

1911.
NEW ZEALAND.

THE GOLDFIELDS OF NEW ZEALAND

(REPORT ON).

Presented to both Houses of the General Assembly by Command of His Excellency.

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REPORT.

Mr. FRANK REED, M.Inst.M.M., Inspecting Engineer, to the Hon. RODERICK MCKENZIE, Minister of Mines.

SIR,—

Mines Department, Wellington, 28th April, 1911.

I have the honour to present the annual reports of inspection of mines, together with reports of Wardens and other officers, accompanied by statistical information in regard to the goldfields and metalliferous mines of the Dominion, for the year ended the 31st December, 1910.

In accordance with the usual practice, the tables showing expenditure through the Mines Department on roads, bridges, tracks, prospecting operations, &c., are for the period covered by the financial year—viz., from the 1st April, 1910, to the 31st March, 1911.

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

- I. Production of Minerals.
- II. Persons employed.
- III. Accidents.
- IV. Gold-mining.
 - (1.) Quartz.
 - (2.) Dredging.
 - (3.) Alluvial.
- V. Minerals other than Gold.
- VI. State Aid to Mining.
- VII. Schools of Mines.

Annexures.—Reports of—

- (a.) Inspectors of Mines.
- (b.) Wardens.
- (c.) Directors of Schools of Mines.
- (d.) Water-race Managers.
- (e.) Mining Statistics.
- (f.) Examinations under the Mining Act, 1908, and Lists of Certificate-holders.
- (g.) Thames Deep Levels Mining Board.

I. PRODUCTION OF MINERALS.

The following statement shows the value of the exports from metal-mines and kauri-gum fields from the 1st January, 1853, to the 31st December, 1910 :—

Classification.	1909.	1910.	Increase or Decrease.	Total from the 1st January, 1853, to the 31st December, 1910.
	£	£	£	£
Gold	2,006,900	1,896,328	110,572†	77,437,131
Silver	180,872	171,562	9,310†	1,618,522
Other minerals	11,867	22,227	10,912*	445,876
Kauri-gum	552,698	465,044	87,654†	15,413,445
Totals	2,752,337	2,555,161	197,176†	94,914,974
* Increase. † Decrease.				

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 1910.
	Northern.	West Coast.	Southern.	
Gold and silver	3,188	2,451	2,442	8,081
Iron ... ..	...	13	...	13
Scheelite ... ..	...	...	21	21
Cinnabar	2	...	...	2
Asbestos ... ..	...	4	...	4
Totals for 1910	3,190	2,468	2,463	8,121
Totals for 1909	2,786	2,538	2,327	7,651

About a thousand diggers are engaged upon the kauri-gum fields ; the actual number is not known.

III. ACCIDENTS.

The following is a classification of fatal and serious mining accidents that have occurred during the year at all metalliferous mines :—

Inspection District.	Explosions.		Falls of Ground.		In Shafts.		Miscellaneous Under-ground.		Surface.		About Dredges.		Total.	
	Fatal.	Serious.	Fatal.	Serious.	Fatal.	Serious.	Fatal.	Serious.	Fatal.	Serious.	Fatal.	Serious.	Fatal.	Serious.
Northern ... ..	...	2	...	1	4	1	...	...	2	7	...	...	6	11
West Coast	2	1	1	3	1	...	...	...	1	1	1	1	6	6
Southern ... ..	...	...	...	...	...	...	...	...	...	...	3	...	3	0
Totals	2	3	1	4	5	1	...	...	3	8	4	1	15	17

Being at the rate of 1·84 fatalities per 1,000 persons employed.

The verdicts at the 15 inquests in connection with the above fatalities were in 9 cases "accidental death, no blame attachable to any one," and in 6 cases "accidental death," in 3 of which riders were attached stating that errors of judgment were committed and recommending precautionary measures.

IV. GOLD-MINES.

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

	Production of Bullion, 1910.* (All mines.)	Dividends paid, 1910. (By registered com- panies only.)	Number of Persons ordinarily em- ployed.	Number of Working Mines, Dredges, and Claims.
Quartz-mining ...	£ 1,564,189	£ 597,127	4,324	158
Dredge mining ...	315,237†	51,918†	774	104
Alluvial mining ...	188,464‡	11,411‡	2,983	293
Totals, 1910	2,067,890	660,456	8,081	555
Totals, 1909	2,187,772	666,548	7,495	550

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

† The bullion-production is from 104 dredges, but the dividends given are only from 35 of these, the property of registered companies. The profits of privately owned dredges and mines are unobtainable, which renders this statement incomplete.

‡ The bullion-production is from 293 alluvial claims, but the dividends are only ascertainable from 14 of them, the property of registered companies.

(1.) QUARTZ-MINING.

The production of bullion from the quartz-mines of the Dominion during 1910 was the highest on record. As the result of treating 688,660 tons, bullion to the value of £1,564,189 was obtained, and dividends amounting to £597,127 were declared.

An increase in the value of production has to be recorded for the Coromandel, Waihi, Karangahake, and Inangahua quartz-mining fields, but at the Thames and Otago fields a decline has taken place.

The following is a statement showing the tons of ore treated, the value of bullion produced, and the amount of dividends paid by quartz-mining companies in each of the inspection districts during the years 1909 and 1910 :—

Inspection District	Tons of Ore treated.		Value of Bullion.		Dividends paid. (By registered companies only.)	
	1910.	1909.	1910.	1909.	1910.	1909.
Northern ...	612,553	573,470	£ 1,324,456	£ 1,301,002	£ 543,915	£ 554,316
West Coast ...	121,832	108,136	230,807	214,876	53,212	43,955
Southern ...	10,658	11,400	8,926	10,983	...	...
Totals ...	745,043	693,006	£ 1,564,189	£ 1,526,861	£ 597,127	£ 598,271

Northern Inspection District.

Waihi Goldfield.—Waihi Gold-mining Company (Limited): After a long period of successive increases the Waihi Mine has at last shown a decrease in its annual output. The value of the bullion won from the mine during the past year was £894,815, from 442,020 tons,* being in value £33,494 less than for 1909, when the output reached the record total of £959,594. During 1910 the quantity of quartz treated exceeded that of the previous year by 25,207 tons. Dividends declared during the year amounted to £446,316. The total quantity of ore treated during the year amounted to 442,020 tons (dry weight, of 2,000 lb. per ton), 226,442 tons being obtained from the Martha lode. The

* Short tons of 2,000 lb. dry weight equivalent to 394,660 tons of 2,240 lb. The total cost per long ton, including development and London expenditure, amounted to 19s. 2-88d., and the total value received for ore treated amounted to £2 6s. 11d. per long ton.

total average number of stamps running was 294.9 out of 330 stamps. The total average duty per stamp per diem was 5.013 tons. The average value per ton of ore treated amounted to £2 0s. 5½d., and the average cost, including mining, treatment, and general expenses, was 15s. 2½d. per ton. The Horahora hydro-electric scheme is progressing satisfactorily. The hydraulic plant will consist of six Jens Orten Boving turbines of 1,500-horse power capacity, driven under a head of 24 ft. The electric current, generated at 5,000 volts, will be stepped up to 50,000 volts, at which pressure it will be transmitted to Waikino and Waihi over a line of six wires, forty-eight miles in length. At the mine it is proposed to apply electric power to the new supplementary pumping plant for sinking purposes, the air-compressors, workshops, and subsidiary surface machinery, and, at the start, to one winding-engine, to be probably followed by its application to the winding plants.

The Waihi Grand Junction Gold-mining Company (Limited) increased their gold-yield from £99,839 in 1909, to £132,295 in 1910, as the result of treating 84,226 tons (of 2,000 lb). During the year development on an extensive scale was carried out, no less than 13,092 ft. of levels, crosscuts, shafts, uprisings, and winzes having been formed. In January, 1911, I inspected this mine, and found the following developments: At the No. 5 (944 ft.) level some promising ore-bodies had been exposed. On the Martha lode east, at about 1,160 ft. from the north crosscut, a short crosscut towards the Empire lode proved a new vein exceeding 14 ft. in width carrying payable ore. The Mary lode, previously found in the No. 3 (300 ft.) level, has again been proved at No. 5 level by a crosscut about 100 ft. in length driven from the Martha at a point 700 ft. north-east of the main shaft. This lode, 7 ft. in width, has been driven upon for a considerable distance, and shows mineralized but somewhat patchy ore. An extensive block of unworked ore exists between the 944 ft. and 300 ft. levels. Upon the Royal lode, No. 5 level, at about 800 ft. east of the crosscut, a considerable length of payable ore, averaging 15 ft. in width, has been prepared for stoping. On the west of the crosscut, towards the Waihi Company's boundary, stoping is in progress from both Nos. 4 and 5 levels. The average value of the ore treated amounted to £1 11s. 5d., the average cost, including mining, treatment, and general expenses, being only 15s. 3d. per ton. Additions to the mine-equipment and mills included an Ingersoll Rand steam-driven compressor, a Sirocco fan of 40,000 cubic feet capacity, together with several small electrically driven fans and two additional tube mills.

The Waihi Extended Gold-mining Company (Limited): Development during 1910 was confined to opening up the No. 5 (or 960 ft.) level, together with sinking the shaft to the No. 6 (or 1,100 ft.) level. At the No. 5 level a strong body of low-grade quartz was proved by a crosscut.

The Waihi Reefs Consolidated (Limited): A four-compartment winding and pumping shaft has been sunk to a total depth of 736 ft., at a distance of about 30 chains eastward of the Grand Junction Company's nearest underground workings, upon the Martha and branching lodes. This shaft is on the line of the main lodes, if these are continuous upon their average course. At a depth of 700 ft. promising mineralized andesite was entered. It is proposed to continue this shaft until 1,000 ft. has been attained, after which north and south prospecting-crosscuts will be driven in search of the Waihi lodes. The company have put down a suitable plant, consisting of steam-hoist, Cornish ram-pump, air-compressors, &c. The above operations, if successful, will give a considerable impetus to this goldfield by locating the main lodes considerably to the eastward of their present proved position in the principal Waihi mines.

The Romulus Syndicate are engaged testing their property, about half a mile eastward of the Reefs Consolidated shaft, by inclined diamond-drill holes. The country hitherto pierced consists of somewhat loose and decomposed volcanic rock, difficult to penetrate and core. It is therefore doubtful if the depth necessary to test the ground will be attained by diamond-drilling.

The Waihi-Paeroa Extraction Company (Limited) was formed in 1908 for the purpose of extracting gold and silver from the slimes and sand deposited as tailings in the River Ohinemuri by the Waihi and Karangahake Mines. During eighteen months prior to the 31st March, 1910, this company, from their treatment plant established near the Waihi dam, obtained bullion to the value of £14,000 from 32,000 tons of tailings treated, being an extraction of 8s. 7d. per ton. The residue contained bullion averaging in value, if completely extracted, 4s. per ton, the working-cost and renewals amounting to about 5s. per ton. No doubt the high value of the tailings treated must be attributed, to a certain extent, to natural concentration after deposition in the river, also to the fact that in the earlier days of mining the present methods of extraction were not employed, hence the loss of bullion in the tailings. The plant is now in course of removal and re-erection much lower down the river. The capacity of the Union vanners, tube mills, pneumatic tanks, and vacuum filters now being installed is 500 tons per day. It is proposed to elevate the sand by air-lift dredger into barges of 80 tons (of sand) estimated capacity per hour.

Karangahake Goldfield.—The Talisman Consolidated (Limited) has improved its annual bullion-production, the output for 1910 amounting in value to £210,264 from 45,020 tons treated, against £208,886 from 46,456 tons during the previous year, showing thereby an increase in average yield per ton as well as in value. Dividends amounting to £94,374 were declared during 1910. The above returns would have been even more satisfactory had not development been retarded by water troubles in the deeper areas of the mine, also owing to the destruction by fire in September of the Woodstock air-compressors, which caused temporary loss of power. The chief development has been carried out at levels Nos. 12 and 13, the latter being 550 ft. below the drainage level to the Waitawheta Gorge. Winzes sunk 80 ft. below the No. 13 level have proved the Bonanza shoot to extend considerably in length, which shoot has supplied the bulk of the high-grade ore obtained at this mine. At No. 13 level the south drive has been put in 1,530 ft. from the shaft, and while in progress towards the Dubbo shoot a new ore-body, in width from 3 ft. to 9 ft. and of high value, was proved for a length of 300 ft., and

in height by an uprise for 140 ft. The reopening of the Woodstock section of the property is being rapidly advanced. In the shaft chamber, at drainage level, new winding and horizontal compound pumping-engines have been installed, also rope-driven Cornish pumps 26 in. in diameter by 10 ft. stroke. It is proposed to immediately deepen the Talisman and Woodstock shafts to the No. 14 level.

New Zealand Crown Mines (Limited): This company having undergone reconstruction and a change of management, development was resumed after the completion of the electric installation in April, 1910. For the period worked during the year bullion worth £13,301 was obtained from 6,661 tons treated. The future of this mine will depend largely upon operations below No. 5B level. From that level No. 2 winze was sunk 86 ft., but was abandoned in faulted country owing to the influx of water. No. 6 level south of No. 1 winze (120 ft. below No. 5) was driven 374 ft. towards the aforementioned abandoned winze. The Crown reef was developed 158 ft. northward from the Waitewheta drainage level in low-grade ore. Upon this reef, towards the south end of No. 3 level, developments have been resumed for the augmentation of milling-ore. With the powerful electrically driven pumps now in commission, there is no reason to fear a recurrence of the water difficulty at this mine.

Coromandel Goldfield.—A considerable amount of satisfactory prospecting has been carried out in several of the small mines on this goldfield, and in one case—viz., Bremner's Freehold—a local syndicate who worked the ground were rewarded by specimen ore under 1 ton in weight, which yielded £2,238. The only mining of importance, however, was that carried out by the Old Hauraki Gold-mining Company, once a great gold-producer. The development and subsequent stoping of the lode discovered during 1909 at the 400 ft. level has been pushed ahead in the 400 ft., 300 ft., and 220 ft. levels. During 1910, as the result of treating 704 tons of ore, bullion to the value of £13,058 was obtained, and dividends amounting to £2,625 were declared. From this company's property bullion to the aggregate value of £405,202 has been obtained, and £225,208 has been declared in dividends.

Thames Goldfield.—The result of mining operations on this goldfield during the past year is somewhat disappointing, the value of the bullion exported from Thames County and Borough having declined from £288,905 during 1906 to £24,080 during the past year—a decline of 92 per cent. in five years. No Thames mine paid a dividend in 1910.

Although a considerable amount of work has been done without immediate profit at the Waiotahi, May Queen, Victoria, and Kuranui-Caledonian Mines, it is in connection with the 1,000 ft. crosscut now in progress to connect the Queen of Beauty and Kuranui-Caledonian shafts that the greatest interest is taken, and upon which so much depends. This crosscut is now well in hand, and the results so far attained are moderately satisfactory, but the small veins recently proved at that level are auriferous, which was not the case on the field generally at the 640 ft. crosscut. A distance of 220 ft. has been driven, during which several small quartz leaders and veins have been intersected, in some of which gold was visible. There is reason to believe that this deep-level development will be remunerative, and that some of the many quartz veins which will be intersected will be payable. The ventilation of the deep-level crosscut is provided for by the recent installation of a Roots blower.

West Coast Inspection District.

Consolidated Goldfields of New Zealand (Limited).—Wealth of Nations Mine: A considerable amount of development between Nos. 6 and 11 levels has taken place. At levels Nos. 8 and 9 (1,485 ft. and 1,611 ft. respectively) small quantities of payable quartz were proved. At No. 10 (1,736 ft.) level, in the main south level, development was carried a further 94 ft., almost entirely in payable ore about 6 ft. wide. At No. 11 (1,861 ft.) level, south, 403 ft. was driven, of which 82 ft. was in low-grade quartz. The reduction-works are being increased by the addition of fifteen stamps, also Wilfley tables and cyanide-vats. From the treatment of 21,363 tons, bullion to the value of £36,385 was obtained during the year.

Progress Mines of New Zealand (Limited): Improvements were effected underground for the purpose of facilitating the transport of ore, also for the provision of more adequate ventilation. At levels Nos. 9, 10, and 11 (respectively 1,116 ft., 1,266 ft., and 1,416 ft.) extensive developments were carried out upon the Wharf and Pioneer lodes. An increase in the output of ore during 1911 is anticipated. The quartz treated by this company during 1910 amounted to 50,207 tons, from which £71,352 was obtained in bullion.

Blackwater Mines (Limited): A deeper level has been driven at this mine from the tunnel connecting the battery level with the main shaft, at a depth of 615 ft. from the surface. A considerable length of payable ore was developed by crosscut from a point 65 ft. east of the main shaft, which is now being carried down a further 250 ft.—i.e., to the 865 ft. level. The No. 2 (307 ft.) level was carried into the Prohibition lease (under option to this company), but crosscuts east and west failed to prove anything of value, neither did extensive driving at the surface crosscut. The option has therefore not been exercised for the Blackwater Mine. As the result of treating 39,192 tons of ore, bullion to the value of £91,331 was obtained, and £37,500 declared as dividends during 1910.

New Big River Gold-mining Company (Limited): At the No. 10 (1,575 ft.) level, a block of ore was found by the main crosscut 580 ft. from the shaft. Upon this ore 90 ft. has been driven, the width varying up to 6 ft. At the No. 9 (1,375 ft.) level, from the eastern winze, at a depth of 112 ft., an intermediate level proved a reef varying in width up to 4 ft., which has since been stoped to the floor of No. 8 level. This company during the year obtained bullion to the value of £15,628 from 3,040 tons, and declared £5,400 as dividends.

Southern Inspection District.

Barewood Gold-mining Company (Limited): The results for this well equipped and managed mine during 1910 were not so successful as anticipated by the directors. No. 4 (290 ft.) level stopes which were working during the previous year have yielded good profitable ore, and the prospects in the level itself were good. The shaft has since been deepened to a total depth of 410 ft., and No. 5 level (350 ft.) opened out, but the level itself and the stopes over it have only yielded ore of an average value of 15s. 2d. per ton. The working-costs per ton have been kept down to 17s. 8d. for mining, milling, and general expenses. It was proposed to open up No. 6 level (400 ft.), it being anticipated that ore of better value would be developed. During 1910 the mill ran continuously for ten months, treating 5,428 tons of ore, for a return of £4,118 9s. 5d. The operations of this company have been carried out in a manner extremely creditable to all concerned, and deserved success, and it is to be regretted that early in the present year operations were suspended pending reconstruction.

Ventilation.

Good ventilation is now recognized as a necessity at our metal mines, for, apart from the legislative enforcement of hygienic measures as a matter of public policy, the ventilation of mines has an important economic aspect, since it affects to a large extent the industrial efficiency of the workmen, and, consequently, the cost of mineral-production. Until recent years the ventilation of metal mines has not generally received much consideration, and the importance of pure air has been sometimes overlooked in metal-mining countries, but with the attainment of considerable depth and the extension of underground workings, the necessity for adequate ventilation is now universally acknowledged. It is satisfactory to report that in respect to the ventilation of metal mines New Zealand has not been neglectful, for by the installation at the principal mines of mechanical ventilators, in the form of centrifugal fans and blowers, underground temperatures have been reduced, and pure air is now the general rule. On occasions, however, such as in uprisings and near the ends of long levels or crosscuts approaching other workings, the air may at times be heated and somewhat vitiated; but in such special cases which would hardly warrant the installation of a separate fan or blower to meet the requirements of perhaps only a few days' work, the Inspector of Mines may constitute the place in question a "six-hours place"—i.e., a place where six hours' work entitles the miner to a full day's pay.

As in the case of collieries, the Inspectors of Mines, when not satisfied that the statutory quantity standard—viz., 100 cubic feet of air per minute for metal mines, and 150 cubic feet for coal-mines*—is adequate to secure good ventilation, are guided by the analysis of mine-air and by the wet-bulb temperature, the standard generally observed being that a minimum of 19 per cent. by volume of oxygen shall be present in every working-place, and that $1\frac{1}{2}$ per cent. of carbon-dioxide shall not be exceeded; also, that if saturated the temperature of the mine-air shall not exceed 80° Fahr., or 85° Fahr. under other conditions. These tests are not statutory, but they have been recommended as reasonable for mining conditions by the highest authority—viz., the British Royal Commission on Mines, 1909. The Inspectors of Mines in New Zealand have that necessary latitude which permits them to secure healthful conditions underground without harassing legitimate mining enterprise.

During 1910 the Waihi Grand Junction Company installed at No. 2 shaft a Sirocco fan of 40,000 cubic feet per minute capacity, also several electrically driven Sturtevant fans to ventilate dead ends. At the Progress Mine at Reefton there was also installed a 25 in. Sirocco fan.

In connection with the deep-levels scheme at the Queen of Beauty shaft, Thames, a powerful Roots blower has been installed, and produces adequate ventilation. The New Big River Company have also introduced a mechanical ventilator.

The use of sprays in connection with rock-drills is becoming universal; but there is found in New Zealand, as elsewhere, a considerable prejudice among some of the miners against their use.

(2.) DREDGE MINING.

From the following table, showing the result of gold-dredging during the past five years, it will be noted that although there is a decline in the total gold-production, and in the number of dredges in commission, the value of the production per dredge, also the average profits per dredge, remains stationary:—

Year.	Total Number of Dredges working.	Value of Production.	Average Production per Dredge.	Dividend-paying Dredges owned by Registered Companies.		Number of Persons employed.
				Number.	Dividends.	
		£	£		£	
1906 ..	167	505,199	3,025	66	103,722	..
1907 ..	128	419,634	3,278	65	89,707	1,150
1908 ..	123	373,818	3,039	47	75,800	1,013
1909 ..	111	327,676	2,952	37	56,788	893
1910 ..	104	315,237	3,031	35	51,918	838

* I.e., 100 or 150 cubic feet of air per person per minute respectively.



