East Taieri Coal Co., Riccarton, Mosgiel	13	,,	1	7′	6′	,,		2,151	39,427	41,578	1	5	6	Natural.
Willowbank, Riccarton	M. Tikey (P.)	G. Scurr, Riccarton, Mosgiel	4	,,	1	7′	5½′	,,		1,942	441	2,383	1	4	5	,,
Brighton, Brighton	R. C. Wright (P.)	Smith & Wright, Brighton	9	,,	1	7′	6′	,,		385	8,155	8,540	1	1	2	,,
Waronui, Milton	J. Carruthers, jun.	Bruce Rly. & Coal Co., Dunedin	20	,,	1	7′	6′	,,		16,169	284,060	300,229	8	28	36	Fan.
Tres Bon, Milton	A. Woodhouse	Woodhouse & Mulrine, Milton	8	,,	1	10′	7′	,,		50	32,142	32,192	..	..	..	Natural.
Viewbank, Crichton	N. Greaves (P.)	Nathan Greaves, Crichton, South Otago	5	,,	1	30′	8′	,,		440	2,555	2,995	..	1	1	,,
Taratu, Lovell's Flat	J. Hadcroft	Sargood & Cheeseman, Dunedin	23	,,	3	15′ to 35′	7′ to 15′	,,	1	34,405	537,102	571,507	18	48	66	Fan.
Tuakitoto, Tuakitoto	J. Throp (P.)	J. Throp, Kaitangata	14	,,	1	18′	7′	,,		176	3,876	4,052	1	1	2	Exhaust steam
Kaituna, Kaitangata	A. Cain	Kaituna Coal Co., Kaitangata	16	,,	1	15′	6′	,,		2,020	23,088	25,108	4	5	9	Fan.
Wangaloa, Wangaloa	T. Gage (P.)	T. Gage, Kaitangata	5	,,	1	11′	7′	,,		..	834	834	..	..	..	Natural.
Summerhill, Kaitangata	T. Gage (P.)	T. Gage, Kaitangata	2	,,	1	10′	6′	,,		11	152	163	..	..	..	,,
Kaidale, Wangaloa	Charles Milne (D.)	Morrison Bros., Kaitangata	6	,,	1	10′ to 14′	6½′	,,		175	8,052	8,227	..	2	2	,,
Kaibrook, Wangaloa	T. Gage (P.)	J. Gage, Kaitangata	5	,,	1	11′	6½′	,,		310	2,088	2,398	1	2	3	,,
Kaitangata (No. 1), Kaitangata	A. S. Gillanders	N.Z. Coal & Oil Co., Ltd., Dunedin	48	Brown	2	6′ to 12′	All	,,		104,895	4,149,623	4,254,518	73	247	320	Fan.
Kaitangata (No. 2), Kaitangata	F. Carson	N.Z. Coal & Oil Co., Ltd., Dunedin	12	,,	3	6′ to 25′	,,	,,								
Castle Hill, Kaitangata	Jas. Donaldson (U.)	N.Z. Coal & Oil Co., Ltd., Dunedin	31	,,	3	12′ to 20′	,,	,,								
Benhar, Benhar	J. Walls	P. McSkimming & Son, Benhar	61	Lignite	3	14′	10′	,,		8,687	229,443	238,130	1	6	7	,,
Southland District.																
Whiterig, East Gore	R. Craig (P.)	R. Craig, East Gore	46	Lignite	1	24′	14′	Bord and pillar		3,576	89,145	92,721	1	2	3	Exhaust steam
Green's, Gore	James Mason	T. Green & Co., Ltd., Gore	36	,,	1	19′	12′	Ditto		12,174	280,882	293,056	3	8	11	Fan.
Riverview, Gore	J. J. Nichol (P.)	J. J. Nichol, Gore	37	,,	1	10′	All	Opencast		10	2,094	2,104	..	..	..	Opencast.
Springfield, Waikaka Valley	R. L. Reid (P.)	R. L. Reid, Waikaka Valley	28	,,	1	10′	,,	,,		142	59,759	59,901	2	..	2	,,
Glenlee, Waikaka	F. W. Edge (P.)	A. A. Edge, Waikaka	31	,,	1	14′	9′	Bord and pillar		1,209	25,017	26,226	1	1	2	Natural.
Ramsay's, North Chatton	P. Ramsay (P.)	P. Ramsay, North Chatton	21	,,	1	20′	All	Bord and pillar and opencast		2,550	101,797	104,347	..	2	2	Opencast.
Landslip, Waikaia	T. Northcoat (P.)	T. Northcoat, Waikaia	25	,,	1	5′	,,	Bord and pillar		59	36,877	36,936	1	..	1	Natural.
Rossvale, Waikaia	James Henderson (P.)	James Henderson, Waikaia	21	,,	1	15′	8′	Ditto		146	48,604	48,750	1	1	2	,,
Argyle, Waikaia	John Hutton (P.)	Mrs. M. C. Hutton, Waikaia	33	,,	1	10′	All	Opencast		336	8,566	8,902	2	..	2	Opencast.
Terrace, Kingston Crossing	G. Daley (P.)	G. Daley, Kingston Crossing	6	,,	1	24′	11′	Bord and pillar		937	7,333	8,270	1	1	2	Natural.
Princhester Creek, The Key	J. A. Denton (P.)	J. A. Denton, The Key	22	,,	1	5′	All	Opencast		149	2,256	2,405	1	..	1	Opencast.
Mataura Collieries, Mataura	R. Brown	Mataura Colliery Co., Gore	28	,,	1	15′ to 18′	10′ to 12′	Bord and pillar		5,137	244,653	249,790	2	5	7	Fan.
Boghead, Mataura	D. R. Gaudion (D.)	C. E. Rowe, Mataura	19	,,	1	15′	All	Opencast		6,963	28,058	35,021	3	2	5	Opencast.