"The Honorable Roderick Dugget,"
Presented by the Government and People of New Zealand
To His Majesty King George V
as a Coronation Gift.

Scale: $\frac{3}{4}$ full size.

The dividends paid by thirty-five dredges, the property of registered companies, amounted to £51,918 during 1910; the profits of privately owned dredges are unobtainable.

The following is a statement regarding the most productive dredges during the year :—

Name of Dredge.	Production during 1910 of all Dredges.	Dividends paid by Thirty-five Dredges owned by Registered Companies.	
		During 1910.	To 31st December, 1910.
West Coast District—	£	£	£
Stafford	3,738	708	2,883
Hessy, Cameron, and Tacon (Limited) ...	4,042	750	3,225
Worksop	6,565	1,800	6,600
No Town Creek	5,222	1,800	28,800
Pactolus	5,187	2,500	60,625
Blackwater River	5,100	947	9,000
New Trafalgar	4,143	650	4,550
Southern District—			
Crewe (2)	7,146	2,875	6,125
Waikaka Syndicate (2)	7,659	3,500	20,300
Koputai	4,972	2,100	11,302
Earnsclough (3)	12,755	1,100	24,200
Masterton	5,062	1,750	30,250
Mystery Flat	3,221	807	26,595
Golden Bed	8,000	3,821	13,347
Rise and Shine (2)	20,112	11,100	33,900
Rising Sun	9,074	3,800	13,800
Magnum Bonum	4,414	2,062	7,063
Muddy Creek	2,808	830	9,962
Waikaka United (2)	8,769	1,680	39,760
Otago (2)	6,145	500	17,125
Manuherikia	4,640	1,800	32,387
Dredge No. 909	4,887	1,500	1,500
Jutland Hydraulic	1,762	249	3,250
Waikaia	5,599	2,275	13,475
Other working dredges	164,127	1,014	...
Totals	315,149	51,918	...

During 1910 two West Coast dredges were dismantled—viz., “Pactolus I” and “New Mokoia.” In Otago and Southland there were also dismantled the “Excelsior,” “Glenore,” “Clutha River,” “Roxburgh Jubilee,” and “Electric III.” The “Antonio’s Flat” dredge was removed to Cronadun.

A new dredge, the “Success,” has been launched at Brennan’s Creek, Westland; it is in length 96½ ft., and although smaller than several of the Otago dredges, is one of the largest and most powerful on the West Coast.

(3.) ALLUVIAL MINING.

The prosperity of this branch of mining depends upon the adequacy of the water-supply available for sluicing purposes. Owing, therefore, to an exceptionally dry year—it is reported to have been the greatest drought ever experienced in Southland—the value of the gold-production from alluvial claims during 1910 has declined to £188,464, being £144,771 below the production of the previous year.

West Coast Inspection District.

The Mahinapua Gold-mining Company (Limited) are the holders of a claim of about 87 acres, situated on the Aylmer auriferous black-sand lead, between Lake Mahinapua and the Hokitika-Ross Railway. The claims cover the course of the lead for about two miles and a half. The width of the lead may average about 60 ft., the depth being about 20 ft. The lead has been worked intermittently in isolated patches during a number of years by more primitive and costly methods than those now generally adopted in this country. No great quantity of gold has been obtained, but at times some rich patches have been found. The difficulty here, as on many other of the unexhausted alluvial goldfields of the Dominion, has been the influx of water, which prevented the extraction of the deepest wash by former methods of mining. The present company have installed a complete hydraulic sluicing and elevating outfit of about 30 cubic yards per hour capacity. The source of water-supply is Granite Creek and Ogilvie’s Lagoon, which are connected to the claim by ditching and iron piping in length 6 miles 1½ chains constructed by the company, and capable of delivering about

8 cubic feet of water per second at the paddock, the static head being 225 ft. The company during 1910 had a brief and successful trial of their plant, and in 1,248 working-hours obtained gold to the value of £224 9s. from approximately 16,000 cubic yards of wash, being at the rate of 3½d. per cubic yard, which is payable. Operations were subsequently suspended to enable a more permanent water-supply to be brought in. This being now almost completed, sluicing will be shortly resumed.

The Mont d'Or Company at Ross, the oldest and most consistent of the dividend-paying alluvial gold-mining companies in Westland, have obtained gold to the value of £4,111, and distributed £1,800 in dividends during the year. Since the registration of the company bullion to the value of £134,749 has been obtained, dividends declared to the end of 1910 being £49,800. Sluicing operations have been carried on whenever the water-supply has been available, which only amounted to 139 days during the year. A new deep-level tail-race at a lower level has been constructed at considerable cost.

At Kumara several new claims have been taken up in the vicinity of Westbrook and Maori Point, in prospect of the early completion of the Government Kumara Water-race extension by a 30 in. steel inverted siphon of 2 miles 1 chain in length, crossing the Valley of the River Taramakau from Larrikin's to Anderson's Dam, North Terrace. During June of the current year the most difficult stage in connection with this water-race extension was carried out by the laying of 650 ft. of 30 in. heavy cast-iron flexible-jointed pipes from specially designed pontoons on to the bed of the swiftly flowing River Taramakau, the velocity of the current varying between 5 and 7 knots. The river pipes were laid by the Mines Department staff under my superintendence. This conduit and its storage-dam will be capable of supplying 46 cubic feet of water per second for twelve hours per day, and if utilized for the development of hydraulic power at the depression in the siphon at the river-crossing will be capable of an output of 2,612 brake horse-power from water-motors. Drawings and photographs in connection with these operations accompany this report.

The Dominion Gold and Ironsand Company have taken up claims covering 200 acres of the once prosperous and very productive old diggings at the Five-mile Beach, Okarito, South Westland. The above claims extend for about two miles along the sea-beach above high-water level and embrace practically all the old beach claims. It is proposed to work the marine gravel containing two or more parallel leads at depths varying to 25 ft. by either hydraulic sluicing and elevating or suction dredge. The company have surveyed and cleared a pipe-line connecting the claims with Lake Alpine. The length of such line is 2 miles 30 chains, and there is a static head of 330 ft. It is proposed to connect lake and claims with a 20 in. wrought-iron main having a capacity of 20 cubic feet of water per second. The lake is in area about 230 acres, with a catchment of about 1,000 acres. Its storage-capacity may be much increased by a small and inexpensive dam. I understand that the company intend to thoroughly prove the ground by drilling prior to laying down a mining plant.

Wheel-of-Fortune Syndicate (Stafford): This syndicate have recently reconstructed their hydraulic-sluicing and bucket-elevating plant upon improved lines. A new bucket-elevator, working on a well-braced ladder and derrick 60 ft. in height has been built from the main bottom (reef) of the paddock. Well clear of this elevator the stones from the claim will be delivered by means of a shoot. The buckets are operated by vertical ropes from a Pelton wheel. A maximum speed of thirteen or fourteen buckets per minute is attainable, but the working-speed will not exceed eight or nine buckets per minute. The syndicate have two pipe-lines, the main pressure line being 1,100 ft. in length; also a drainage tunnel. The capacity of the new plant is estimated to be about 50 cubic yards per hour. A photograph of the bucket-elevator and derrick during construction accompanies this report.

The Ross Goldfields (Limited) having unwatered their mine, which had remained inundated since 1887, the main shaft was retimbered, and mining operations commenced in June, 1910, and continued until the 12th August of the same year, when a breakdown occurred owing to faulty insulators on the transmission line. As a result of this, and the fact that the capital of the company had become exhausted, the mine was closed down, and subsequently the company went into voluntary liquidation. During the two months when mining operations were intermittently carried on, the following returns were obtained: Gravel excavated, 3,111 cubic yards; wash removed, 2,150 cubic yards (280 square fathoms); total gold produced, 480 oz.; gold per cubic yard, 4.46 dwt.; per fathom, 1 oz. 14.28 dwt. The working-cost of the hydro-electric pumping installation averaged £52 per week. The maximum quantity of water dealt with did not exceed 1,000 gallons per minute. The cause of frequent breakdown of the turbine pumps during unwatering operations were: Gritty water causing heating of thrust bearing-rings; heating of lower gland brasses at the delivery end of the shaft; fracture of the steel-ball race. The permanent pumps were placed in an unlined chamber excavated in the gravel at the 7th level at a depth of 350 ft. in the shaft and unprotected from inundation, which occurred at the breakdown of the transmission line in August. It was then found that the shaft-fittings prevented the admission of the sinking-pumps to unwater the chamber in which the permanent pumps and motors were installed. Through exhaustion of capital this company went into voluntary liquidation, and on the 22nd September, 1910, the company was reconstructed. At the annual meeting on the 2nd May, 1911, it was considered advisable, if possible, to sell the hydro-electric plant, and, if funds could be raised, install a bucket-pump (*i.e.*, Cornish draw-lift) to be driven by a steam-engine for greater reliability and efficiency, as recommended by the experts, Messrs. W. P. Gauvain and F. Black, who had reported on the pumping and power plant for the company.

Southern Inspection District.

Muddy Terrace Sluicing Company: Sluicing operations commenced in September, 1909, were suspended in December of that year, and were not resumed until March, 1910, and then only in a tentative manner until May, when the late autumn rains enabled the whole plant to get sufficient water to deal with the faces in a business way. During the time that the race

was nearly full a large quantity of material was turned over both by the ground-slucing on the cap of the terrace and at two paddocks on the flats that had been opened in October and November, 1909, where from 8 to 10 acres were elevated, and the yield from which varied from 3 gr. to 4 gr. to the yard from a depth of about 13 ft. On the high terrace about $3\frac{1}{2}$ acres was sluiced away by ground ditches, yielding about 2 gr. to the yard. During the month of August a heavy and continuous frost hindered the company's operations, and sensibly reduced the water-supply. A total amount of about 2,500 oz. have been won since the commencement of operations, about 1,800 oz. of which was won during the twelve months from the 31st October, 1909, to the 31st October, 1910. During the summer months a new race was cut, which should increase the water-supply by six or eight heads during the winter, and when frost holds up the water-supply from the higher watershed of the Dome Valley. The main race has been thoroughly overhauled, and the whole district has passed through a period of the greatest drought ever experienced in Southland, which still continues in April of this year (1911).

Round Hill Gold-mining Company (Limited): From the claims of this company there has been produced since registration bullion to the value of £136,125, of which £6,496 has been declared in dividends. For 1910 the return was £11,010, the dividends being £1,130. Hydraulic sluicing and elevating is the method of mining employed. By the use of two elevators an area of about 10 acres was removed during the year. The average depth of the ground sluiced from No. 2 paddock was 45 ft., and the elevators lifted to a height of from 65 ft. to 70 ft., the auriferous wash occurring in seams generally within 10 ft. of the diorite bottom. New claims, the property of this company, and situated upon the same stream, have been tested by boring, and are estimated to furnish from three to four years' work for the plant now operating upon paddocks Nos. 1 and 2, which will be removed therefrom after their exhaustion during the current year.

Ourawera Gold-mining Company (Limited) (Round Hill): This company, with a capital of only £3,000, have produced gold to the value of £43,455, of which £13,615 has been declared as dividends; the return for 1910 being £2,581, dividends £900. The year's operations were handicapped by inadequate water-supply. The area of the excavated paddock is now about 40 acres, with a face of from 60 ft. to 70 ft. Buried timber and large boulders occur frequently; these are removed by water-driven aerial stone-conveyor.

In addition to the foregoing the following are some of the other alluvial mining companies operating in the Southern Inspection District, which also were successful:—

Name of Company.	During 1910.	
	Value of Gold produced.	Dividends declared.
	£	£
Nokomai Hydraulic Sluicing	10,529	4,200
Roxburgh Amalgamated Mining and Sluicing	3,235	729
Ladysmith Gold	3,214	496
Deep Stream Gold-mining	1,413	562
Undaunted Gold-mining	2,127	375
Arrow River Gold-mining	1,078	401

V. MINERALS OTHER THAN GOLD.

With the exception of the kauri-gum industry and small but profitable operations on the tungsten fields of Otago and Southland, mining activity during 1910 for minerals other than gold and silver was unimportant.

TUNGSTEN.

In the tungsten or scheelite mining industry a more prosperous year has been experienced than during 1909, owing to better prices for tungstic trioxide concentrates. The production of 60 per cent. WO_3 concentrates amounted to 176 tons, but of this only 143 tons were exported during 1910. The value of such export was £15,070, being an increase of £10,807 on the value of that for 1909.

The chief producers were the Glenorchy Scheelite Syndicate (Lake Wakatipu), 90 tons 12 cwt.; and Messrs. W. and G. Donaldson (Macrae's, Otago), 77 tons, who are operating by opencast workings upon a lode formation 20 ft. in width.

The price obtained in the Hamburg market for 60 per cent. WO_3 averaged £1 11s. per unit, or £93 per ton (of 2,000 lb.), the price hardening as the year advanced.

CINNABAR.

The Ascot Cinnabar-mine at Mackaytown treated at their Novak furnace 70 tons of ore, for a yield of 1,200 lb. of mercury, worth £128. The results obtained during the year were somewhat disappointing.

In the Puhipuhi district two men did a little unsuccessful prospecting for cinnabar.

IRON.

At Parapara two headings were driven in the limonite beds at depths about 100 ft. below the outcrop. The surface soil and gravel overlying the iron-ore is being removed by sluicing. The operations are carried out in a lethargic manner, in no way resembling the development of an ironstone-mine of importance.

KAURI-GUM.

There has been an increase of 443 tons in the output of this fossil resin, one of the principal mineral exports of this country, the product of ancient forests of the kauri-pine. The total quantity exported during 1910 was 8,693 tons, valued at £465,044, the total value of exports to the end of the year being £15,413,445. A satisfactory point about the year's operations is that practically the whole of the shipments have gone on order to Germany, France, America, and England, the amount sent to London for a speculative market being almost nil.

One of the factors in the quietness of the demand for gum has been the high price ruling for turpentine and other oils used in conjunction with the gum in the various manufactures for which it is employed.

A feature of the exportation during 1910 is the diminution of the amount of gum taken by America, the difference being nearly 1,500 tons against the past year. This may be partly ascribed to the increased use in America of China wood-oil, an inferior substitute much used in linoleum-manufacture.

Kauri-gum occurs still in considerable quantity in the northern part of the Auckland Province, from the North Cape to middle Waikato, over an approximate area of 814,000 acres.

PETROLEUM.

The activity in petroleum speculation during 1910 extended to New Zealand, and increased interest was shown in drilling operations in the Poverty Bay, Taranaki, and Lake Brunner districts, at all of which surface-indications of petroleum are observable.

At Taranaki the most important operations are those carried out by the Taranaki Petroleum Company (capital £120,000 in £1 shares). Upon this property, situated at Moturoa, several holes have been drilled in rocks of Miocene age, viz. :—

No. 1, 2,244 ft., which during drilling produced gas, oil, water, and silt, is being cleaned out preparatory to the continuation of drilling.

No. 2, 3,030 ft. : This, the most promising and productive well in the Dominion, has been flowing for fifteen months, and at present discharges about 400 gallons of crude oil per day.

No. 3, 3797 ft. : Drilling still in progress ; several thin layers of petroleum-bearing sands have been pierced.

No. 4, 800 ft. to 900 ft. : Abandoned.

No. 5, 1,658 ft. : Drilling now in progress, in papa clay ; gas at high pressure has been tapped.

From wells 1, 2, and 3 about 270,000 gallons of high-grade crude mineral oil, having an average percentage of 97 of distilled oils, had been by the 3rd May, 1911, obtained, thereby winning the Government bonus of £2,500 offered for the first 250,000 gallons of mineral oil produced in the Dominion. The position of the above drill-holes is indicated upon the accompanying photograph. This property is under option to the Oil Trust (Limited), a London company.

For testing their extensive territory at Kotuku, near Lake Brunner, the Consolidated Goldfields of New Zealand are importing a powerful drill. Exudations and oil-indications occur over a length of half a mile, and several holes have been put down by former operators, the deepest being 821 ft. ; but in none of them was oil in quantity proved.

At Waitangi Hill, about thirty-two miles by road north of Gisborne, Poverty Bay, exudations of petroleum occur, and upon this evidence boring operations were commenced in 1874, and intermittently continued, the two deepest wells being 1,400 ft. and 700 ft. respectively, in Miocene rocks. From no well, however, were the results very encouraging. The petroleum, obtained in small quantities, was of high quality as a burning-oil. A company—the New Zealand Oilfields (Limited)—recently formed in London with a capital of £200,000 (in 2s. shares), propose to test immediately, by drilling, the extensive areas in this locality, over which they have secured the rights to petroleum.

Until the prospecting operations now being carried out in these widely separated districts are completed, it is quite premature to express an opinion as to the value of the properties as oil-producers.

No. 2 Bore (in pro-
gress).

No. 1 Bore (about
50 ft.).

No. 2 Bore (about
100 ft.).

No. 3 Bore (in pro-
gress).

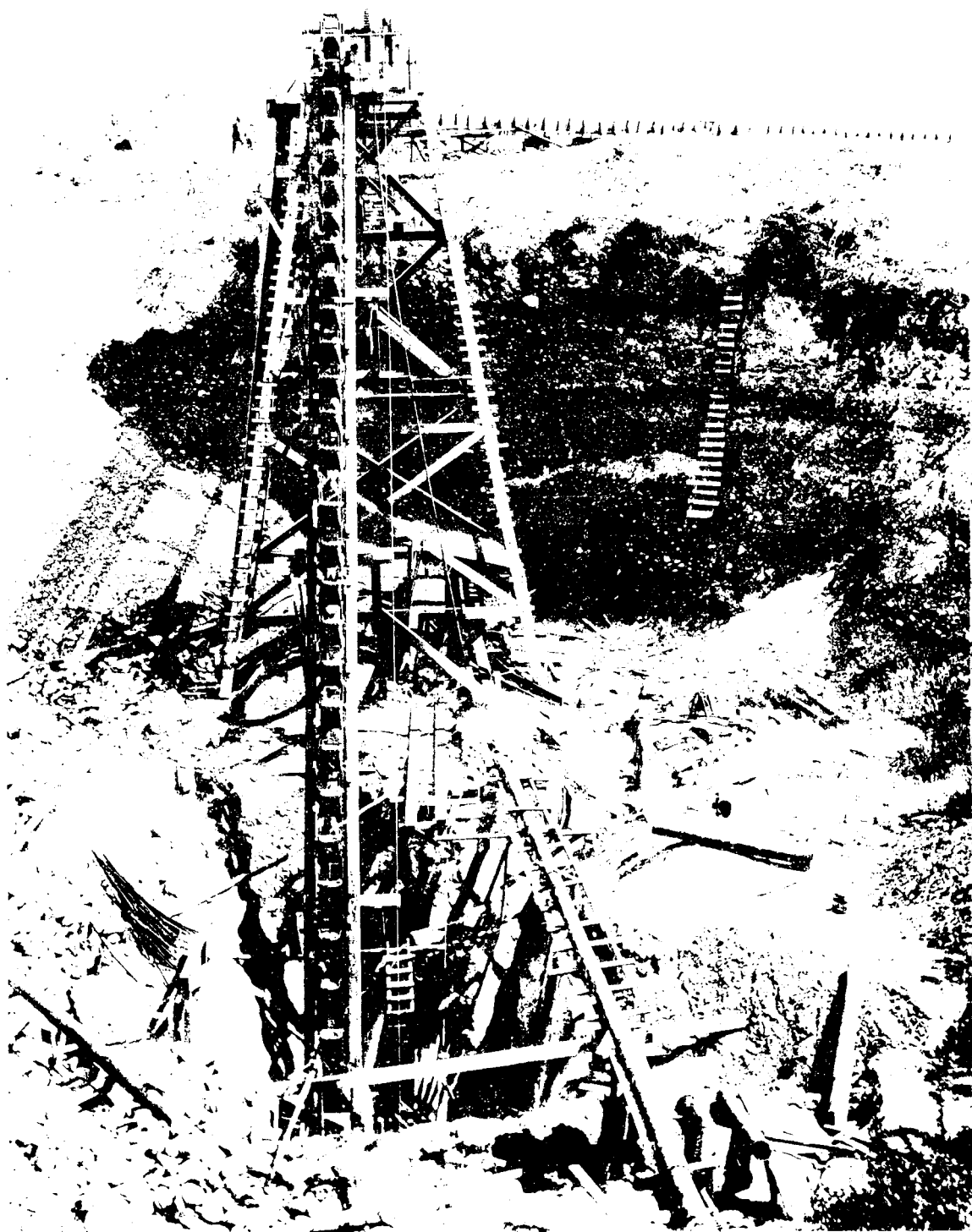


Tasman Sea

Government Railway

MORTON OILFIELD, TARANAKI, NEW ZEALAND.

The locality of the operations of the Taranaki Petroleum Company, Limited, who recently won the Government bonus of £2,500 on account of the production within the Dominion of the first 250,000 gallons of crude petroleum of specified quality.



WHEEL OF FORTUNE ALL-VIAL CHAIN, STARFORD, WESTLAND.

Bucket elevates 60 ft. in height operated by Pulley who is going to the bottom of a well as oil is being raised.

VI. STATE AID TO MINING.

ROADS CONSTRUCTED BY DIRECT GRANTS.

The following statement shows the expenditure on authorities issued on roads from direct grants to the several local bodies during the year ended the 31st March, 1911 :—

Name of Local Body.					Expenditure for the Year ending 31st March, 1911.		
					£	s.	d.
Coromandel County	...	...	...	...	2,280	17	8
Thames County	...	...	...	...	1,385	15	11
Thames Borough	...	...	...	...	150	0	0
Ohinemuri County	...	...	...	...	3,108	2	2
Piako County	...	...	...	...	275	0	0
Pelorus Road Board	...	...	...	...	100	0	0
Takaka County	...	...	...	...	319	11	4
Collingwood County	...	...	...	...	515	15	6
Waimea County	...	...	...	...	384	7	5
Murchison County	...	...	...	...	377	13	0
Buller County	...	...	...	...	6,187	2	1
Inangahua County	...	...	...	...	1,789	17	4
Grey County	...	...	...	...	3,763	19	2
Brunner Borough	...	...	...	...	142	2	8
Westland County	...	...	...	...	1,788	6	0
Ross Borough	...	...	...	...	300	0	0
Waihemo County	...	...	...	...	40	0	0
Tuapeka County	...	...	...	...	350	0	0
Vincent County	...	...	...	...	319	12	0
Lake County	...	...	...	...	414	4	0
Southland County	...	...	...	...	1,173	1	7
Wallace County	...	...	...	...	323	9	8
Stewart Island County	...	...	...	...	33	12	6
Public Works Department	...	...	...	...	103	10	8
Total	...	...	...	...	25,626	0	8

PROSPECTING FOR GOLD.

The following statement shows the expenditure on authorities issued in subsidies to prospecting associations and parties of miners in the different counties for the year ended the 31st March, 1911 :—

Name of County, &c.					Expenditure for the Year ending 31st March, 1911.		
					£	s.	d.
Coromandel	..	..	..	..	550	15	0
Tauranga	..	..	..	..	41	10	0
Ohinemuri	..	..	..	..	183	15	0
Wairau Road Board	..	..	..	..	191	5	8
Inangahua	..	..	..	..	232	15	0
Buller	..	..	..	..	20	11	0
Grey	..	..	..	..	188	9	6
Westland	..	..	..	..	931	5	0
Ross Borough Council	..	..	..	..	85	0	0
Maniototo	..	..	..	..	79	10	0
Waihemo	..	..	..	..	46	11	6
Lake	..	..	..	..	236	16	7
Tuapeka	..	..	..	..	61	0	0
Vincent	..	..	..	..	106	5	0
Prospecting associations, &c.	..	..	..	..	281	13	0
					£3,237	2	3

GOVERNMENT PROSPECTING DRILLS.

Three diamond drills, with a boring-capacity of 2,500, 1,500, and 500 ft., respectively, also a Keystone traction placer drill of 350 ft. capacity, are now lent out by the Government to mining companies free of charge; the borrowers have, however, to keep the machines in good order, and pay all expenses and wages in connection therewith, including those of the Government Superintendent of the drill.

There has been a considerable demand for these machines, and their introduction has been amply justified. Another Keystone drill for use on the West Coast alluvial goldfields is now on order.

The following table shows the result of boring during 1910 :—

Type of Drill.	Name of Superintendent.	To whom lent.	Minerals sought for.	Number of Holes drilled.	Aggregate Depth drilled.	Diameter of Hole.	Character of Country pierced.	Average Total Cost per Foot.
Diamond	W. Carter ..	Waihi Gold-mining Company	Auriferous quartz	2	Ft. 1,110	In. 2½	Andesite ..	15/3-6
"	" ..	Atlantis Syndicate, Waihi	Ditto ..	1	450	2½	Andesite (decomposed)	9/-*
"	" ..	New Zealand Coal and Oil Company, Orepuki	Oil, shale	4	1,288½	3	Tertiary beds	10/-*
"	F. Burnett ..	Seddonville State Collieries	Coal ..	2	895	2½	Coal-measures	10/10½
Keystone	G. E. D. Seale	11 Central Otago dredging claims	Gold, alluvial	129	4,945	6	Gravel ..	2/6½ to 5/-

* Approximate.

The above tabulated drilling being carried out by the borrowers at their own expense, further details cannot, without permission, be published here.

VII. SCHOOLS OF MINES.

The Government examinations at the schools of mines were held in December, 1910, the number of students presenting themselves being 112, who contributed 186 papers on some of the 20 subjects examined into. The following is a summary of the examination results at each school, arranged in the order of average marks awarded :—

Locality of School of Mines.	Average Marks awarded per Paper submitted.	Number of Students examined.	Number of Papers submitted.	Total marks awarded.
	Per cent.			
Waihi	68·8	36	57	3,927
Karangahake	65·2	13	28	1,826
Reefton	61·3	7	7	429
Coromandel	54·1	7	23	1,245
Waikino	51·8	8	11	570
Thames	46·5	38	56	2,605
Westport	43·0	3	4	172
Totals	57·9	112	186	10,774

From the above high average percentage of marks awarded it will be realized that the questions were of a practical character and well within the capacity of the students at the principal schools, all of which are established at centres of mining activity.

The only Government scholarship awarded at the 1910 examinations was obtained by Mr. F. L. K. Broadgate, of the Coromandel School.

Amended Scholarship Regulations were gazetted on the 30th March, 1911, from which the following is an extract :—

“ Six scholarships are offered annually for competition by students attending schools of mines within the Dominion—one for Otago, two for the west coast of the Middle Island, and three for the North Island. Of these, four will be for students in gold-mining subjects, and two for coal-mining subjects.

“ The scholarships will be of the annual value of £50 each to successful candidates who may reside three miles or more beyond the boundaries of the Borough of Dunedin, or of the borough in which the affiliated institution is situated, and of £30 to successful candidates who reside within the boundaries of any such borough, or within three miles thereof.

“ The scholarships will be tenable for three years, or for such other period less than three years as may at the discretion of the Minister appear to be necessary.

“ The scholarships will be open to all students as aforesaid who are not less than eighteen years of age on the day appointed for receiving applications, and who shall have attended regularly at any school of mines within the Dominion for not less than two years at least 80 per cent. of the lectures in each subject of the examination course.

"The examinations will be conducted in writing, and embrace six of the following subjects:—

"(a.) Theoretical chemistry.

"(b.) Practical chemistry.

"(c.) Metallurgy of gold and silver; or drainage, haulage, and winding.

"(d.) Mining 'coal' or 'metal.'

"(e.) Ventilation.

"(f.) General and mining geology.

"(g.) Land and mine surveying.

"(h.) Mathematics.

"The branches of subjects (c) and (d) shall be at the option of the candidates, who must state in their applications the branch of each subject they intend to take up.

"No scholarship shall be awarded to any candidate who does not obtain 75 per cent. of the marks in each of the six subjects."

EXPENDITURE ON SCHOOLS OF MINES.

The following table shows the expenditure by the Government on schools of mines since their inception, exclusive of subsidies paid to the University of Otago towards the School of Mines in connection with that institution:—

Financial Years.	Subsidies towards the Erection of Schools of Mines, and Maintenance.	Chemicals and Apparatus, also Mineralogical Specimens supplied to Schools of Mines.	Scholarships.	Salaries of Teachers, and Travelling-expenses, &c.	Total Sum paid by the Department towards the Schools of Mines.
	£ s. d.	£ s. d.	£	£ s. d.	£ s. d.
1885-86 ...	...	36 19 9	...	1,223 9 10	1,260 9 7
1886-87 ...	257 16 6	409 1 4	...	2,716 9 3	3,383 7 1
1887-88 ...	253 15 9	253 14 1	...	1,714 9 6	2,221 19 4
1888-89 ...	42 10 0	6 12 9	...	1,139 4 1	1,188 6 10
1889-90 ...	142 2 0	181 14 10	...	716 3 10	1,040 0 8
1890-91 ...	217 6 6	54 8 0	...	620 9 9	892 4 3
1891-92 ...	181 14 0	...	...	689 5 9	870 19 9
1892-93 ...	312 3 4	...	...	670 1 0	982 4 4
1893-94 ...	197 0 5	...	...	858 19 4	1,055 19 9
1894-95 ...	390 0 0	45 10 10	...	773 17 8	1,209 8 6
1895-96 ...	820 0 0	...	50	849 3 0	1,719 3 0
1896-97 ...	352 14 11	58 18 6	100	834 12 8	1,346 6 1
1897-98 ...	1,089 18 6	29 19 9	100	780 19 0	2,000 17 3
1898-99 ...	740 15 2	32 19 7	50	729 10 11	1,553 5 8
1899-1900 ...	990 3 4	24 3 8	50	52 16 3	1,117 3 3
1900-1901 ...	866 10 11	56 3 4	98	77 7 10	1,098 2 1
1901-1902 ...	1,155 12 3	63 5 1	49	69 16 4	1,337 13 8
1902-1903 ...	1,379 15 6	134 18 8	158	111 0 0	1,783 14 2
1903-1904 ...	1,575 15 3	88 18 8	92	109 15 10	1,866 9 9
1904-1905 ...	1,401 2 11	17 3 0	100	362 19 6	1,881 5 5
1905-1906 ...	1,806 19 5	87 2 1	49	440 9 4	2,383 10 10
1906-1907 ...	1,836 6 6	11 15 8	100	388 18 5	2,337 0 7
1907-1908 ...	2,428 19 3	94 6 2	150	345 15 11	3,019 1 4
1908-1909 ...	2,738 11 1	328 9 3	100	642 9 4	3,809 9 8
1909-1910 ...	1,882 2 6	692 2 8	100	587 3 2	3,261 8 4
1910-1911 ...	2,813 0 10	44 5 8	108	121 9 2	3,086 15 8
Totals ...	25,872 16 10	2,752 13 4	1,454	17,626 16 8	47,706 6 10

I have, &c.,

FRANK REED.

Inspecting Engineer of Mines.

GOLD-MINERS' RELIEF FUND.

On the 3rd December the Gold-miners' Relief Fund was inaugurated by the passing of the Mining Amendment Act, 1910. Provision is made for the payment of a duty of 3d. per oz. on all gold exported to a fund controlled by the Public Trustee, and called the "Gold-miners' Relief Fund," the proceeds to be devoted to the relief of miners who are injured while working in mines and for the relief of the families of miners who are killed or injured while so working. During the period from the date of the inauguration of the fund and the close of the financial year £1,796 10s. 7d. had been contributed to the fund, but no payments for relief had been made as the regulations relating to payment thereof had not been gazetted.

ANNEXURE A.

Mr. MATTHEW PAUL, Inspector of Mines, Waihi, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR.—

Inspector of Mines' Office, Waihi, 31st March, 1911.

I have the honour to present my report on the gold-mining industry in the Hauraki Mining District, together with statistics, for the year ended 31st December, 1910.

Waihi Gold-mining Company (Limited) (J. Gilmour, Mine-manager).

The following report bears principally on the operations carried out in the Nos. 8, 9, and 10 levels, where the most important development has been conducted :—

No. 10 Level (1,150 ft.).—No. 5 shaft north crosscut has been driven a total of 260 ft. from No. 5 shaft. The country rock penetrated is favourable, and delivers very little water. At 250 ft. quartz 12 in. wide was passed through. At 60 ft. a branch crosscut has been driven south-south-west for 32 ft. towards the Royal lode.

No. 9 Level (1,000 ft.).—Royal lode : This lode has been opened up for a total length of 1,253 ft., 770 ft. east and 483 ft. west of No. 5 shaft south crosscut. The east face was extended from 726 ft. to 770 ft. during the year; Reptile pass being holed through to No. 8 level to obtain good ventilation. The west face was extended from 290 ft. to 483 ft. No stoping has been done, but the level has been widened out to full width from 26 ft. to 180 ft. west of No. 5 shaft south crosscut, and from 700 ft. to 770 ft. east of same for 8 ft. in width.

Reptile south-east crosscut : This crosscut was started in the latter part of the year from the end of the level on the Royal lode 765 ft. east of No. 5 shaft south crosscut. It has been driven a total of 130 ft. in favourable country rock. At 130 ft. in, quartz 7 ft. in width was penetrated. Cross-cutting was suspended, and driving done on the reef to 200 ft. south on course of new lode. At the face the quartz was reduced to 9 in. in width. Further driving on the reef has been suspended, and the new crosscut will be continued.

Empire lode : This lode has been opened up for a total length of 1,315 ft., of which 530 ft. is east and 785 ft. west of No. 4 shaft north crosscut. The west face was extended 229 ft. during the year, but the east face was not advanced. Stopping is in progress on several blocks on this lode.

Alexandra lode : This lode was met at 827 ft. west of No. 4 shaft north crosscut, and driven on course 225 ft. (making a total of 1,052 ft. west of No. 4 shaft north crosscut on Empire and Alexandra lodes). From 1,052 ft. the level is driven through country to the Edward lode, which was proved at 1,125 ft.

Edward lode : This lode was found 1,125 ft. west of No. 4 shaft north crosscut. The total length now opened up on the course of lode is 301 ft., 141 ft. being south and 160 ft. north of Perch crosscut.

Martha lode, south section : This has been opened up for a total length of 1,232 ft., the east face having been extended from 101 ft. to 389 ft., and the west face from 212 ft. to 843 ft. from No. 4 shaft north crosscut. Stopping is in progress from 180 ft. east to 290 ft. west, the top stope being 29 ft. above the level, and the average width taken out 20 ft. The level has been widened and timbered from 333 ft. east to 394 ft. west, and stoping over this length will be proceeded with.

Martha lode, north section : This has been driven on 81 ft. east and 409 ft. west, making a total of 490 ft. The lode is very loose and rubbly.

Martha lode, Regina section : This section branched off the main lode at 300 ft. west of No. 4 shaft north crosscut, and was followed to 500 ft. west. The level has been widened for stoping-timbers from 380 ft. to 460 ft. west for a width of 20 ft. from south wall.

No. 8 Level.—Royal lode : East of north section junction. The level was advanced from 952½ ft. to 990½ ft. The face is 38 ft. from the boundary-line, and 6 ft. of lode is exposed. Stopping on the shrinkage method is in progress in five blocks on this lode.

Scorpion north crosscut : This has been driven 738 ft. from Royal lode. Several quartz formations were passed through, and the crosscut is about to be started south-east, to prospect from the point where the Edward lode joins the Royal lode.

Empire lode : Stopping is in progress on this lode between Rolker and Allen passes.

Alexandra lode : No stoping has been done this year, but the level was advanced east of Bull's crosscut to 337 ft., the lode being only a few inches wide.

Edward lode : Perch and Trout passes have been holed to No. 9 level. Stopping is in progress.

Welcome lode : Stopping is in progress between Tulip pass and Edward junction and between Daisy and Stock passes.

Martha lode, north section : The shrinkage block east and west of Bulls on No. 2 pass is within 24 ft. of No. 7 level, and drawing off the ore will soon be started.

Martha lode, south section : Driving on course of lode was carried out for 144 ft. during the year. Foster, Tiger, Bison, Deer, and Cow passes have been connected to No. 9 level.

Martha lode, Regina section : This has been driven on a total of 200 ft., the lode being very loose. Stopping was in progress, but was suspended owing to movement in the hanging-wall.

Martha foot-wall gangway has been driven from No. 6 shaft crosscut to 610 ft. west of same. A double line of tramways has been laid, and six horses are employed trucking ore on this line from Martha and Empire stopes to No. 6 shaft hoppers.

No. 7 Level.—Royal lode : The eastern end of this level has been extended from 865 ft. to 1,028 ft. east of north section junction. The shrinkage block between Gnat and Toad passes was emptied of its ore, and is now being filled in with mullock.

Shafts.—No. 2 shaft : Two chambers have been excavated at No. 9 level, and the pillar of ground under No. 8 level has been removed.

No. 4 shaft : The west compartment has been sunk a further $14\frac{1}{2}$ ft., having also been enlarged to 8 ft. 1 in. by 6 ft., making the total length of the shaft $16\frac{1}{2}$ ft. by 6 ft. wide below No. 9 level.

No. 5 shaft : This shaft was sunk from 32 ft. to $152\frac{3}{4}$ ft. below No. 9 level, making a total of 1,156 ft. from the surface. No. 10 level chamber has been excavated, also a cistern for the B and C pumps. The C pump draw-lift was built in from No. 10 level to No. 9 level, and the B pump plunger is being erected from No. 10 to No. 9 levels.

No. 6 shaft : This shaft has been sunk to a total of 1,023 ft. from the surface ; $25\frac{1}{2}$ ft. was sunk during the year. A quartz hopper 9 ft. by 8 ft. by 140 ft. has been excavated from No. 9 to No. 8 levels.

Approximately 252,428 short tons of material have been obtained from the cuttings on the surface and from deadwork crosscuts underground for filling in the depleted stoping-areas. There are nine filling passes from 600 ft. to 851 ft. in depth.

The total quantity of water raised during the year was 556,731,024 gallons, of which the B pump raised 24,698,624 gallons, and the C pump 532,032,400 gallons. From the 1st October to the end of the year the water was raised from the 1,150 ft. level.

The total quantity of ore crushed during the year amounted to 442,020 tons (dry weight, of 2,000 lb. per ton), exceeding the total of the previous year by 25,207 tons. The ore was obtained in the following proportions from the reefs worked during the year : Martha, 226,442 tons ; Empire, 63,165 tons ; Royal, 51,860 tons ; Welcome, 46,501 tons ; Edward, 45,601 tons ; Regina, 5,841 tons ; Princess, 1,198 tons ; H lode, 613 tons ; Victoria, 423 tons ; Alexandra, 360 tons ; No. 2 reef, 16 tons : total, 442,020 tons.

The product was 1,192,094 oz. of bullion, exclusive of concentrates, scrapings, concentrates slag, slag tailings, Victoria mill scrapings, and copper-lead bullion. During the year 711,623 tons of concentrates were treated at the concentrates-treatment plant at Victoria mill, producing 332,841 oz. of bullion, valued at £160,775 4s.

Reduction-works.—The tonnages crushed at the three mills, together with the tonnages crushed during 1909, were as follows : Waihi mill (ninety stamps) and average of 3.74 tube mills full time—1909, 119,065 tons ; 1910, 119,619 tons. Victoria mill (200 stamps) and average of 8.17 tube mills full time—1909, 273,917 tons ; 1910, 290,655 tons. Union mill (forty stamps) and average of 1 tube mill full time—1909, 23,831 tons ; 1910, 31,746 tons : total—1909, 416,813 tons ; 1910, 442,020 tons. Increased tonnage for year, 25,207 tons.

The total average number of stamps running during the year, exclusive of Sundays and the Christmas holidays, was 294,908 out of 330 stamps. The total average duty per stamp per diem was 5.013, representing an increase of 0.521 ton per stamp compared with the previous year. The respective figures for the past five years are as follows : 1906, 3.504 (daily duty per stamp) ; 1907, 3.794 ; 1908, 4.167 ; 1909, 4.492 ; 1910, 5.013.

Waihi mill (ninety stamps and five tube mills—the fifth mill started in May) : A single-compartment wash-tank for No. 2 slimes was erected in ferro-concrete, and the vacuum-filtration frames increased, so as to handle 50 per cent. more slimes. Four ferro-concrete agitator-vats, 13 ft. in diameter by 55 ft. high, have been erected to cope with the increased slimes. Two electric motors, 250 and 100 horse-power respectively, to utilize power from the mine electric generating-station, have been installed. The 250-horse-power motor is for driving the tube mills, replacing the steam-engine formerly used, and resulting in considerable economy. The 100-horse-power motor was installed at the slimes-treatment plant. An additional tube mill, making five in all, was installed, and commenced running in May. A second Davey pump, formerly used for pumping water for general mill-work, was installed to pump slimes to the tall agitators. An air-compressor, made at Victoria mill workshops, was installed to supply air to the slimes agitator-vats. The total rainfall for 1910 amounted to 101.07 in., being 16.02 in. above the average of the previous ten years.

Victoria mill (200 stamps and eleven tube mills—the eleventh started in August) : Twelve more concrete-bottom agitator-vats, 60 ft. high by 13 ft. diameter, placed on a concrete foundation over the tail-race, are being erected. Retaining-walls of concrete were built to support the tail-race embankments. The electric cranes in the slimes-treatment plant have been fitted with magnetic brakes, resulting in fewer stoppages in the plant. The heavy flood on the 29th March caused a total stoppage of this mill for thirty-six hours, the flood-water rising to a height of from 2 ft. to 5 ft. in the machine-shops, gas plant, offices, &c., causing damage to machinery, and carrying away a considerable quantity of coke, coal, and timber from the yards. The main boilers have been fitted with steam blowers for improving the combustion of slack coal. A Heclon breaker and an elevator have been added to the stone-breaker section. The Government railway-line has been extended to allow for extra storage of coal direct from the Government trucks. Producer-gas and tube-mill plant : The 250-horse-power tandem gas-engine was started in February, and is a decided improvement on the opposed cylinder type. Considerable economy has been effected by the use of a proportion of slack coal in the producers.

Union mill (forty stamps and one tube mill) : With the exception of a bucket-elevator to lift the slimes-pulp from the disintegrator to the agitators, there have been no additions to this mill.

Air-samples.—Samples of the mine-air were taken in the warmest working-faces in this mine with the following results : No. 10 level—Temperature, 80° dry, 79° wet (Fahr.) ; carbon-dioxide, 0.28 per cent. ; oxygen, 20.83 per cent. No. 9 level, Reptile crosscut, off Royal lode—Temperature, 85° dry, 84° wet (Fahr.) ; carbon-dioxide, 0.37 per cent. ; oxygen, 20.30 per cent.