Mataura Lignite, Mataura ..	Thomas Barclay, jun.	Beattie, Coster, & Co., Ltd., Mataura	48	,, ..	1	18′	12′	Bord and pillar ..	..	14,701	261,702	276,403	4	5	9	Fan.
Ota Creek, Wyndham	E. Genge (P.) ..	E. Genge, Wyndham	44	,, ..	1	8′	All	Opencast..	..	423	28,218	28,641	1	..	1	Opencast.
Clarke's, Wyndham	William Creighton(P.)	Hunter Bros., & Rice, Wyndham	17	,, ..	1	10′	,,	,, ..	..	738	20,419	21,157	1	..	1	,,
Diamond Lignite, Asher's ..	A. McMillan (P.) ..	S. McMillan, Invercargill ..	22	,, ..	1	32′	26′	,, ..	..	1,351	28,549	29,900	1	..	1	,,
Wattle, Nightcaps	E. Mason (U.) ..	Wattle Coal Co., Nightcaps ..	43	Brown ..	1	9½′	7′	Bord and pillar ..	..	1,144	417	1,561	1	2	3	Exhaust steam.
Black Diamond, Nightcaps ..	R. W. Duncan ..	Black Diamond Coal Co., Invercargill	9	,, ..	1	25′	8′	Ditto	..	29,970	81,604	111,574	16	24	40	Fan.
New Brighton, Nightcaps ..	W. Dixon ..	Southland Coal Co., Invercargill..	18	,, ..	1	10′	7′	,, ..	..	12,095	104,299	116,394	7	18	25	,,
Wairio, Nightcaps	James McKenzie (D.)	W. Smith & Co., Nightcaps ..	19	,, ..	1	4′	All	,, ..	..	4,170	139,799	143,969	2	4	6	Natural.
Mossbank, Ohai	T. McMillan ..	Mossbank Coal Co., Invercargill..	10	,, ..	1	8′ to 9′	5½′	,, ..	..	16,374	79,918	96,292	12	16	28	Fan.
Wairaki No. 1, Ohai	A. W. Whittlestone	Wairaki Coal Co., Gore ..	11	,, ..	1	10′	7′	,, ..	..	30,349	99,095	129,444	6	22	28	,,
Wairaki No. 2, Ohai	A. W. Whittlestone	Wairaki Coal Co., Gore ..	6	,, ..	1	16′	8′	,, ..	..				10	20	30	,,
Linton (coal lease), Ohai ..	G. S. Langford ..	Linton Coal Co., Invercargill ..	9	,, ..	2	7′ to 25′	All	,, ..	..	34,693	126,728	161,421	35	29	64	,,
Linton (freehold), Ohai ..																
Birchwood, Ohai	J. B. Ross ..	Birchwood Coal Co., Ohai ..	4	,, ..	1	18′	8′	,, ..	..	24,944	35,541	60,485	17	42	59	,,
Lynwood, Te Anau	J. Jennison (P.) ..	E. C. Govan, Te Anau ..	14	Lignite ..	1	6′ to 8′	All	Opencast..	..	160	3,150	3,310	1	..	1	Opencast.
Ohai Coal Co., Ohai	H. Talbot ..	Ohai Coal Co., Invercargill ..	2	Brown ..	1	20′	8′	Bord and pillar ..	..	6,142	1,048	7,190	3	14	17	Fan.
McIvers, Waikaia	R. McIver (P.) ..	R. McIver, Waikaia	1	Lignite ..	1	8′	6′	Opencast..	..	99	..	99	1	..	1	Opencast.
Bridgehead, Ohai	A. Hunter ..	Hunter & McKenzie, Nightcaps ..	1	Brown ..	1	5½′	All	Bord and pillar ..	..	20	..	20	..	..	..	Natural.
Outputs of mines included in previous statements at which operations have been abandoned or suspended					..	..	..	..	..	..	4,801,879	4,801,879	..	..	..	..
Totals, Southern District, South Island ..										455,070	15,540,419	15,995,489	323	719	1,042	
Totals, West Coast District, South Island										990,612	29,926,745	30,917,357	696	1,784	2,480	
Totals, Northern District, North Island										637,525	11,757,303	12,394,828	345	1,002	1,347	
Grand totals										2,083,207	57,224,467	59,307,674	1,364	3,505	4,869	
Output of collieries prior to 1890 not included in the above statement										..	..	296,653				
Shale exported, 1914 ..										..	..	21				
												59,604,348				

Approximate Cost of Paper.—Preparation, not given; printing (675 copies), £99 10s..

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Table 14.—Number of Persons employed in Factories, &c., in each Industry, and Value of Land, Buildings, Plant, Machinery, and Tools.

Industry.	Persons employed.						Value of Land, Buildings, Plant, Machinery, and Tools.					
	Males.			Females.			Land.			Buildings, Plant, Machinery, and Tools.		
	Over 16 Years of Age.	Under 16 Years of Age.	Total.	Over 16 Years of Age.	Under 16 Years of Age.	Total.	Auckland.	Wellington.	Canterbury.	Auckland.	Wellington.	Canterbury.
							£	£	£	£	£	£
Agricultural implements	1,000	39	1,039	15	1	16	19,000	10,000	15,000	100,000	50,000	75,000
Agricultural products