Waihi Grand Junction Gold Company (Limited) (W. McConachie, Mine-manager).

The following is a short report of the operations carried on during the year:—

Waihi West Claims.—No work has been done this year on these leases, as it is the intention to thoroughly develop the Junction Block and get it on a paying basis first.

Grand Junction Mine.—A summary of development-work carried out during 1910 is as follows: Main and intermediate drives on lodes, 5,588½ ft.; crosscutting lodes, 1,614½ ft.; rises on lodes and through country, 921½ ft.; winzes, 568 ft.; driving and crosscutting through country, 4,355½ ft.; shaft-sinking, 44½ ft.: total, 13,092½ ft.

Main shaft.—A centrifugal electric pump was installed at No. 5 level, to take water from sinking-pump and lift to Cornish pump. Owing to a breakdown of No. 2 generator, and cutting heavy water in the shaft, work was delayed; total depth of shaft is now 1,020 ft. At the bottom a lode 8 ft. wide, assaying 19s. 9d., was met with.

No. 5 Level (944 ft.).—North crosscut was advanced 519½ ft.; total length now 848 ft. At 470 ft. No. 2 lode was cut, the lode being narrow and low grade. At 630 ft. another lode, 7 ft. in width and carrying no values, was intersected. A new lode (Mary) was cut at 827 ft.

Martha lode, west: The main drive was continued 8 ft., making a total of 388 ft. The values are mostly low.

Martha lode, east: The main drive was advanced 895 ft., or a total of 1,136 ft. The ore is low grade, and averages 45 ft. in width.

No. 2 lode: The east drive was advanced 865 ft., and holed into Extended property. The lode is irregular and ill-defined.

Mary lode: The crosscut at 336 ft. west from Martha lode intersected this lode 14 ft. wide at 80 ft. north of Martha. The lode was driven on 720 ft. to north-east boundary, and will give a large tonnage of payable ore. No. 2 rise has been connected with the No. 2 winze, and No. 5 rise has been advanced to 70 ft. above the level.

No. 4 (Empire) lode: The west drive was advanced 116 ft. to Waihi Company's boundary, making a total length of 424 ft. of payable ore. Stopping is now in progress here. Nos. 3 and 4 rises have been holed to the winzes.

East drive, on No. 4 lode, was advanced 540 ft., making a total of 991 ft. At 866 ft. the lode faulted, but was picked up again at 900 ft. At this point the reef is narrow, but carries good values.

Crosscut at 980 ft. east: This was driven 575 ft., to pick up Royal lode east of fault, and several low-grade bodies of ore have been cut. These are probably connected with the Royal lode, and some driving has been done on them, but work was suspended to improve the ventilation by crosscutting to the Extended workings. Seven winzes, varying in depth from 11 ft. to 22 ft., have been sunk in good ore on the Empire at this level.

South-east crosscut: This was advanced 389 ft., making a total of 1,394 ft., but nothing of value was met with.

No. 6 (Royal) lode: The west drive was advanced 361 ft., making a total of 467 ft. Crosscuts at 310 ft. showed 16 ft. of ore; at 400 ft., 15 ft. of ore; and at 460 ft., 21 ft. of ore. The east drive advanced 632 ft., or a total of 738 ft., at which point the reef faulted. Crosscuts showed the width of reef as follows: At 160 ft. east, 27½ ft. wide; at 270 ft. east, 15 ft. wide; at 350 ft. east, 13 ft. wide; at 420 ft. east, 13 ft. wide; at 510 ft. east, 36 ft. wide; at 600 ft. east, 15 ft. wide; at 690 ft. east, 54 ft. wide. Nos. 7, 8, 9, 10, and 11 rises have been put up varying distances, and show that country with values is dipping going east.

George lode: This is a branch of Royal lode, at 190 ft. east, and was driven on for 260 ft. in payable ore.

The Central lode, another branch of the Royal lode, was driven on 66 ft., but carried no values.

No. 4 Level.—No. 6 (Royal) lode: The drive east was put in 576 ft. in country to locate winzes to ventilate No. 5 level.

Crosscut to Mary lode, at 170 ft. west on Martha: This was put in 158 ft., and the Mary lode intersected, 12 ft. wide, at 142 ft. The lode was driven on 196½ ft., in payable ore. At 135 ft. crosscut east lode is 16½ ft. wide.

No. 2 lode: Stopping is in progress above the intermediate drive, which was put in from No. 4 winze for 230½ ft.

No. 3 Level.—Martha lode, crosscut to Mary lode: This was started at 144 ft. west of north crosscut, and advanced 179 ft. The Mary was cut, at 156 ft., and proved to be 14½ ft. in width, of payable ore.

Main south-east crosscut was advanced 695½ ft., making a total of 983½ ft.

No. 2 Level.—The crosscut at end of old north crosscut was put in 60 ft., to find the Mary lode at this level.

Air-samples.—Samples of air taken in this mine in the warmest working-faces gave the following results: Drive east on Royal lode, No. 5 level—Temperature, 87° dry, 81° wet (Fahr.); carbon-dioxide, 0.10 per cent.; oxygen, 20.96 per cent. Drive east on Mary lode, No. 4 level—Temperature, 83° dry, 82° wet (Fahr.); carbon-dioxide, 0.17 per cent.; oxygen, 20.40 per cent.

Total ore sent to mill: 60,717 tons from stopping; 25,351 tons from development-works: total, 86,068 tons.

The total amount of ore broken and in shrinkage blocks is 18,032 tons.

The ore mined came from the following lodes: Martha, 15,238 tons; Empire, 26,613 tons; Royal, 8,136 tons; No. 2 lode, 10,730 tons; developments, 25,351 tons: total, 86,068 tons.

Additions to mine-equipment and mills: An Ingersoll Rand A₂ compressor (steam-driven) was installed to assist the electrically driven air-compressor. A Sirocco fan, with a capacity of 40,000 cubic feet of air per minute, was installed at No. 2 shaft, to improve the mine-ventilation; also several

small electrically-driven fans to ventilate dead ends. A new magazine for explosives, in compliance with the Explosives Act, was erected in brick and concrete. A capstan steam and air winch, capable of hauling 20 tons, was installed at main shaft to handle pump gear. A second electric locomotive was put into commission for handling filling for mine. Two new tube mills and tailings-wheels, with necessary gear, &c., were added to the milling plant, thus increasing its capacity to a probable 400 tons per day. Two modern tilting furnaces, for melting bullion, were added to the smelt-house equipment. Two coal-bunkers, capable of storing 500 tons of coal under water, have just been completed. During the year 1,160-horse power (electricity) and 150-horse power (steam) has been in constant use.

Comparison of costs for mining and milling for 1909 and 1910 : Tons crushed (2,000 lb. dry weight) —1909, 59,147 ; 1910, 84,313. Value, per ton—1909, £1 19s. 5d. ; 1910, £1 15s. 10d. Extraction—Gold, 1909, 88.9 per cent. : 1910, 89.0 per cent. ; silver, 1909, 70.1 per cent. : 1910, 73.9 per cent. ; value, 1909, 85.2 per cent. : 1910, 87.5 per cent. Final tails, per ton—1909, 5s. 9d. ; 1910, 4s. 8d. Cost of mining, per ton—1909, 12s. 6d. ; 1910, 7s. 7d. Cost of milling, per ton—1909, 8s. 3d. ; 1910, 6s. 3d. General expenses, per ton—1909, 2s. 1d. ; 1910, 1s. 5d.

Waihi Extended Gold-mining Company (Limited) (F. Stewart, Mine-manager).

The development-work in this mine for the past year has been confined to opening up the No. 5 level at 960 ft. from the surface and sinking the shaft to open out at the No. 6 level.

No. 5 Level.—No. 1 lode : This has been driven on east and west of main crosscut for 250 ft., exposing a strong body of low-grade ore. The main crosscut has been extended a further 350 ft. beyond No. 1 lode, or a total distance from the shaft of 750 ft., but no further ore-bodies were met with.

No. 2 drive has been advanced to the boundary and a connection made with the Grand Junction workings, thus improving the ventilation.

Shaft-sinking is being carried out, and a further 45 ft. must be sunk before opening out at No. 6 level at 1,100 ft. from the surface, when development of the lodes will be pushed on with.

Waihi Reefs Consolidated (Limited) (W. Morrison, Mine-manager).

The 200-horse-power Tandem pumping-engine and the Rand Ingersoll air-compressor were erected in the early part of the year ; also a ferro-concrete tank of 18,000 gallons capacity, to supply the condenser. The engine is in position for driving other pumping machinery if necessary. The shaft was bailed by tanks ; and a new Evans sinking-pump, capable of pumping 9,900 gallons of water per hour from 600 ft., was installed at 400 ft. down the shaft. The surface drainage is arrested here by a cistern, and pumped direct to the surface. This water was about 8,000 gallons per hour at first, and is now reduced to 4,000 gallons per hour. The surface swamps were drained, which reduced the water. Sinking was started on the 17th September, and 160 ft. was sunk, making a total of 700 ft. from the surface. The shaft, which was 11 ft. by 6 ft., has been lengthened from where sinking was resumed to 13 ft. 8 in. by 6 ft., and 12 in. by 12 in. timbers used.

Pride of Waihi Gold-mining Company (F. Stewart, mine-manager).

Two men were employed by this company working in the Waihi Extended Mine from the 2nd to the 17th May. For the balance of the year the mine has been under protection.

Waihi-Paeroa Gold-extraction Company (R. W. Aitken, Manager).

The average number of men employed during the year by this company was thirty, and 7,100 tons of tailings have been treated. On the 31st March the Ohinemuri River, owing to exceptionally heavy rainfall, rose 20 ft., and washed the tailings from the bed of the river. The company therefore decided to remove their plant to a site near Paeroa. Extensive alterations have been made, so that the new plant will be double the capacity of the old plant, it being equipped with every modern convenience necessary for the operations.

Waihi Beach Gold-mining Company (J. Caisley, Mine-manager).

The 355 ft. level was extended 32 ft. north during January, making the total length of this drive 861 ft. A reef striking east and west was intersected near the face of the drive, but owing to the water encountered from this reef, operations from the main shaft were discontinued at the end of January. An adit level on the same reef above sea-level was commenced on the shore, and continued 187 ft. westward.

Romulus Syndicate (G. M. Stocking, Attorney).

This syndicate have hired a Government diamond drill, and are now testing the country east of the Consolidated property by means of a series of inclined boreholes ; but the rocks hitherto penetrated are not favourable for inclined diamond drilling.

Waitekohe Syndicate (S. Middlebrook, Manager).

Since 1906 prospecting-work with two men has been continuously carried out on this property. The main drive has been driven a distance of 630 ft. through hard country. A small vein containing pockets which give high assay values has been proved, but it is very irregular and difficult to follow.

OWHAROA.

Rising Sun Mine (T. Goldsworthy, Mine-manager).

Seven men have been employed in this mine extending the low-level tunnel, which is now in 1,400 ft. A contract has been let to drive a further 200 ft. It will be necessary to drive a distance of over 2,000 ft. north before the reef may be intersected.

Veritas Claim.

A total of 1,424 ft. of driving has been done on this claim, which is owned and worked by James Liddell. Several reefs were intersected, and one was driven on for 70 ft., the ore being considered of fair value by the owners.

WAITEKAURI.

New Waitekauri Gold-mining Company (B. Gwilliam, Mine-manager).

Two men have been constantly employed during the year stoping out a block of ore between the Queen and Horn levels, also putting in a prospecting-drive 120 ft., but no value was found in the drive. The battery has been employed at a public crushing whenever required. Considerable damage was done to the water-race by slips, but this has been repaired. During the year 83 tons of ore were treated for a return of £186 3s. 8d.

Maoriland Gold-mining Company (W. Christie, Mine-manager).

On the Young New Zealand reef, at No. 3 level, a winze has been sunk 74 ft. in ore assaying from 17s. to £11 per ton. An intermediate level has been driven 43 ft. from the bottom of this winze, exposing payable ore 12 ft. in width, and stoping is in operation. The low-level drive has been retimbered in places for 400 ft., and a crosscut west has been driven 360 ft., and a drive north from this crosscut 123 ft., to a point under the winze sunk from No. 3 level. A rise was put up from this 57 ft., and holed to winze. An average of thirteen men were employed during the year, and 644 tons of ore treated, for a return of £1,377 18s. 1d.

Jubilee Mine (F. J. Hollis, Mine-manager).

Five men have been employed in this mine, and a total of 140 ft. of rising and 200 ft. of driving has been done, without, however, proving any ore of value. Two tons of ore were sold for shipment to England for £97, and 2 tons were treated by tributers for a return of £27 3s. 7d.

Scotia Mine (P. Grace, Mine-manager).

In this mine 156 ft. were crosscut to intersect the No. 1 lode, and 143 ft. driven on lode, which averaged 20 in. in width. A rise was put up 43 ft. to surface drive, and this block is now available for stoping. A new reef was intersected in the crosscut, and proved by 75 ft. of driving. The lode averages 18 in. in width.

Golden Cross Mine (F. J. Butcher, Mine-manager).

A level has been driven 527 ft., and an old level has been retimbered for 300 ft. The prospects of this mine appear encouraging. A site for a ten-head battery has been excavated, and half a mile of tramway has been laid. A water-race 5 chains in length has been constructed. Eight men were employed.

Prospectors.

Four men are engaged prospecting in this district, two in Diamond Gully and two midway between Waitekauri and Karangahake, but so far they have not discovered payable ore. The prospects are encouraging.

KARANGAHAKE.

Talisman Consolidated (Limited) (J. Rickard, Mine-manager).

The principal developments in this mine have been carried out on the Nos. 13 and 12 levels during the year.

No. 13 Level (550 ft. below Waitewheta drainage level).—The south drive is now 1,530 ft. south of shaft, and is being extended further, with a view of intersecting the Dubbo shoot. The development for the year at this point has proved another ore-shoot 300 ft. in length, varying in thickness from 3 ft. to 9 ft., and carrying good value. A rise on this ore-body has been put up 140 ft., the whole length showing good value. At 140 ft. the rise is connected with a winze sunk from No. 12 level improving the ventilation in the southern section very much.

The No. 4 crosscut has reached a point 290 ft. west of main reef without intersecting any further ore. Nos. 5 and 6 winzes, sunk 80 ft., proved the continuation of the ore as obtained at the starting-point. Nos. 12 and 13 winzes have also been sunk in payable ore.

Owing to a fire which destroyed the Woodstock air-compressors in September, all work below No. 13 level was necessarily suspended; but it is expected that the winzes will be unwatered early in 1911.

The north drive is now 685 ft. north of shaft. The reef varies in width from 18 in. to 5 ft., and the value for the whole of the distance is low. From the north drive a rise is being put up to connect with the Woodstock No. 6 level.

No. 12 Level.—The No. 8 crosscut west from face of main north drive is now 413 ft. in. At 240 ft. a vein was found where Shepherd's reef was expected, if the dip of the upper levels was continuous. The vein is from 3 ft. to 4 ft. wide, being filled with country rock, clay, calcite, and iron-pyrites. The value contained is low. It is proposed to drive north and south on this vein during the next year. At 400 ft. in Corne's reef was intersected, 3 ft. in width, and carrying low value. This reef was driven on north and south, but no improvement in width or value was shown.

New Plant.—Three tube mills, two vacuum filter-vats, and two B. and M. agitating-tanks have been installed and employed. At the Woodstock shaft chamber a new winding-engine, capstan engine, and a large pumping-engine have been laid down, and will soon be available for use. Two Babcock and Wilcox boilers, with mechanical stokers, to work at 160 lb. pressure, are now being installed.

During 1911 it is intended to push the south drive at No. 13 level out into the Dubbo section, and to sink the Talisman and Woodstock shafts to No. 14 level. A new Ingersoll-Sergeant air-compressor, with a capacity of 3,700 cubic feet of free air per minute, will be installed early in 1911.

Since the beginning of 1911 a connection has been made between No. 13 level and the Woodstock shaft, and the new winding-engine is now available for hauling men from the No. 13 level.

New Zealand Crown Mines (Limited) (G. N. McGruer, Mine-manager).

Development was retarded owing to the new electric plant not being completed until April, 1910.

Welcome Reef.—No. 2 winze has been sunk from No. 5 level to a depth of 86 ft. The lower half of the winze was in faulted country, and was abandoned owing to an influx of water.

No. 6 Level (south of No. 1 winze).—This level was started at a depth of 120 ft. below No. 5 level, and a total distance of 374 ft. was driven on the course of the reef, to test the lode at that depth. A distance of 120 ft. has yet to be driven to reach a point under the winze sunk from No. 5 level. It is expected that as this level advances it will drain the winze, and allow sinking to be resumed. The ore so far exposed is low grade.

Crown Reef (formerly New reef).—A distance of 158 ft. was driven north from the Waitewheta level in low-grade ore, but showing signs of improvement as the drive advanced. Another 100 ft. must be driven to get under the place where good gold was found by prospectors on the surface-workings. Developments have been started near the south end of the workings on this reef at No. 3 level, and it is expected that this will lead to a considerable augmentation of milling-ore supplies within the next few months.

Milling Plant.—At the beginning of the year electric power was installed at the mill. The result has been highly successful, and a distinct saving in cost has been effected. The mill engine (steam) has been put out of commission, and will be reserved for use in case of emergency.

During May the old company was wound up and a new company, having the same name, was formed to provide further capital to open and develop the mine at greater depth. In October Mr. F. R. W. Daw (general manager) resigned, and was succeeded by Mr. John McCombie, formerly of the Talisman Mine.

Dominion Mine (H. J. Hyde, Mine-manager).

The eastern low level at this mine was continued 200 ft., making a total of 287 ft. in promising country. It is expected that this crosscut will intersect five lodes, varying from 3 ft. to 30 ft. in width, with several hundred feet of backs. The western lode has been driven and sunk on, and proved to be about 20 ft. in width, 7 ft. of which is payable. A low level is being driven to cut the reef at a point 630 ft. south. The level is now in 126 ft., and the reef should be intersected at about 160 ft. further, according to survey. Six men have been employed.

Comstock United Mine (A. Kell, Mine-manager).

Work in this mine was confined to testing a large reef at the low level and prospecting the surface. Although a considerable amount of driving was done, nothing payable was discovered, and, the funds becoming exhausted, application was made for protection, which was granted.

Crown Royal Mine (H. Goldsworthy, Mine-manager).

This claim adjoins the Talisman and Crown properties. A considerable amount of prospecting was done during the year by six men on several lodes, without disclosing anything of value.

Karangahake Mine (H. James, Mine-manager).

Work has also been of a prospecting character, and chiefly confined to driving the Tukanu low level and sinking upon a small leader showing free gold on the surface.

Silver Hill Mine (T. Casey, Mine-manager).

Two men have been employed driving a low level. Very hard country was encountered, and, the capital becoming exhausted, work was suspended.

KOMATA.

Komata Reefs Gold-mining Company (Limited) (J. Benney, Mine-manager).

A considerable amount of driving has been done on the Nos. 4, 5, 6, and 7 levels (the latter level being 800 ft. below the surface), but with the exception of No. 5 level, nothing of importance has been found. The stopes on No. 1 reef produced 1,056 tons of ore and on No. 2 reef 9,824 tons, making a total of 10,880 tons for the year. At the battery, crushing has been limited to one shift per day. The extraction was 96.4 per cent., and bullion to the value of £20,576 9s. 6d. was obtained. Seventy-five men were employed.

MAROTOTO.*Silver Stream Mine* (T. Corbett, Mine-manager).

Work has been confined to driving a low level for the purpose of intersecting the Silver Stream reef. A total distance of 600 ft. has been driven through hard country, and another 150 ft. should cut this lode.

Telluride Proprietary (J. Williams, Mine-manager).

This claim consists of 548 acres. A considerable amount of prospecting-work has been done during the year on three sections of the claim—namely, Gordon, Volunteer, and Excellent. An average of seventeen men was employed.

Walkers' Marototo.

This claim was recently taken up by a syndicate and two men engaged to repair and test the lodes in the old levels. Fair prospects were obtained, and gold valued at £4 7s. secured from dish-washings.

TE AROHA.*Murphy's Find Syndicate.*

This mine has been under protection during the year, owing to litigation over adjoining claims.

Hardy's Mines (Limited) (W. Greening, Mine-manager).

This property has also been practically held under protection during the year, and the little work done was entirely confined to prospecting the old workings and on the surface. This company has recently gone into liquidation, and the property has been purchased by a Napier syndicate, who, I am informed, intend to thoroughly exploit it.

Bendigo Mine (T. Gavin, Mine-manager).

An average of four men has been employed at this mine during the year, principally driving and getting ready for stoping on the Silver King lode, which averages 8 ft. in width. About 1,000 tons of ore have been broken out and stacked at the mouth of the level. A ten-head stamp battery has been erected, and as soon as tramway connection with the mine has been effected crushing operations will be commenced.

Westralia Mine (J. Tallentire, Mine-manager).

This claim is held by a syndicate, who have done a considerable amount of prospecting on three levels, with, so I understand, satisfactory results. A trial crushing of 15 tons proved to be worth £30 5s. 11d.

COROMANDEL.*Four-in-Hand Gold-mining Company* (T. Radford, Mine-manager).

The principal operations have consisted of the connection of the upper workings with the low level. A considerable amount of prospecting and development has been done, but the results so far have not turned out as well as anticipated. The battery has been removed from its original site and re-erected in the Waikoromiko Creek, where water for motive power can be obtained. The construction of the water-race is almost completed. From 90 lb. of picked stone treated a return of £176 14s. 6d. was obtained.

Prospectors.

Six men have been engaged prospecting at Waikoromiko during the year, and have treated 1 ton 11 cwt. of stone, for a return of £59 3s. 6d.

Royal Oak Mine (G. McNeil, Mine-manager).

The work in this mine during the period under review has mainly consisted of surface prospecting in well-known gold-bearing localities, but with little or no success. Work at present in progress is sinking a winze on Tokatea reef at No. 7 or lowest level, immediately under a run of gold worked overhead.

Pride of Tokatea Gold-mining Company (A. J. Prescott, Mine-manager).

In the early part of the year work was confined to the western part of this mine. The results, however, proved so unsatisfactory that it was decided to remove the men and try the Harbour View section, with the result that a lode was intersected showing gold freely. Five tons of general ore and 280 lb. picked stone treated produced gold valued at £250 14s. 3d.

West Tokatea Mine (J. Chapman, Mine-manager).

This claim adjoins the above mine, and although a fair amount of prospecting was done, nothing of a favourable character was discovered.

Exalt Mine.

This claim is owned and worked by J. D. Regan, but the lodes are small, and the country is of such a hard nature that it proves unprofitable.

Tokatea Claim.

This is being worked by Kelso and Crawford, who are receiving Government aid to put in a low level for the purpose of intersecting lodes worked in the upper levels with payable results.

Monte Christo Mine (F. Jones, Mine-manager).

A fair amount of development has been done during the year on several well-known reefs, with very little success. A low-level crosscut is now in progress to intersect the Swedish Crown lode, which was a noted gold-producer in the upper levels. Five men have been employed.

Mount Welcome Mine (J. W. Barker, Mine-manager).

The main drive on the Mount Welcome reef has been extended 223 ft., and is being continued for the purpose of intersecting its junction with the Blue Peter reef. The prospects met with on the Mount Welcome lode are of a most encouraging character, as gold has been freely seen for the whole of the distance driven.

Kapanga Mine (S. Carlyon, Mine-manager).

Work in this mine has been confined to unwatering the shaft, and the water at the end of the year had been reduced to 650 ft. Bailing-tanks have been put on to lift it below this level. It is fully expected that the 1,000 ft. level will shortly be drained, as the bailing-tanks are working satisfactorily. The tributers crushed 150 tons of ore, for a return of £239 12s.

Scotty's Claim.

This is owned and worked by McNeil Brothers. During the winter the surface drive collapsed, and they are now engaged putting in a low level. Twenty-three tons of general ore and 6½ lb. picked stone from the top level yielded gold valued at £85 10s.

Old Hauraki Gold-mining Company (H. F. Shepherd, Mine-manager).

During the year work has been principally directed towards developing and mining the new reef met with in the latter portion of last year (1909). At the 400 ft. level this reef has been driven upon for 340 ft., at the 300 ft. level 230 ft., and on the 220 ft. level 170 ft.. Stopping is in progress on these three levels, with payable results. Gold to the value of £13,057 13s. 1d. has been won during the year. An average of thirty-one men has been employed.

Hauraki Reefs (Limited) (S. G. Baker, Mine-manager).

This was originally the Hauraki Freehold, and was formed into a new company at the beginning of the year. Pumping was resumed at the Welcome Find shaft, and when No. 1 level was reached, the Golconda reef was driven upon, with encouraging results. Thirty-nine tons of ore and 120 lb. of picked stone yielded £845 7s. 9d. A contract has been let to drive from the Old Hauraki shaft in order to drain the low level (400 ft.) of this mine, to enable these reefs to be tested at a greater depth.

Golden Pah Mine (E. F. Reynolds, Mine-manager).

Work has been confined to repairing and cleaning up the 80 ft. level from the Union Beach shaft. A little gold was found, but so far nothing payable has been discovered.

Langford's Syndicate.

This claim includes the foreshore of Coromandel Harbour. The results from a series of boreholes put down proved so encouraging that this syndicate decided to buy a dredge, which is now in transit, and will, I understand, commence operations immediately on arrival.

Hauraki East Mine.

A small parcel of ore treated from this claim produced gold to the value of £18, two men being employed.

Union Hauraki Gold-mining Company (A. Jamieson, Mine-manager).

This claim, which adjoins the Old Hauraki, was formed into a company in the early part of the year. The Zealandia shaft has been sunk to a depth of 220 ft., and driving for Legge's reef has been commenced. A winding-engine, head gear, and sinking-pump have been installed.

Bremner's Freehold (J. Bremner, Mine-manager).

This claim is situated on Tiernan's Freehold. At the beginning of the year it was worked by a syndicate. Work was commenced at No. 1 level, and after driving a distance of 24 ft. a lode varying in width from 1 ft. to 6 in. was intersected. Some very rich specimen stone was obtained, and as the gold appeared to be descending, a winze was commenced and sunk for 12 ft., the lode still showing gold freely. The winze could not be continued further, on account of having too much water to contend with. It was then decided to raise further capital and put in a low level, which is now in progress. Gold valued at £2,238 8s. 4d. was obtained from 19 cwt. 3 qr. 18 lb. of stone.

Lucky Hit Syndicate.

This claim is situated at Natawai, and two men are engaged putting in a low level to intersect a lode in which gold was freely seen in a winze sunk from the level above, which winze could not be continued on account of water.

C.X.I. Mine (G. Lindsay, Mine-manager).

Four men are engaged prospecting the surface of this property, which adjoins the Lucky Hit.

KUAOTUNU.

Handsworth United Gold-mining Company (J. Carroll, Mine-manager).

A fair amount of development has been done in this mine during the year. The principal work was driving on the main reef on the Irene section, and connecting the east and west sides of the hill by means of a drive. A distance of 200 ft. has also been driven in the Otama level. It is proposed to connect with the Handsworth crosscut. This will facilitate the handling of the ore, and supply good ventilation. Gold worth £1,877 6s. 7d. was obtained during the year.

New Waitaia Gold-mining Company (R. Inglis, Mine-manager).

Outside of several small blocks being worked in the upper levels, the principal work during the year has been the extension of the main low-level crosscut, which has been advanced 750 ft., making a total distance of 1,028 ft. Another 90 ft. of driving should intersect the reef, giving 150 ft. vertical height, and should open up an extensive block of payable ore, as gold occurs for 1000 ft. in the level above.

Mountain King Gold-mining Company (H. Hornibrook, Mine-manager).

Work has been confined to rising on and stoping a block of ground above the low level. The reef varies from 1 ft. to 4 ft. in thickness, and for 100 ft. in length contains good value. A contract has now been let to open up another block of ground on the Waitaia level, which will give 100 ft. of backs, and prove a considerable area of virgin country. Gold worth £5,358 15s. 10d. has been obtained during the year.

Missouri Mine (J. Hayes, Mine-manager).

This company's operations have been confined to testing the Red Mercury reef by driving, rising, and stoping. Fair value is said to be obtained, and 80 tons of ore are stacked awaiting treatment.

Mountain Queen Mine (J. Hayes, Mine-manager).

Four men have been employed at this mine, and a fair amount of prospecting-work carried out; unfortunately nothing payable has been found.

MERCURY BAY.

Moewai Gold-mining Company (R. Port, Mine-manager).

Four men were employed trying different sections of this mine, but, the results not proving satisfactory, work was suspended.

Whawhau Mine (H. Eyre, Mine-manager).

This claim is situated on the coast between Mercury Bay and Kuaotunu. Several small veins showing gold freely were being worked at the time of my visit. An eight-head stamp mill, driven by steam-engine, was in course of erection, but funds becoming exhausted operations were curtailed. Only two men are employed.

MATAMATAHARAKEKE.

Mills' Reward (J. Davis, Mine-manager).

Work in this mine is still in progress, and good dish prospects can be obtained from the lodes being worked. Two tons of ore yielded gold worth £9.

GREAT BARRIER ISLAND.

Barrier Reefs Gold-mining Company (J. G. Vivian, Mine-manager).

Four men have been employed in this mine, but the work done has not proved anything of value. A crosscut is being driven north from the battery level to prospect that section of the property.

Ngatiawa Mine (R. Adams, Mine-manager).

Operations at this mine have been confined to the Sunbeam section, and a considerable amount of driving has been done. The results, however, proved so unsatisfactory that it was decided to cease operations.

MACKYTOWN.

Ascot Cinnabar Claim.

An average of six men has been employed, and 70 tons of ore were treated at the Novak furnace for 1,200 lb. mercury, worth £128. The furnace has not come up to anticipations, as there is still a considerable loss of mercury, which evaporates. The deposit occurs in pockets in the cliffs for about half a mile in length, and, although a considerable amount of development has been done during the year, the results have so far been unsatisfactory.

ACCIDENTS AND FATALITIES.

FATAL.

Waihi Gold-mining Company (Limited).

10/3/10: F. Whyte and J. O'Malley, killed by falling down the pumping-compartment of No. 4 shaft, 165 ft.

14/8/10: George Henesy, killed, being caught in one of the driving-shafts at the company's Victoria mill.

- 3/10/10 : Charles Cavanagh, died from the results of injuries received by falling a distance of 25 ft. down No. 6 shaft, on the 8th October, 1909.
 14/10/10 : Matthew Berryman, killed by falling out of cage in No. 2 shaft.
 11/11/10 : J. C. Chapman, killed, being caught in the machinery at the Waihi mill.

NON-FATAL.

Waihi Extended Gold-mining Company.

28/2/10 : James Berryman, badly cut by blasting accident.

Waihi Gold-mining Company (Limited).

- 7/3/10 : H. Hartley, leg broken in a collision between two of the company's engines, which convey the quartz to the Waikino mill.
 10/5/10 : J. Walker, leg broken in the opencut by a stone rolling down the rill during stoping.
 7/7/10 : A. Lucas, received severe injuries to his back through cage dropping hard on the bottom at No. 5 shaft.
 14/7/10 : A. Dyart and E. Thompson, badly burned about the face and hands whilst opening a drum of sulphuric acid.
 23/8/10 : J. Proban, skull fractured by being struck with the rim of a driving-pulley whilst oiling the bearing.
 8/10/10 : T. Marks had both legs badly bruised by being caught between two coal-trucks at Waikino mill.
 12/10/10 : D. Currie had two fingers cut off by circular saw at Waikino mill.

Talisman Gold-mining Company (Limited).

- 2/4/10 : J. Gribble, eyes severely injured by explosion of detonators at No. 12 level of this mine.
 22/8/10 : J. McIntyre, skull fractured by stone rolling down a rise between No. 11 and No. 12 levels.
 15/9/10 : F. McClymont, leg broken during fire at the Talisman air-compressing plant.

Waihi Grand Junction Gold Company (Limited).

- 3/11/10 : J. Brown had his leg broken by a truck of mullock being tipped on top of him whilst he was in a pass.

I have, &c.,

MATTHEW PAUL,

Inspector of Mines.

Mr. BOYD BENNIE, Inspector of Mines, Thames, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,—

Inspector of Mines' Office, Thames, 24th March, 1911.

I have the honour to present my report on the gold-mining industry in the Thames district for the year ended the 31st December, 1910.

May Queen Mine (W. Baker, mine-manager).—No. 6 level : Several small leaders striking into the hanging-wall country of No. 4 reef have been stoped out. An intermediate level was driven on one of the small leaders for a distance of 80 ft., and specimen stone was frequently secured. A winze is now being sunk on the leader. No. 9 level (747 ft.) : Stoping has been done over this level on No. 4 reef, but the results were disappointing ; also on the Queen of Beauty reef, but work had to be suspended owing to defective ventilation. No. 10 level (1,000 ft.) : Three crosscuts are in progress—the main crosscut, which is being driven to cut the Queen of Beauty reef ; the south-west crosscut ; and the north-east crosscut. The main crosscut is now 258 ft. in length. It was noticed that a break in the ground had occurred, evidently displacing the lode, and the south-west crosscut was started to pick it up again. It has been driven 100 ft., and has passed through several small highly mineralized quartz veins. The north-east crosscut is being driven from the main crosscut to intersect the quartz lode that was met with in the 1,000 ft. chamber. A good class of country has been disclosed for the 164 ft. driven. A well-defined lode (5 in. wide) was met with in the reserve, about 20 ft. from the company's ground. The deep-levels crosscut is now 40 ft. into the May Queen ground. During the year the company treated 1,690 tons of quartz and 230 lb. of specimen stone for a yield of 1,124 oz. of bullion, valued at £3,165 4s. 9d. Twenty-nine men were employed.

Thames-Hauraki Pump (W. Baker, mine-manager).—During the year the machinery, with the exception of the drawlift-levers, ran remarkably well. However, the levers have caused a deal of anxiety, and, in spite of constant attention, several mishaps have occurred. The pump-rods, which used to be troublesome, have, since the adoption of the new coupling, given no further trouble. By effecting numerous improvements in the buckets and pump-valves the pitman has succeeded in reducing the water-speed of the engines from 11·5 revolutions to 7 revolutions per minute. The average number of strokes per minute was 2. The safe speed is 4·5 strokes per minute. Alterations have also been carried out in connection with the ladderway and platforms in the shaft.

Thames Deep Levels Mining Board.—The Board has installed a Roots blower in the pump-yard close to the winding-engine room. Nine-inch air-pipes have been carried down the shaft into the face of the deep-levels tunnel. By this means adequate ventilation is produced. The deep-levels crosscut has made very tardy progress, only about 200 ft. being driven.

Saxon Mine (G. Warne, mine-manager).—The main shaft has been enlarged and retimbered to a depth of 354 ft. The water-level and the presence of CO₂ prevented repairs from being continued

down further. When the water has been drained off by the deep-levels crosscut, sinking operations will be undertaken.

Victoria Mine (C. Williams, mine-manager).—No. 1 level (88 ft.): Stopping has been done on a small quartz vein, with good results. A limited amount of prospecting was also done. No. 2 (143 ft.) level: Work consisted of crosscutting and driving on the reef. No. 3 level (243 ft.): The new reef, varying in width from 9 in. to 20 in., has been prospected, with encouraging results. No. 4 level (332 ft.): CO₂ has hindered operations in this level. The rise on No. 1 reef did not disclose anything of an important character. Seventy-one loads of ore and 105 lb. of specimen yielded 203 oz. 18 dwt., valued at £574 17s. 10d. Seven men were employed. Mine in good order.

Waiotahi Mine (G. Warne, mine-manager).—Mary Ann No. 2 level: The eastern crosscut has been extended for a total distance of 500 ft. from the shaft. There is yet no sign of the reef, although the crosscut has been advanced some distance beyond the point where it should have been located. No. 4 level: In the eastern end of the mine the stopes on the hanging-wall leader have been carried up for a height of 60 ft. At this point the quartz died out. Two rises were then put up from the back of the stopes; but as no quartz was found, work in this section was stopped. On the main reef, a fourth rise has been put up on the underlie of the reef 85 ft. The main reef here, as in the case of the hanging-wall leader, appears to die out. Some stopping was done on the main reef at this point, but it did not prove remunerative. Below this level the hanging-wall leader has also been stopped out down to its junction with the main reef. No. 5 level: The principal work at this level has been the stopping of a block on the Cure reef, which is now exhausted. No. 6 level: Stopping has been done on the foot-wall dropper above this level. The sinking of the main shaft to the 1,000 ft. level is being undertaken. During the year the company treated 1,972 tons of ore and 22 lb. of specimen stone for a yield of 3,737 oz. 16 dwt., valued at £7,752 4s. 7d. Twenty-seven men were employed. The mine was examined several times, and found to be in good order.

Moanataiari Mine (R. Ross, mine-manager).—Mining operations have been confined to prospecting the Canadian reef at No. 4 level. An intermediate level was driven from the rise on the reef at the Waiotahi boundary until it junctioned with another level. Nothing of an important character was revealed. A winze was then sunk on a small leader in the hanging-wall of the Cambria reef, but the results were likewise disappointing. The company was granted protection at the latter end of the year to enable it to conserve its funds for deep-level development. Ten men were employed. The mine was examined during the year.

Kuranui-Caledonian Mine (G. Horn, mine-manager).—Graham's level: A considerable amount of work was done on Graham's leader, but nothing of a payable character was met with. Moanataiari Tunnel: The All Nations leader was prospected during the year. The leader varies in width from 4 in. to 8 in., and shows some mineralized stone in places. A small block of stone was stoped out, and sinking done, but the work was found unprofitable. A leader on the south side of the Moanataiari Tunnel yielded a few pounds of specimen stone. On the 15th October the company was granted protection for a period of twelve months, subject to the mine being thrown open to tributers down to No. 4 level. Two parties of tributers availed themselves of the opportunity. During the year sixteen loads of quartz was treated, for a return of £84 ls. 7d. Five men were employed.

Thames Mine (J. Sheehan, mine-manager).—The chief work for the year consisted of driving seawards on the Cambrian reef, and driving and rising on the Cross reef. A distance of 300 ft. has been driven on the Cambrian reef, but no values have been met with. The ventilation proving very troublesome, air-boxes (10 in. by 12 in.) were carried from the main airway to the face, a distance of 1,800 ft. Although the condition of the ventilation has been improved thereby, it is still below the requirements of the Act. On the Cross reef 150 ft. was driven, and a rise is now being put up. The prospects are fairly bright. During the year six men were employed. The mine was in good order when inspected.

Reliance Mine (G. Comer, mine-manager).—The company is working from the Moanataiari Tunnel. A short crosscut having intersected the Reuben Parr reef, the reef was driven on from both sides of the crosscut. The reef is encased in hard, blue rock. The values were disappointing. The mine was examined during the year: the workings were in good order, but the ventilation was poor. Two men were employed.

Point Russell Mine (W. H. Kennerley).—In the early part of the year some work was done in the adit level. Latterly attention has been given to fossicking in old abandoned drives. But no success has been met with. Twenty loads of material were treated for a return value of £17. Eight men were employed.

Alburnia Mine (H. Kendall, mine-manager).—Prospecting-work has been done on the Sons of Freedom reef without result. A reef was located in the low level, and has been driven on a distance of 100 ft. The condition of the mine-ventilation is poor. Six men were employed.

Kuranui Mine (E. Turnbull, mine-manager).—Prospecting has been done on the following reefs: Blyth's reef (crosscutting, rising, &c.), 592 ft.; Shotover reef (crosscutting, rising, &c.), 714 ft.; Hartley reef (crosscutting, rising, &c.), 70 ft.; Waitangi reef (crosscutting, rising, &c.), 491 ft. The mine was examined during the year, and found to be in good order. Thirteen tons of ore was treated, for a return value of £27 17s. 2d. Five men were employed.

Waitangi Mine (W. J. Adams, mine-manager).—Mining operations have been confined chiefly to prospecting and driving the Beach low level (which is being undertaken by the Waitangi Consolidated and Bonanza Companies). No. 3 level, western section: The prospecting-drive on the break going west of the winze was driven a further distance of 400 ft., making a total distance of 425 ft. This drive was put in for the purpose of cutting a reef which was showing on the surface; but, unfortunately, the reef was not found underground. A crosscut was put in at a point 40 ft. from the end of this drive, in a southerly direction, for a distance of 25 ft. Beach level, Tararu: This level was started about the

middle of February, and is now in a distance of 1,179 ft. So far only a few stringers have been cut. A tramway has been constructed from the tunnel to the foreshore, a distance of 350 ft. Also a small up-to-date plant installed for driving rock-drills, &c. An air-compressor and a ventilation-fan are also provided. Seventy-two tons of ore was treated, and yielded gold to the value of £252 5s. 3d. Twelve men were employed.

Watchman Mine (H. A. Hill, mine-manager).—The low level was driven an additional 225 ft. In the No. 1 rise on the Windfall reef an intermediate level was started, and has been driven 58 ft. The Charter level was cleaned up and a crosscut driven for some distance, when the Windfall reef was intersected. The crosscut was continued into the foot-wall. A rise will be made to cut into a reef some 200 ft. higher up. The City of Dunedin reef is also being driven on, and good results are being obtained. From 74½ tons of ore treated, a return value of £233 11s. 8d. was obtained. Seven men were employed.

Bonanza Mine (R. Wilson, mine-manager).—The company is assisting the Waitangi Company to drive the Beach level, which will run through the Bonanza property into the Waitangi ground. Good progress is being made with the driving, and the class of country passed through is favourable. The reef will be prospected when the drive has entered the Waitangi Claim. Three men were employed.

New Day Dawn and Norfolk Mines (W. J. McCormick, mine-manager).—The City of Dunedin reef has been driven on from the battery low level a further distance of 287 ft. The ore-body is 8 ft. wide, but the ore is low grade. The main drive will be advanced a certain distance, and a rise will then be put up to connect with an upper level. A connection has also been effected with the Dunedin level. During the year 190 tons of ore was treated, and yielded £290 19s. Eight men were employed.

Dixon's Mine (A. Wilson, mine-manager).—A winze was sunk on what is believed to be a branch of the Windfall reef, and the reef driven on some distance; but the ore proving low grade, work was discontinued in this quarter. The No. 2 level was driven on the Windfall reef about 200 ft. No. 1 level was driven also to cut the Windfall reef at a point 100 ft. above No. 2 level. The reef will be driven a certain distance, and a winze then sunk to connect with the bottom rise. Six men were employed. The mine was examined during the year, and found to be in good order.

New Sylvia Mine (E. A. Daldy, mine-manager).—The main crosscut was driven through the reef into the foot-wall, and a winze commenced, but a heavy inflow of water caused operations in this direction to be temporarily suspended. The winze is being sunk to test the ore-values at a greater depth. The company have decided to drive a new low level to cut the reef at a distance of 1,100 ft. At about the end of the year 450 ft. had been driven. The company is erecting a special mill to treat its refractory ore. The plant will include five 1,080 lb. stamps, one tube mill, six B. and M. tanks, one vacuum filter-press, one stone-breaker, cyanide-tanks, &c. During the year 627 tons 16 cwt. of ore was treated, for a return value of £2,940. Twenty men were employed. The mine was examined and found to be in good order.

Ajax Mine.—Work consists of prospecting, but has not been carried on extensively. Four men were employed.

Scandinavian Mine (W. McConnell, mine-manager).—The company spent a deal of capital on the testing of its lodes, but the ore was found unprofitable to work, and the mine was closed down. The reefs are large and well-defined mineralized bodies, and may yet be worth while prospecting. Four men were employed.

Temple Bar Mine (W. C. Kelly, mine-manager).—A considerable amount of prospecting-work was done on a quartz leader (12 in. wide), but it proved unpayable, and the company wound up its affairs.

Tararua Mines (J. Jobe, mine-manager).—At the Eclipse low level a crosscut was extended 216 ft., when the Vulcan reef was intersected, and driven on a distance of 134 ft. Six men were employed. The mine was examined during the year, and found to be in good order.

Monowai Mines (W. Hollis, mine-manager).—Mine-developments were well advanced during the year. The company have gone to considerable expense in renovating the milling plant, installing a cyanide plant, erecting a suction-gas plant, reconstructing the water-race, and laying down a ground tram-line. The treatment of 100 tons of ore gave a return value of £455. Twenty men were employed.

Zeehan Consolidated (L. E. Autridge, mine-manager).—Operations have been confined to development-work on the No. 5 reef. In the upper level the reef has been driven on 200 ft., and quartz of an apparently payable character has been disclosed. From this level a winze has been sunk rather more than 80 ft., and specimen stone secured. A low level has been driven a distance of 540 ft. The intention is to develop two other reefs known to exist in the property. Water-rights and a battery-site have been secured close to the mine. During the year 15 tons 19 cwt. 3 qr. of ore was treated, and gold worth £176 7s. 10d. obtained therefrom. Seven men were employed. The mine was examined during the year, and found to be in good order.

Crown and Golden Crown Mines (S. T. Williams, mine-manager).—Three levels were driven for a total length of 412 ft., and several lodes and small quartz leaders met with. The results were satisfactory, and the company have now decided to erect a milling plant. The mill will be modelled on up-to-date methods, and driven by water-power. The company mined 6 tons of material, which was treated for a return value of £15 16s. Twelve men were employed.

Portia Mine (W. Moorecraft, mine-manager).—This claim has been taken up by a syndicate, who, after cleaning out and repairing an old drive, have commenced driving on a lode which has given good results. Driving is also being done on another lode previously worked from the surface. A crushing plant will be erected at an early date. Two men were employed. Two tons of quartz and 65 lb. of specimen stone gave a return of £192 9s. 6d.

Agnes Mine (D. Sheridan, mine-manager and owner).—The owner did a little work on the claim during the year, but failed to make any important discovery.

Waipukapuka Mine (W. H. Kennerley, mine-manager).—The company carried out a limited amount of prospecting, but have not yet located a gold-bearing reef. Two men were employed.

Kapowai Mine (R. Tierney, mine-manager).—At No. 2 level a winze was sunk to a depth of 27 ft., and a connection established with the low level. From the winze a level was driven a distance of 85 ft., payable ore being met with. At No. 2 level 35 ft. was driven, and a winze sunk to a depth of 10 ft. Fifty tons of ore was treated, and returned £147 13s. 7d. Four men were employed.

Nonpareil Mine (A. W. Sawyer, manager and owner).—A very rich leader was located, which yielded 15 tons of ore and 70 lb. of specimen stone, valued at £215 11s. 6d. Three men were employed.

Ballarat Mine (M. Britt, manager and owner).—Only a limited amount of work was done during the year, but the owner secured some rich ore, which gave a return value of £410. Two men were employed.

Caledonia Extended Mine (J. W. O'Sullivan, mine-manager).—The company did some prospecting-work early in the year, without meeting with any success, and subsequently applied for protection, in order to raise more capital. Three men were employed.

Golden Drop Mine (G. Fisher, manager and owner).—A rise has been put up on the Candlelight reef, and a level driven a distance of 20 ft. No. 1 dropper: A winze was sunk 30 ft., and a reef driven on 30 ft. From 3 cwt. of quartz treated, 16 pounds' worth of gold was obtained.

Shortland Flats Mine (T. H. Crawford, mine-manager).—No work was done in the mine during the year. From time to time the company applied for protection, in order to raise more capital for development-work.

Good Hope Mine (C. A. Taylor, mine-manager).—Early in the year a crosscut was driven to intersect the Oddfellows reef, but after driving 200 ft. without success, the company suspended work in this level. The main drive was then extended 152 ft. (east) on the course of the O'Sullivan reef, and the leading stope carried along a distance of 80 ft. Twenty-two loads of material yielded gold to the value of £120 10s. 6d. Six men were employed.

New Magnet Mine (W. James, mine-manager).—Operations were carried on at Nos. 1 and 2 levels. At No. 1 level a winze was sunk 68 ft. to connect with the main rise from No. 2 level for ventilation purposes. On the main reef and hanging-wall, which varies in width from 6 in. to 15 in., 160 ft. of rising and stoping has been done. Four men were employed.

Wakatere Mine (A. Christie, mine-manager).—Several old drives have been opened up, and the reefs driven on some distance without meeting with encouraging prospects. Three men were employed.

Halcyon Mine (E. C. Keven, mine-manager).—At the low level the reef was cut into and driven on 138 ft. east and 68 ft. west. At a point 50 ft. east of the crosscut a short rise was put up and the ore-body prospected. Nine loads gave a return of £63 19s. 3d.

G. A. Dougall's Claims.—The claims have been under protection during the year, consequently no work of any kind has been done upon them. A new company, called the Karaka Mines (Limited), has just been registered in London, for the purpose of taking over and working the claims. The company has a nominal capital of £175,000. It is expected that it will be in a position to commence operations at the mines about the middle of the year.

Occidental Mine (T. Gillan, mine-manager).—At No. 4 low level a winze was sunk 80 ft. At a depth of 50 ft. a chamber was made and a strong body of quartz driven on westward, but with disappointing results. At 80 ft. a level was run out to intersect the Loyalty reef, which was met with after a distance of 200 ft. had been driven. The drive will be continued on this reef to test its values. The Loyalty and Occidental reefs should be found to junction a little distance ahead. Mine drainage and ventilation have caused some trouble in the past; but an oil-engine and a small fan have been installed at the mine to overcome these difficulties. The mine was examined several times during the year, and found to be in good order. Six men were employed.

Dart Extended (D. Dunlop, manager and owner).—As the result of energetic prospecting, the owner secured 20 tons of ore, which when treated returned £215 17s. 11d. Two men were employed.

Summer Hill Claim (A. Geraty, owner and manager).—During the year the owner mined 1 ton of ore and 417 lb. specimen, which gave a return value of £185 2s. 7d.

Adventure Claim (C. E. Prescott, owner and manager).—A small quartz leader was driven on from an adit level, and about 5 tons of ore was secured and yielded gold to the value of £72 5s. 4d.

Lord Nelson Mine (J. Middleton, manager).—A limited amount of work was done on the claim during the year. Fifty tons of ore and 300 lb. specimen stone gave a return of £846 15s. 3d. Four men were employed.

Otanui Mascotte Claim (R. Otto, mine-manager).—Operations have been confined to the shaft low level. The main crosscut has been advanced. The No. 1 reef is expected to be met with in another 30 ft. of driving. Three men were employed. The mine was examined, and everything except the ventilation, which was dull, gave satisfaction.

Champion Mines (E. Cartwright, mine-manager).—Operations were confined to the Champion North section, where a new, well-defined reef was located. Thirty tons of ore was treated, for a return value of £134 3s. 9d. Four men were employed.

Kirikiri Mines (J. P. Williams, manager).—At the low level the Horse-shoe reef has been driven on a distance of 514 ft. When another 81 ft. has been driven a rise will be put up to connect with a winze from a higher level. A prospecting-drive has been driven 140 ft., and general prospecting-work done on the surface. Six men were employed. The mine was examined, and found to be in good order.

Golden Belt Mine (A. A. Adams, mine-manager).—At the low level the reef has been driven on some distance. The ore-body is from 6 ft. to 8 ft. wide, and occasional colours of gold have been seen. It is the manager's intention to sink a winze on a run of payable ore that has been met with; and the reef will be risen through to connect with one of the upper levels. In the Bluffs section the ore proved

unprofitable to work, likewise in the Consolation section. The treatment of 160 tons of ore yielded gold to the value of £678 17s. 11d. Nine men were employed.

Tairua Monarch Claim (C. H. Hansen, mine-manager).—The low level has been driven a total distance of 712 ft. The level was in 520 ft. when a reef formation 12 ft. wide was cut and driven on a distance of 260 ft. The ore proving unpayable to work, operations were suspended. In the Triumph section, No. 2 level was extended a further length of 50 ft., and No. 3 reef intersected and driven on 160 ft. The formation is 3 ft. 6 in. wide, and preparations are being made for stoping. A winze has been sunk to the Smithy No. 1 level, whereby ore will be sent to the milling plant. No. 1 Smithy level was advanced 323 ft., when No. 3 reef was cut into and driven on 261 ft. A new milling and cyanide plant has been erected, and crushing will commence at an early date. Twelve men were employed.

Golden Hills Mine (J. H. Evans, mine-manager).—Nos. 1 and 2 levels cut into a well-defined ore-body, which was driven on from both sides of the crosscut. No. 3 low level was then driven 1,020 ft. to intersect the reef. Nos. 1 and 2 levels are connected by a rise on the reef, and everything is ready for stoping out the lode. When the low level intersects the reef, a rise will be put up to connect with No. 2 level. The company has erected an up-to-date crushing plant close to the mine. The reduction plant was started early in the year, but through some defect in the suction-gas plant, the mill and mine were stopped until the necessary alterations were made. The 650 tons of ore treated gave a return value of £252 14s. 6d. Twenty-five men were employed. The mine was inspected during the year, and found to be in good order.

Tairua Mines (W. Goldsworthy, mine-manager).—It having been decided to test the various reefs at greater depths, a chamber was cut underground, and winding machinery installed, and a vertical, three-compartment shaft was sunk to a depth of 135 ft. below the floor of the main adit level. Crosscuts have been driven east and west. On the eastern side of the shaft the Night reef was cut and driven on 140 ft., and south about 60 ft. A rise was put up south of the crosscut and holed to a winze sunk from the adit level. This work is being continued, together with unwatering the old workings to the north of the main shaft. When this has been accomplished, the reefs to the east and west will be developed. Eighteen men were employed. The mine was examined during the year, and found to be in good order.

Gem of the Boom Claim (E. Quinn, mine-manager).—A low level was commenced on the hillside, and driven some 800 ft. at the time of my visit. Owing to the defective state of the ventilation, I instructed the manager to withdraw the men immediately, and make some provision for adequate ventilation. There yet remains 200 ft. or 300 ft. to be driven before the reef is reached. Six men were employed.

Tairua Leeds Mine (E. Cartwright, mine-manager).—A level was driven 700 ft. to cut a reef that was outcropping on the surface, but the prospects were very discouraging, and the mine was closed down.

Tairua Reefs Mine.—An adit level was driven 800 ft. without any payable ore being met with. The prospects did not warrant the further expenditure of money, and the company closed down the mine.

Luck-at-Last Claim (A. A. Adams, mine-manager).—The company is driving a low level with the view of intersecting a reef which was worked with good results by a former company at higher levels. Five men were employed.

Phoenix and Dreadnought Mines (J. A. Gordon, mine-manager).—Several outcrops were prospected during the year. A shaft has been sunk 100 ft. and several drives were made on the reef. A parcel of 13 tons of ore was treated, and yielded £73 1s. 10d. Eight men were employed.

West Coast Claim (J. Northy, owner and manager).—A limited amount of work was done on the claim.

Claremont Claim (G. Briant, owner and manager).—Very little work has been done. The owner secured some very rich stone, which gave a return value of £607 15s. 8d.

Thames Foreshore Dredging Works (H. H. Adams, supervisor).—Work has been carried on continuously during the year. Gravel and sands are elevated by the dredge and sent to the Moanataiari battery, where they are treated by cyanide. £1,195 1s. was obtained from 7,622 tons of material treated. Seven men were employed.

MINERALS OTHER THAN GOLD.

Nothing has been done on the copper and antimony fields. Two men in the Puhipuhi district did a little prospecting for cinnabar, but no discovery was made.

I have, &c.,

B. BENNIE,

Inspector of Mines.

Mr. A. WHITLEY, Inspector of Mines, Reefton, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,—

Inspector of Mines' Office, Reefton, 31st March, 1911.

I have the honour to present my report on the gold-mining industry in the Marlborough and Nelson Provincial Districts for the year ended 31st December, 1910.

QUARTZ-MINING.

BLENHEIM.

Wairau Valley Gold-mining Company (Limited).—The extension of the low-level tunnel in the Lord Hopetoun section was the only work carried on during the year. The total distance driven amounts to about 800 ft.

Tasman's Choice.—Two men were employed driving a crosscut from the surface to intersect a reef at a depth of 80 ft. below the upper workings.

Dominion Consolidated.—This mine is situated in the Wakamarina district, and comprises the old Golden Bar, Empire City, Federation, and Great Yorkshire Claims. Messrs. Humphries Brothers, the owners, have erected a battery of twelve heads of stampers and four berdans to test the reefs in the property. Operations have been greatly retarded by scarcity of water for motive power. The 355 tons of quartz crushed yielded gold to the value of £93 15s. 4d. Eight men were employed.

COLLINGWOOD.

Golden Blocks, Taitapu.—The payable stone between No. 3 level and the surface having been exhausted, operations at the mine are being carried on with the view of testing the reef at lower levels. A large chamber was excavated in No. 3 level, and machinery for sinking purposes erected therein, comprising 28-horse-power oil-engine, Ingersoll Rand air-compressor, Tangye pump and winch. A shaft 11 ft. by 4 ft. in the clear of timber, and divided into three compartments, is being sunk to a depth of 60 ft. below No. 3 level, where it is proposed to open out for No. 4 level. Crushing has been suspended during the year. Ten men were employed.

WESTPORT.

Red Queen, Mokihinui.—Surface prospecting at this mine resulted in the discovery of a large reef, carrying fair values. Operations are being conducted towards developing this new reef. During the year 20 tons of quartz were treated, for a return of 29 oz. gold, valued at £114. Two men were employed.

Britannia Gold-mining Company (Limited).—During the year a small block of payable stone was opened up in the Early Bird section. The treatment of 55 tons resulted in a yield of 81 oz. 14 dwt 6 gr. gold, valued at £316 13s. 6d. As further prospecting failed to reveal anything of a payable nature, all work was suspended.

LYELL.

New Alpine Gold-mining Company (Limited).—In the early part of the year a crosscut was driven from No. 7 level to prospect for the north block of stone, which was lost below No. 6 intermediate level. This work not proving successful, the mine and plant were sold to a private syndicate. Under the new ownership further development-work is to be carried on at levels Nos. 7 and 14.

F. and M. J. Harrison.—This party is engaged in prospecting a reef to the west of the old Tryconnel Claim. A subsidy of £37 10s. was granted towards the work. Seventy feet of driving has been done, with encouraging results.

Victory, New Creek.—Messrs. Harrison and party have reopened this old mine, and are conducting surface prospecting thereat. As a result of their operations, several blocks of stone have been located, which may prove payable under modern methods of treatment.

BOATMAN'S.

Just-in-Time Gold-mining Company (Limited).—This company has erected a winding plant, repaired the main shaft to the 400 ft. level, and cleaned out and repaired the east crosscut for a distance of 260 ft. from the shaft. The crosscut is to be extended to cut a reef, from which good returns were obtained at the surface levels by the old company. Five men were employed.

Welcome Gold-mining Company (Limited).—Boatman's low-level tunnel was cleaned out and repaired for a distance of 450 ft. from the surface. This was the only work undertaken by the company during the year.

Golden Arch.—Payne and party, tributers in this mine, treated 74 tons of ore, for a return of £244. The ore was obtained from the stopes over the low level.

Victoria Range Syndicate (late Kirwan's Reward).—A crosscut was driven to the west from Sawpit Gully, a distance of about 160 ft., without locating any reefs. Another drive has been started near the south-east boundary of the claim to prospect for Kirwan's reef. Two men were employed.

REEFTON.

Keep-it-Dark Quartz-mining Company (Limited).—Operations by this company during the year have been directed principally to repairs and development. It was found necessary to retimber the main shaft for over 300 ft., also to effect repairs to old levels amounting to 1,450 ft., so as to place the mine in good working-order. No. 7 level (1,073 ft.): At this level stoping was commenced in the south workings, but was abandoned after a short time, owing to the stone being of very low grade. A winze was sunk 60 ft. below the level on stone carrying good values. In the north workings the crosscut to the inside shaft was extended 191 ft., and driving and crosscutting totalling 723 ft. were carried on westerly and north-westerly therefrom, opening up two small blocks of stone, which proved unpayable. No. 4 level (624 ft.): A block of stone left some years ago was reopened. On stoping over the level it proved narrow and poor in quality. A winze was sunk on it below the level 60 ft., at which depth it was opened upon for a length of 100 ft., and varied in width from 8 ft. to 23 ft. of payable stone. At the battery 3,273 tons of quartz were treated, for a yield of 917 oz. 15 dwt. gold, valued at £3,024 14s. 2d. Average number of men employed, fifty.

Consolidated Goldfields of New Zealand (Limited), Wealth of Nations Mine.—A summary of the development-work at this mine shows that it has been carried out extensively at all levels from Nos. 6 to 11. The total footages amount to 798 ft. of rising and sinking, and 1,580 ft. of driving. The most important developments are as follow: No. 8 level (1,485 ft.): The main level north was advanced 140 ft. It passed through 20 ft. of good-grade quartz 2 ft. in width. A well-defined reef-track was exposed all the way. No. 9 level (1,611 ft.): The main level north was advanced 122 ft. on a well-defined reef-track containing stringers and boulders of quartz. Payable values existed for 76 ft. of the distance. The main level south was extended 167 ft., about half the distance being on payable stone. No. 10 level (1,736 ft.): The main level south was advanced 94 ft., almost entirely in payable ore. This ore was of excellent quality, and about 6 ft. in width. No. 11 level (1,861 ft.): The main level south was advanced 403 ft.; of this distance, 82 ft. was in quartz of low grade, tending to improve in southern extension. The main level north was extended 136 ft., encountering only small makes of very low-grade quartz. A crosscut to intersect the east reef was driven 94 ft. At the mill the slimes plant was stopped, treatment under existing circumstances being unprofitable. During the coming year it is proposed to install fifteen additional stampers, Wilfley tables, and further cyanide-treatment vats. At the main shaft a new compressor plant is to be installed, and provision made for additional steam-power. The treatment of 21,363 tons of ore resulted in a yield of 9,434 oz. 8 dwt. of gold, valued at £36,385 9s. 8d. One hundred and twenty-nine men were employed.

Consolidated Goldfields of New Zealand (Limited), Golden Fleece Mine.—The tributers (J. Oats and party) had a very successful year. No. 15 level was extended south, and a payable block of stone opened up. Stopping operations on this and the north block produced 2,796 tons of ore, which was treated for a return of 2,683 oz. 15 dwt. gold, worth £10,167 19s. 9d. Thirty-four men were employed.

Progress Mines of New Zealand (Limited).—During the year a considerable amount of work has been carried out, with the view of facilitating the handling of stone from the large ore-bodies, and thereby reducing the cost of mining; also towards providing an efficient system for ventilating the mine-workings. For ventilation purposes a 25 in. Sirocco fan was installed at A shaft in December, and its good effect is apparent. At No. 9 level (1,116 ft.) a rise 124 ft. in height has been completed on the hanging-wall of Callaghan's Block, which, when connected with No. 8 level, will effect a short circuit of the air-course by some 1,500 ft., thereby reducing the friction and increasing the efficiency of the ventilation. No. 10 level (1,266 ft.): The main south level was extended 325 ft., intercepting the head of No. 1 Pioneer rise at 273 ft. This level is to be continued to intercept the No. 2 Pioneer rise, and to prospect the country still further south. A short distance south of No. 1 Pioneer rise a drive was started from the level, and will be extended south-east, with the intention of searching for the Pioneer ore-body on this level, and eventually developing the upward continuation of the Wharf reef. No. 11 level (1,416 ft.): In the Pioneer section a rise has been put up from No. 6 bord, and connection made with No. 10 main south drive. This is one of a series of rises to be carried through, which, when completed, should thoroughly ventilate this section, and secure a good system for filling the stopes. A new intermediate level has been commenced in the foot-wall of the Pioneer Block from No. 6 bord, which it is intended shall serve as the main intermediate level for the northern portion of the block, while a southern extension of it will serve the Wharf reef. This level is to be connected with the Magazine crosscut at No. 11 level, to simplify and cheapen the handling of stone from the Pioneer Block. The Wharf reef was driven upon for 119 ft., disclosing payable stone 3 ft. in width. Prospecting for a continuation of the Pioneer ore-body, which is dislocated at No. 11 level by a strong east and west fault, is being carried out by a crosscut and rise in the country to the south of the fault. The total development for the year was 2,619 ft. of rising, sinking, and driving. The ore treated was 50,207 tons, yielding 18,816 oz. 18 dwt. gold, worth £71,352 4s. 10d. An engine and boiler were installed for the smelter. It is intended to renew a large portion of the cyanide plant, and replace the present compressor, which is worn out, by a larger and more efficient machine; also to erect a complete fitting-shop. Three hundred and fifty-three men were employed.

Bonanza.—Prospecting operations were carried on up to July by Mr. J. J. Rogers for an English syndicate that had secured an option over the mine from the owners. A crosscut was driven from the surface, intercepting a reef at a depth of 80 ft. below the surface. Drives were advanced north and south on the reef, and a winze sunk to a depth of 30 ft. from the north drive. The reef proved gold-bearing, but the prospects were not sufficiently encouraging to induce the syndicate to continue operations.

Bolitho Brothers.—This party is mining and crushing a seam of cemented quartz at Lankey's Creek, with payable results. Four men are employed.

Wellington Mines.—The low-level tunnel has been repaired preparatory to resuming the work of driving south on the reef-track.

Thornton and Party.—This party's claim is situated at Murray Creek, adjoining the Wealth of Nations Mine. A crosscut driven from the road-level intercepted a reef 3 ft. in width. This reef is being followed on its southerly trend to test its value.

Willis and Party.—This party is driving a tunnel to prospect the country to the north-west of the Consolidated Company's adit level, and at a lower level of 86 ft. Anderson's and other lines of reefs, which gave good results at higher levels, should be cut. A subsidy of £125 was granted towards the work.

Golden Point.—A main shaft, 10 ft. by 4 ft. clear of timbers, is being sunk to prospect the mine below creek-level. The owner intends to open out for No. 1 level at a depth of 150 ft.

New Big River Gold-mining Company (Limited).—During the year operations have been directed principally to opening up No. 10 level (1,575 ft.). The main crosscut was extended to a total distance of 580 ft. from the shaft, at which point a block of stone was cut. Since this stone was intercepted 316 ft. of driving has been done, 90 ft. of which has been on a reef varying from a few inches to 6 ft. in

width. A rise was put up 112 ft., and connection made with the branch-reef winze from No. 9 level. From this rise, at a height of 70 ft. above No. 10 level, an intermediate level has been driven on a reef varying in width from a few inches to 6 ft. A second rise has been commenced to connect with the intermediate level from the new eastern winze below No. 9 level. Ventilation for the main level and rises was produced by means of a fan installed in the chamber at the main shaft. The completion of the second rise will open up and ventilate the mine-workings. No. 9 level (1,375 ft.): The new eastern winze was sunk to a total depth of 112 ft., and an intermediate level driven therefrom for a distance of 70 ft. on a reef varying from a few inches to 4 ft. in width. The branch block of stone has been stoped to the floor of No. 8 level. The battery crushed 3,040 tons of quartz, for a return of 3,293 oz. 11 dwt. gold, valued at £13,343 7s. 4d. Sands treated at the cyanide plant yielded 918 oz. 4 dwt. gold, of the value of £2,285. Thirty-two tons of concentrates were sold for £446 13s. 7d. Forty-five men were employed.

North Big River.—W. Kirwan and party have vigorously prospected this claim during the year. A tunnel 150 ft. below the surface workings has been driven 530 ft., intercepting a reef-track carrying gold-bearing stone, which is being followed south to test it further.

Big River South Gold-mines (Limited).—A considerable amount of driving and sinking was done at the low level on a large reef-track. The prospects at times were very encouraging, but no continuous run of payable stone was opened up. Six men were employed.

St. George Gold-mining Company (Limited).—This company commenced operations early in the year. A low-level tunnel was started on the Snowy River fall, to give from 270 ft. to 500 ft. of backs on three known lines of reef. This tunnel was advanced 934 ft., the last 126 ft. having been driven on a gold-bearing reef-track. Ventilation of the workings is produced by an exhaust water-blast. Six men were employed.

BLACKWATER.

Blackwater Mines (Limited).—The following are the principal development-works carried out during the year: The tunnel from the battery level was connected up with the main shaft. In driving this level a considerable length of payable stone was opened up. The main shaft was sunk, and No. 4 level opened out at 615 ft. from the surface. This level was driven east from the shaft 65 ft., and proved the reef, which is being driven upon north and south from the crosscut. No. 2 level (307 ft.) was advanced into the Prohibition lease, and crosscuts put out east and west therefrom, but nothing of value was met. The surface crosscut in the Prohibition lease was extended 249 ft., making the total distance driven 1,174 ft. Prospecting-drives upon leaders at 560 ft. and 730 ft. failed to reveal any payable stone. The main shaft is being sunk to a further depth of 250 ft. Timbering and filling of stopes have been attended to. Good ventilation of the mine-workings was effected by connecting the low-level tunnel with the main shaft. At the mill a Tangye gas-engine of 130-horse power, together with gas-producing plant, was installed. Four Wilfley concentrators were also erected, and an incline tram 19 chains in length laid down between the mine and mill for the conveyance of stores. During the year 39,192 tons of ore were treated, for a yield of 23,369 oz. gold, valued at £91,331 4s. 8d. Two hundred and seventy-four men were employed.

McDonald and Party.—A small subsidy was granted to assist this party to prospect new country in the right-hand branch of Blackwater Creek. Driving to the extent of 292 ft. has been carried out, resulting in several reef-tracks and small leaders being opened up. From the latter good dish prospects were obtained.

PAPAROA.

Minerva.—A winze was sunk 40 ft. on a reef averaging 3 ft. in width. Satisfactory results were obtained, and a crosscut is being driven from creek-level to give 70 ft. of backs and further prospect the reef.

Mount Paparoa Syndicate (Taffy Mine).—Two prospecting-drives were made, 90 ft. and 50 ft. respectively, on a leader formation. In each of the drives broken country was met with, the gold-bearing leaders cutting out. Surface prospecting is being undertaken to try and pick up the leader formation at the back of the broken country. Two hundred tons of ore were treated during the year, for a return of 74 oz. 12 dwt. gold, valued at £296 16s. 5d. Six men were employed.

Garden Gully Gold-mining Company (Limited).—This company has commenced operations in the Croesus section of the property. A crosscut is being driven from No. 4 level (200 ft. below No. 3 level) to cut the Croesus reef, from which good returns were secured at the surface levels.

Blackball Prospecting Association.—A subsidy of £250 was granted to enable the association to prospect for reefs in the Paparoa Ranges. In the latter part of the year three parties were engaged in the work. Numerous reefs and leaders were located, but no discoveries of value were made.

HYDRAULIC SLUICING AND ELEVATING.

MARLBOROUGH.

Enchanted Creek.—The construction of a water-race a mile and a quarter in length, and the installation of hydraulic elevating plant by Larkin and party, have been vigorously carried on during the year. Further subsidies amounting to £100 were granted to assist the party in their operations.

COLLINGWOOD.

Quartz Ranges.—Sluicing operations have been resumed, under the management of Mr. Charles Lammas. Work is confined to the section known as Debtor's Terrace. Five men are employed.

Parapara Hydraulic Sluicing and Elevating Company.—A new paddock was opened out by this company during the year. This, although immediately adjoining the one previously worked, has not given such good results. Elevating the auriferous gravels is being carried on to a depth of 70 ft. Eleven men are employed. Gold won for the year amounted to 518 oz. 12 dwt. 18 gr., worth £1,990 6s. 8d.

Aorere Hydraulic Sluicing Company (Limited).—This company is working the ground formerly held by the Slate River Sluicing Company. Five men are employed, under the management of Mr. H. F. Logan. A tunnel tail-race 270 ft. in length has been driven. This will enable a back lead to be worked, and provide a good fall for tailings. The return of gold for five months' sluicing amounted to 151 oz. 5 dwt., valued at £586 2s. 6d.

MURCHISON.

Walker Maruia Gold-sluicing Company.—Sluicing operations have been conducted during the year by the tributers, M. Dwan and party. The heavy nature of the wash prevents the profitable working of this claim.

Horse Terrace Claim.—Richardson and party are continuing their ground-sluicing operations, with successful results, which are attained by the methods adopted for handling large quantities of material.

Matakitaki Hydraulic Sluicing Company (Limited).—This company was formed to work the old Mammoth Claim, in the Upper Matakitaki district. Twenty men have been employed during the year, under the management of Mr. C. S. Beilby. A water-race has been constructed from the claim to the Matakitaki River, a distance of about ten miles. The carrying-capacity of the race is equal to 30 heads, which are delivered on the claim at an elevation of 90 ft. above the bottom of the sluicing-face.

Rappahannock Valley.—Terril and party have been successful in locating and opening up a payable lead at an elevation of about 100 ft. above the level of the creek. Driving and blocking out is the working-method adopted. The wash carries payable gold over a width of 40 ft. Several parties are engaged in prospecting in this locality. The indications appeared favourable for the existence of a large area of payable auriferous country.

Buller River.—Several small parties are engaged in sluicing the river terraces, with varying results.

WESTPORT.

Kia Ora Gold-extraction Company.—A small crushing and cyaniding plant, comprising 10-horse-power oil-engine, disintegrating-machine, pump, and leaching and solution vats, was erected by this company at Bradshaw's Terrace to treat the auriferous cements of that locality. A trial of the plant did not give satisfactory results, and operations were suspended.

Waimangaroa River.—The Waimangaroa Miners' Prospecting Association's subsidized shaft bottomed on the reef at a depth of 35 ft. The wash passed through only contained a few colours of gold.

ADDISON'S.

Millikin and Party.—Six men find profitable employment mining and crushing auriferous cement.

Addison's Long Tunnel Gold-mining Company (Limited).—Widening of the lead in this company's ground has enabled work to be carried on at a profit. The depth of the sluicing-faces varies from 8 ft. to 12 ft. The yield of gold for the year amounted to 269 oz. 7 dwt. 3 gr., worth £1,063 11s.

McNeight and Party.—To provide fall for extending the workings this party is driving a tunnel tail-race on a level, 10 ft. below the old race. Six hundred feet of driving will be required to effect the desired object. Sluicing operations conducted during the year have shown highly payable results.

St. John's Terrace.—McCann and party, having repaired and deepened their tail-race, were enabled to work continuously and with a fair amount of success during the year.

Carmony and Party.—Sluicing and elevating are carried on continuously by this party. The depth of wash operated upon exceeds 30 ft. Eight men are employed.

Shamrock.—Operations are confined to driving the tunnel tail-race. Good ventilation of the workings is provided by shafts sunk from the surface at intervals of 1,000 ft. Four men are employed.

CHARLESTON.

Powell's Elevating Claim.—Large quantities of beach sands are turned over by this party. The methods adopted comprise hydraulic elevation and subsequent treatment over a wide stretch of amalgamating-tables. By these means the greater part of the gold, which is very fine, is saved, and profitable results obtained. Eight men are employed.

GREY VALLEY.

Lake Hochstetter Syndicate.—Efforts are being made by this syndicate to raise capital to construct a water-race from Lake Hochstetter to the head of Sullivan's Creek, a distance of about six miles. The race, if constructed, will command an extensive area of auriferous alluvial country, and should give an impetus to mining in the Ahaura district.

Bell Hill Syndicate.—This syndicate is operating on a face of wash approximately 100 ft. in height. Want of a good high-level water-supply greatly hinders the work on this claim.

Gow's Creek Sluicing Company.—This company is driving a tunnel tail-race through the spur between Gow's Creek and the left-hand branch of Nelson Creek to provide fall for working the bed of the former creek from free level. The length of the tunnel when completed will be 2,800 ft. Ventilation is provided by water-blast. The water is brought into the tunnel at a point 700 ft. in from

the entrance through a rise to the surface, 80 ft. in height. In addition to ventilating the tunnel it is also used for washing out the spoil. Nine men are employed.

General.—Alluvial mining in the Grey Valley at the present time is principally carried on by small parties of two or three men. These are steadily diminishing in number as the richer surface deposits become worked out. The day of the individual miner is gone, but there are still large areas of unworked gravels in parts of the district which are generally considered to contain values that warrant the expenditure of capital to bring on large supplies of water, by which means alone they can be profitably worked.

DREDGING.

Twelve dredges were in active operation in the Nelson district during the year, giving employment to 106 men, and producing gold to the value of £40,013. The New Mokoia dredge, Three Channel Flat, Buller River, ceased operations early in the year, and has been dismantled. Antonio's Flat dredge is also being dismantled, but will be erected at Frying-pan Flat, Cronadun.

OTHER MINERALS.

IRON.

Parapara Iron Lease.—Two tunnels have been commenced to test portions of the iron-deposit at depths of about 100 ft. below the outcrop. Sluicing surface clays and gravels is also being carried on.

Turnbull's Lease.—Operations conducted during the year comprised survey of outcrops, formation of tracks, clearing bush, and other work necessary for exposing and tracing the iron-deposit through the lease.

COPPER.

Copper Development Company, Aniseed Valley.—This company's works have been idle during the year.

Mount Radiant.—Practically nothing has yet been done to develop the copper-bearing lodes of this locality. I understand that efforts are being made to form a company to work the Anaconda lode.

ASBESTOS.

Auckland Asbestos Company, Mount Arthur.—Prospecting for this mineral was carried on during the early part of the year. The work comprised open cuttings and trenches on the numerous veins that occur in the locality.

ACCIDENTS AND FATALITIES.

QUARTZ-MINES.

Fatal.

Wealth of Nations Mine.—13/4/10: John Richards and Albert Johns, miners, were killed by a blasting accident.

4/6/10: Reginald Watts, bracedman, killed by falling down the Energetic shaft.

Non-fatal.

Wealth of Nations Mine.—28/1/10: W. Sarre, miner, lost his right eye through carelessly drilling on top of a charge.

30/3/10: H. Petersen, miner, leg broken by a fall of stone in stope.

Progress Mine.—5/7/10: David Leckie, labourer, lost his right arm by being caught in an elevator-belt at smelter.

3/8/10: Joseph Norton, miner, leg broken by fall of ground in rise.

ALLUVIAL MINES.

Fatal.

14/4/10: J. T. Monigatti, miner, was killed by a fall of ground while working on his claim at Caledonian Terrace, Westport.

DREDGES.

Fatal.

No Town Creek Dredge.—7/6/10: William Knox Glen, engine-driver, was drowned through swamping of boat.

Non-fatal.

Moonlight Creek Dredge.—17/2/10: John Lawson, blacksmith, lost an eye by a blow from a piece of steel.

I have, &c.,

A. WHITLEY,

Inspector of Mines.

Mr. A. H. RICHARDS, Inspector of Mines, Hokitika, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,—

Office of Inspector of Mines, Hokitika, 21st March, 1911.

I have the honour to present my report on the gold-mines of Westland for the year ended 31st December, 1910.

QUARTZ-MINING.

ROSS.

Messrs. Osmers and Party (four).—This party continued to obtain payable ore until August, when all above the adit level became exhausted. Before milling can be resumed development at lower levels must be carried out. During the year 97 tons were crushed, yielding gold to the value of £425 17s.

The only quartz-mining in this district other than the above is at Jones's Creek, where Mr. A. Aitken is driving a tunnel (assisted by a subsidy). The leader upon which the tunnel is being driven contains nice prospects of gold in parts. The whole of the formation is heavily mineralized.

WILBERFORCE.

Developments on the reefs in this district have been slow this year, owing to the lateness of the season, the want of roads, and the difficulty experienced in obtaining the necessary capital.

Messrs. Callaire and party have driven 84 ft. upon a very promising formation, which carries a nice sample of gold in places, and is well worth further development.

The King Gold-mining Company employed two men for some months on development. The reef shows payable value for the distance driven. As the company is now registered, greater activity in its operations is anticipated.

Wilson's Reward Syndicate, during the favourable weather, employed three men cleaning out the drive put in by Hindman and party, also sampling the various outcrops, with, I believe, satisfactory results. Capital for more active development is much needed.

POERUA.

During the past year William Meats and party prospected in this district, discovering some reefs, which are now being developed.

Poerua Gold-mining Company (W. J. LeCren, secretary).—Prior to driving, the company did sufficient prospecting on the outcrops to satisfy themselves as to the value of their property. They have since erected a smithy and explosives-magazine, and have driven 100 ft. on the line of reef. All quartz is stacked for mill treatment. Mr. Sidney Fry, mine-manager, informs me that all arrangements for the erection of a five-stamp mill have been made to permit of treatment as development proceeds.

Eight other prospecting-areas have been taken up in this district. These are now being prospected, with an average of two men on each area.

WHITCOMBE.

The prospectors in this district—viz., Messrs. Singer and North (subsidized)—had numerous samples assayed, which averaged in value £5 6s. 4d. per ton. Where cut at a lower level, the reef, although carrying payable value, is very much broken. At present there are only two men prospecting. The locality is so isolated that men do not care to proceed there.

DREDGE MINING.

Three-mile Dredge (owner, W. J. Mclroy; master and engineer, Mr. E. Brown).—The regulations have received strict attention. The yield of gold for the year was £1,633 6s. 10d.

North Beach Dredge (owner, Joseph Taylor; master and engineer, S. Chapman).—The regulations have been observed. This year's production amounted in value to £2,565 13s. 6d. The water-supply has not been sufficient for saving fine gold. It has been ascertained here that a higher proportion of fine gold is saved with clear than with muddy water.

Stafford Dredge (C. E. Richards, secretary; George Wilson, master and engineer).—This company have had a profitable year, their dredge yielding gold to the value of £3,738 7s. 6d. The mining regulations have been observed.

Success Dredge.—This new dredge is now almost ready to start operations in Brennan's Creek. It will be one of the most powerful and up-to-date dredges on the West Coast, having the following dimensions: Length, 96 ft. 6 in.; beam, 30 ft.; depth, 6½ ft. to 7½ ft.; gantry, 20ft. high; top tumbler, 21½ ft.; shoot, 63 ft.; dredge-engine, 25 nominal horse-power; pumping-engine, 12 nominal horse-power; boiler, 43 horse-power.

ALLUVIAL MINING.

WAIKUPUKUA DISTRICT.

Gibbs and Friend, with two men, continue sluicing on their area at Omerua. Operations are confined to development, and are considered satisfactory. Good work is being done with the limited capital available.

Peter Hende, the holder of a 5-acre claim at an altitude of 3,500 ft., is not able to work more than six months in the year, having only one man to assist him. The extreme cost of conveying all supplies to the claim proves a very great drawback, especially when the capital available is limited. A few prospecting-areas are held in this district on which no work has been done; therefore the provisions of the Mining Act, 1908, section 73, have not been carried out.

CALLIRI GORGE.

Occasionally when the seasons are favourable a few miners work in this gorge, and invariably obtain fine specimens of gold with quartz. The largest piece I inspected contained in gold 13 dwt. To carry out prospecting operations more systematically, a party should not consist of less than

three men, one being employed to pack provisions, &c. As the present track is being improved, it is intended to form a strong party to proceed to the gorge during the coming winter, if the weather is at all favourable.

FIVE-MILE BEACH.

The Dominion Gold-mining Company.—This company have so far employed on an average two men clearing tracks and the pipe-line. They propose to raise the level of Lake Alpine by means of a small dam, and lay a pipe-line to the Five-mile Beach, and there install an hydraulic-sluicing plant. Arrangements have been made to transport to this claim from Waiho portion of the hydraulic-sluicing plant of the defunct Waiho Company, which has been purchased by the Dominion Company.

OKARITO DISTRICT.

Three prospecting-areas are held on the Okarito River (or North Beach). No work has so far been done thereon, but the proprietor informed me that he proposed to form a company to carry on active mining operations at an early date.

FORKS (SOUTH WESTLAND).

With the exception of a few aged men, this once promising gold-producing locality is practically deserted. These fossickers, however, manage to win a few pennyweights each year.

ROSS DISTRICT.

McLeod's Terrace.—After a long cessation of work, some shareholders in the old company decided to give this property another trial. With that object in view W. R. Ramsey (of Wanganui) took charge, and, aided by four men, repaired the races and tunnels, and prepared another face upon which to start hydraulic sluicing. Unfortunately, when everything was in readiness for sluicing, the water-supply gave out.

Lucky and party, Redman's Creek, have sunk their shaft and erected a substantial elevating plant on the water-balance principle.

A promising alluvial deposit at Clear Creek has been developed by John Smith. This claim is supplied with an abundance of water for sluicing purposes, and should pay well. During the dry season the owner is improving his dams for the conservation of water in the wet seasons.

Mont d'Or Gold-mining Company.—The new tail-race, which has been under construction for some time past, is now completed. The first washing was very satisfactory, yielding 340 oz. gold for three weeks' operations. The payable nature of the gravels has since been further proved by a yield of 144 oz. for five days' water. The tunnel connecting the water-race and claim subsided during the year, causing considerable delay and expense. At the beginning of the year a new pipe-line was commenced on the Greenland side of the claim. When this is completed good returns should be obtained, if the rainfall is normal. (The rainfall recorded during 1910 was 156 in.)

The water-races are maintained in good order, at an expenditure of about £550 per annum.

Ross Goldfields (Limited).—The cost of development has exceeded the capital available, hence the necessity of the liquidation of this company. During the brief period the mine was worked it was fully proved that the power generated at Kanieri Forks was ample for pumping and winding purposes at Ross Flat.

Trent and Eves have started development at their claim on Donnelly's Creek. All water-races have been constructed, and California pumps are on the ground. Winding-gear is ordered, and preparations made for its erection. This ground is believed to be payable if sufficient power is available for pumping.

A. Aitkin holds 1 acre in Coal Creek, which he worked from a small prospecting-shaft until water became too heavy for hand-labour, when operations were suspended.

Mahinapua Gold-mining Company.—This company's operations during the past year have been principally of a development character, consisting of the construction of a long water-race and the laying of a pipe-line to supplement their present supply, which has been found inadequate at some periods of the year. The works are all in good order.

Glass Brothers, having taken up a prospecting-area on the Blue-bottle Terrace, are now, with two men, prospecting the same.

Thomas Brown and Son during the past year put in their low-level drive, and restored their water-races and dam. They should be in a position to commence sluicing operations at an early date.

John Beroz continues to get gold on his claim. The want of a good water-supply is a considerable obstacle.

Brown and Howatt for the first six months of the year did a good deal of prospecting and development. The gravels on their claim are much cemented, and take a very heavy pressure of water to break them down.

S. E. Harcourt continues to carry on prospecting with two men. So far no profitable returns have been obtained.

Minerals Syndicate.—Operations during the past year have been carried out successfully. Since the syndicate purchased the property they have been able, owing to the better water-supply, to work for longer periods.

Sweeney and Party.—This party of five still continues to obtain payable returns. Strict attention has been given to the high faces of gravel, to secure which they are well battered.

There are also a few aged men fossicking about in the creeks, who obtain a few pennyweights of gold every year.

KANIERI DISTRICT.

T.E.Y. Syndicate.—This syndicate completed their tunnel, 1,350 ft. in length. They have also erected a very substantial head gear, elevating plant, dam, and water-race. The result of a week's run was very satisfactory.

G. Head is hastening operations at his subsidized tunnel. The gravels and sand therefrom, when washed, give fine gold.

The Kanieri Water-race and Mining Company have one shaft 39 ft. deep. The gold obtained therefrom would be payable if the gravels could be handled on a large scale.

Marks and Kulsen for the past eleven months have been developing their property. They had only a very brief run before their drainage-tunnel collapsed.

BACK CREEK DISTRICT.

The last year has been satisfactory for the majority of the miners employed, the rainfall having been heavy during the greater part of the year. At the present time there are four low levels being driven, so that by the time the shallow levels are exhausted the claimholders should be in a position to maintain the present average of labour and gold-production.

Humphries Gully.—This mine is being worked on tribute by twelve men, who are making an average wage. Strict attention is paid to the maintenance of the water-races.

Calligans.—Cook and Honey having completed their subsidized tunnel (1,700 ft.), have opened up their claim, and, as the result of two successful washings, anticipate further profitable operations if water is available.

J. Manzoni is at present putting in a low-level tail-race, which, when completed, will be about 3,000 ft. in length.

The smaller claims in this locality are doing fairly well, except those in Mosquito Gully, the holders of which, owing to the scarcity of water, have been compelled to suspend operations for the present. To bring in water at sufficient altitude would be very costly at present owing to the configuration of the country; but subsequently, when some of the claims on the higher levels are worked out, it will be possible to excavate dams for the conservation of the water required.

CAPE TERRACE.

During the past year Loughnan and Sons purchased the water-rights of Burr and Son, and, with the combined water-supply, the result of the year's operations has been satisfactory.

Tansie and party, having a very good supply of water, have worked profitably during 1910.

Teyson and party also have experienced a very successful year's sluicing, adequate rains having maintained their water-supply.

HAYES TERRACE.

When water is available from the Erin-go-Bragh race, the miners sluicing on this terrace are able to work profitably, and they anticipate doing much better when the Government water is available by means of the Kumara Water-race extension *via* the Taramakau Valley, which work is now nearing completion.

STAFFORD.

Wheel-of-Fortune.—Work was suspended at this claim for some time, until it was decided to dismantle one of the present elevators and re-erect it in a more central position. This necessitated the extension of the present drainage-tunnel 350 ft., also the relaying of two pipe-lines—viz., the main-pressure line a distance of 1,100 ft., and the top tail-race 850 ft. A tunnel tail-race has been driven 90 ft. to allow the gravels to gravitate to the elevators. The sluice-boxes have been widened from 2½ ft. to 4 ft., and lined with angle iron and a set of perforated iron plates. For dealing with the larger stones two cranes are to be erected, thus saving a very considerable amount of labour. With a favourable rainfall this party should be in a position to carry on sluicing and elevating on a large scale.

The various other claims in the district have been worked fairly constantly.

Mr. Carmine has completed his low-level tail-race and should be in a position soon to start sluicing operations on a fairly large scale.

KUMARA.

No. 4 Tunnel Company.—This company continue to employ six men. During the year they have been carrying out development, which should ultimately give improved returns.

Shannon and party are still driving the No. 3 deviation.

T. McGrath is working his Pug Hill section of the claim with twelve men. The past year's operations have been payable. On his 40-acre claim McGrath is driving a low-level tunnel—an expensive work, owing to the heavy nature of the pug encountered (a running seam of clay and gravel). This has now been successfully dealt with.

Mr. Garner is pushing on with his subsidized sluicing-channel. The material dealt with is now very much more favourable for speedy progress than heretofore.

BARRYTOWN.

With the exception of McKay and White this place is almost deserted by miners. It is only by dealing with this extensive sand deposit in large quantities that it may be worked remuneratively.

MAORI GULLY.

The Maori Gully Company continue to work at a profit. A plentiful supply of water is much required.

DUNGANVILLE.

The only work of any importance now being carried out is the subsidized tunnel of Irwin and party, and this has been of a slow and costly character, the ground requiring double timber for safety. The ventilation at times was indifferent, but this has now been remedied by means of a connection with an air-shaft.

The other parties working in this district have not been very successful.

KOTUKU OILFIELD.

No work of importance has been carried out on the Kotuku oilfield during 1910. Drilling machinery of considerable capacity is being imported for the purpose of thoroughly testing for petroleum the territory held by the Consolidated Goldfields of New Zealand.

ACCIDENTS.

Only one accident occurred in my Inspection District during the year, and that was not of a serious nature. John Kulsen, while working on his claim at Kanieri, was slightly injured by a fall of clay owing to his own want of caution. A few days afterwards he resumed work.

I have, &c.,

A. H. RICHARDS,

Inspector of Mines.

[Compiled from the monthly reports of Inspector McIntosh, who, having retired from the Public Service, did not furnish the usual annual report.]

Mr. ROBERT MCINTOSH, Inspector of Mines, Clyde, to the UNDER-SECRETARY, Mines Department, Wellington.

ALLUVIAL MINING.

Round Hill Gold-mining Company, Round Hill.—Owing to the dry season prevailing and the shortage of water, work in No. 2 paddock was suspended during portion of the year. About 16 acres have been worked in No. 1, and there is about six months' work left, after which the plant will be shifted on to the claim upstream. No. 2 paddock: Some 20 acres have been worked by hydraulic elevating, there being some twelve months' work left, after which the plant will be removed to the claim downstream. (Both new claims have been tested by boring prospecting). This paddock has one elevator working only eighteen hours out of twenty-four hours. The average depth of the ground is 45 ft., and elevators are lifting 65 ft. to 70 ft. The auriferous wash occurs in seams chiefly within 10 ft. of the bottom (diorite). In addition to the pipe-lines already in use (main line 64 chains of 27 in. and 26 in. pipes, and other lines of 120 chains), a new line of 50 chains of 18 in. 10-gauge pipes is being made at the company's own works. Operations have been conducted on this large claim without serious accident during the past twelve years. Thirty men were usually employed. A magazine was approved for storage of explosives.

Orawera Gold-mining Company, Round Hill.—Area of paddock, about 4 acres; face, 60 ft. to 70 ft.; and ground very rough, with boulders and buried timber. There has been 574 ft. of new pipe-line laid. The water-driven aerial stone-conveyor continues to do good work, and without it the claim would be unpayable. As elsewhere upon these goldfields, the extended drought has rendered unwatering of the paddock by hydraulic elevation impossible. Copy of general rules requires to be posted.

Luggate Hydraulic Sluicing Claim, Luggate.—Work being carried on in the usual manner in the bed of Luggate Creek.

McGregor's Sluicing Claim, Shag River.—Patches of gold have been obtained from time to time on the upper reaches of the Shag River. An expensive hydraulic plant was installed, but the water-supply was small and the ground poor.

Island Block Sluicing Company, Island Block.—After several years' idleness, the pipe-lines and plant are being overhauled preparatory to sluicing operations being recommenced.

Michelle and Party's Claim, Glenore.—Some freehold property has been purchased, and the ground is being opened out by hand-stripping. An engine and pump have been installed on the claim for the purpose of dealing with the heavy drainage. On my last visit, early in August, I drew attention to the necessity for making a safe batter on the clay-faces, and for the erection of a fence to protect the travelling public. I subsequently wrote to the miners and the County Council on these matters, and received assurance that they were receiving attention.

Moen and Party's Claim, Adams Flat.—The excellent proposal to bring Waitahuna water on to this ground was frustrated by the difficulty in arranging with freeholders on the line of the tailings outlet, but this question will be revived.

Miller and Stringer, Sluicing Claim, Fourteen-mile Beach.—These men have recently acquired a water-right and are now engaged in preparatory works in connection with their river-beach claim.

Last Chance Gold-mining Company.—Claim worked by hydraulic sluicing on high, stony terraces fringing Bald Hill Flat. The claim is owned by a small syndicate, and, I understand, is worked at a profit.

P. Jenkins's Sluicing Claim, Three-mile Creek, Cambrian's.—Jenkins purchased a mining water-right and sought for change of purpose for irrigation. This was recommended by the Warden, but not by myself. Jenkins then prospected some ground, proved it payable, and erected an up-to-date hydraulic sluicing and elevating plant thereon. The plant is now at work.

Cambrian's Goldfield.—Fordham and Gay and McGuckin continue to conduct hydraulic-sluicing operations on a limited scale, while the Vinegar Flat Hydraulic Sluicing Company operate on a larger scale. There is little to call for comment with regard to the nature of the workings.

O'Hara and party are also working shallow ground by hydraulic sluicing and elevating.

Scandinavian Water-race Company, St. Bathun's.—Hydraulic sluicing and elevating operations continue to be conducted on this property, although increasing depth of barren overburden militates against great success in the Kildare Hill Claim.

Wakatipu Prospecting Syndicate.—This syndicate are operating at the head of Hays's Gully. Some high-level river-terraces are being prospected by driving.

DREDGES.

Excelsior Dredge, Lowburn.—This dredge is being dismantled, the machinery sold, and the timber taken for reefing operations on the Carrick Range.

Cameron's Freehold Dredge, Clarkesville, Milton.—This dredge has recently been erected, and I found on my visit that the regulations were not fully complied with. I drew the dredgemaster's attention to the requirements, and subsequently wrote to him to the same effect. I was later informed that the regulations were being complied with.

QUARTZ-MINES.

Iles and Party's Mine, Carrick Range.—A company has been formed in the North Island to work this mine. For the past two years exploration-work has been carried on in connection with the complex stone formerly not amenable to known methods of treatment.

Advance Mine, Bald Hill Flat.—Mr. Symes, the owner, continues to work out blocks of quartz by driving. A three-head stamper battery is used, and the pyrites are saved by a Wilfley concentrating-table, and shipped to Victoria, where they are treated at a profit. Three men are employed.

ANNEXURE B.

REPORTS OF WARDENS.

Mr. Warden BURGESS, Thames, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,—

Warden's Office, Thames, April, 1911.

I have the honour to present my report on the Hauraki Mining District for the year ended the 31st December, 1910.

The result of the past twelve months' operations in the Hauraki district shows an increase in the yield of gold in the Ohinemuri, Piako, and Coromandel Counties; but a decrease for the Thames Borough and County, and for the Waihi Borough. There has been an increase in the district as a whole amounting in value to £23,789 5s. 6d.

During the year there was an increase in the quantity of quartz crushed in the whole district amounting to 39,070 tons, the figures being as follow: 1910, 612,540 tons 3 cwt. 3 qr. 19 lb.; 1909, 573,469 tons 13 cwt. 2 qr. 17 lb.; increase, 39,070 tons 10 cwt. 1 qr. 2 lb.

Measured by the amount of gold produced, the result of the year's operations must be regarded as very satisfactory; but it can hardly be hoped that the returns for the current year will equal those just quoted. The anticipated decrease in the yield from the Waihi Mine must necessarily affect the total output, and it does not appear probable that the difference will be made up by the increased returns of the other gold-producing mines of the district. At Waihi and Karangahake, the Grand Junction, Talisman, and Crown Mines certainly give promise, each of a prosperous year, and they will yield increased returns; but it can hardly be hoped that their increase will compensate for the reduced returns from the Waihi Company's mine.

During the past twelve months 25,207 more tons of ore were treated by the latter company than during the year previous, but the return of bullion on this year's operations, as compared with last, has decreased by £29,830 15s. 10d. This is due to the poorer value of the lodes worked in the No. 9 level. From a comprehensive report by Mr. Williams, the assistant superintendent of the mine, made to the directors of the company, it appears that the country at this level consists of a soft decomposed rock—a condition unfavourable to the existence of rich gold-deposits—and it has, unfortunately, proved a fact that the ore-values at this level have seriously declined. The famous Martha lode, from which the company have obtained nearly half the quartz won from the mine, instead of yielding blocks of ore fit for stoping up to 80 ft. wide, cannot be relied on to produce more than from 15 ft. to 20 ft. of payable stone. In view of the decreased value of the ore, it has been decided by the board of directors to reduce the output after June to about 1,000 tons a day, involving a reduction in the value of the bullion to about £600,000 per annum, instead of, as recently, about £900,000. It is estimated that there are at present 1,065,000 tons of ore in sight in the mine, besides about 60,000 tons in the arches, giving assurance of about five years' profitable working on present developments. It is intended to vigorously prosecute further developments, and it is hoped that as greater depth is attained the unfavourable belt of country will be passed through, and the lodes recover their former value.

The unexpected decline in the value of the ore in the deeper levels of the mine came as something of a shock to the community, and public opinion magnified what was certainly a serious reverse into an absolute disaster. The price of shares in the market fell with startling rapidity, and this had a very

depressing effect on all mining investments throughout the district, more especially upon certain mining properties at Waihi which are dependent on foreign capital for their development. Notwithstanding the disappointing results of recent development in the Waihi Mine, it still remains beyond approach the greatest mine in the Dominion. The company own a large area of land which has as yet been scarcely touched. A drive, known as the Reptile crosscut, is now being driven through this unexplored country towards the Amaranth and Rosemount reef-systems at the 1,000 ft. level, and it is quite probable that these lodes, which have not yet been tested at any great depth, may be found to have improved in value at the depth traversed by this crosscut.

As some compensation for the decreased yield from the Waihi Mine, it is pleasant to be able to record the continued improvement of the Grand Junction Mine. Operations have during the past year been vigorously prosecuted. The returns for the year show an increase of £32,457 over those of the previous year. Developments on the Martha lode have proved somewhat disappointing; but the Royal reef, at the No. 5 level, has yielded very satisfactory returns for over 700 ft. on the east drive. The Mary lode, a comparatively recent discovery, has been driven for 196 ft. on payable ore. The treatment of 84,326 tons of quartz gave a return valued at £132,295 10s. It is in contemplation to increase the number of stamps from 40 to 100, and to add to the already extensive reduction plant, and it is intended shortly to proceed with the sinking of a new shaft.

In the Waihi Extended and Waihi Reefs Consolidated Claims work is still being perseveringly carried on. Both companies are sinking, and when the required depth is attained crosscuts will be driven to intersect the lodes which are believed to extend into these properties.

On the Romulus Claim, lately taken over by an English syndicate, boring operations are being conducted to test the existence of reefs in the ground.

At Owharoa and Waitekauri there are several small companies at work. The operations are mostly of a prospecting nature. Work has been continuously carried on in the Jubilee, Maoriland, Scotia, and Golden Cross Mines. With the exception of the Maoriland Claim, from which gold to the value of £1,377 was obtained, no returns of any importance have been received; but the prospects are encouraging. This is particularly so with regard to the Golden Cross Mine. The company are about to erect a battery of their own, and have already excavated the site for it. They have laid down a tramway, and constructed a water-race to bring water into the battery.

At Karangahake the Talisman Mine still maintains its position as the second mine of the Dominion. During the past year 45,020 tons of ore were treated, for a yield of £210,624 3s. 6d. worth of gold. In September last the air-compressors situated in the Woodstock section were, unfortunately, destroyed by fire, and all work below No. 13 level was suspended. In spite of this, however, the company have had a successful year. The value of the lodes worked during the past year has been maintained, and the prospects of the mine are excellent. In the south drive operations have disclosed another payable ore-shoot, 300 ft. in length and from 3 ft. to 9 ft. in thickness. During the year the company has added considerably to its reduction plant, and in the Woodstock shaft chamber a new mining-engine, capstan-engine, and large pumping-engine are nearing completion.

Under new management the New Zealand Crown Mine is being vigorously worked. A saving in the cost of milling has been effected during the year by substituting electricity for steam as the motive power. The mill is now being driven by power delivered from the generator at the power-house.

Several other claims are being worked at Karangahake, but they have not reached the stage of gold-production.

At Komata the Komata Company is still continuing operations, but the returns are steadily declining.

Mining at Maratoto is at present confined to the Silver Stream and the Tellurides Companies' claims. Both companies are engaged in driving prospecting-tunnels, but there have been no returns of gold so far. Several other claims are held in this locality, but work is at a standstill, owing to want of capital, the expenses of working having proved beyond the means of the owners.

Matters at Thames do not show any improvement. The yield of gold is year by year diminishing. Much depends on the success of the low-level crosscut which is being driven northwards from the Queen of Beauty shaft at the 1,000 ft. level. Satisfactory progress is being made with the work, and the tunnel has now reached the Saxon boundary. Very little work is being done, or can be done, on the surrounding claims until the crosscut is driven sufficiently far to drain them. Two of the claims affected—the Moanataiari and the Kurunui-Caledonian—have obtained twelve months' protection, and one—the Saxon—six months' protection; but the claims are open to tributers. On the hills surrounding the Thames Borough a considerable number of claims are at work with several parties of men, mostly engaged in prospecting old ground at low levels.

At Tararu the Sylvia Company are opening up their mine, so as to be ready to supply ore to their battery as soon as it is completed. The battery and plant are now well advanced, and in a few months this claim should be contributing its share to the gold-returns from the district. The Norfolk Company, and the Bonanza, Waitangi, and Watchman are all carrying on development of their respective claims by means of low-level tunnels, with every prospect of ultimate success.

At Puru, the Crown and Golden Crown Company have been energetically prospecting their claim, and it is their intention to erect a battery on this claim to be driven by water-power.

At Waiomo the Mount Zeehan and Monowai Companies have been steadily at work. The former are now driving a low-level tunnel to cut the lode which produced rich stone near the surface. They propose erecting a battery, and have obtained water-rights and a site for the battery near the claim. The Monowai Company have completed the renovation of their battery, and have erected a suction-gas plant, laid down a ground-tramway, and reconstructed their water-race. Everything is in readiness for working the mine. At the present time about fifty men are employed.

Mining at Tairua has proved disappointing. A number of companies are still at work, but the returns of gold have been small. The Golden Hills Mine, which was expected to add materially to the

yield of gold from this locality, has temporarily suspended operations. An up-to-date crushing plant has been erected, and early in the year a start was made with it, and a small quantity of ore crushed. The suction-gas plant, however, proved inefficient, and mining and milling operations are suspended pending alterations in the plant and machinery.

The promise of a successful year for the Coromandel district, to which at the beginning circumstances seemed to point, has only been partially fulfilled. There has been a decided increase in the yield of gold, the returns for 1910 being £26,033, as against £6,916 for the previous year; but on the whole there has not been such a revival in mining in the district as might have been expected. The present outlook is nevertheless by no means discouraging. Several claims in the district have been from time to time obtaining specimen stone, some of exceptional richness; but the lodes are small, and the quartz necessarily limited in quantity. In Bremner's Freehold and the Mount Welcome Claims small quantities of very rich quartz have been obtained, but in the aggregate the returns for the year have not been large. As showing the extreme richness of the specimen stone obtained from Bremner's Claim, I may mention that only 1 ton of ore was crushed during the year, but it yielded gold worth £2,238 8s. 4d.

The Old Hauraki Company's claim for a short period attracted much attention. Very rich stone was obtained, and gold worth £13,057 was won from the mine. The returns fell off, but it is expected that the development-work which the company have now in hand will result in the opening-up of further gold-bearing blocks. In the Hauraki Reefs Claim, adjoining, the company are driving from the Old Hauraki Company's workings at the 400 ft. level, with the object of intersecting at a low level the rich run of gold which was worked near the surface.

The Kapanga Company, which own the oldest mine in the Hauraki Mining District, are still persevering with the task of unwatering the shaft. The water is being rapidly reduced, and in a short time work in the lower levels of the mine will be resumed after many years' cessation. Gold is known to exist in the lowest workings, and when once the water difficulty has been overcome, there is no reason to doubt that this mine will again take its place among the successful mines of the district.

An English company have taken over Mr. Langford's foreshore dredging claim, in the Coromandel Harbour. A dredge has been procured in the South Island, and is being removed to Coromandel, and it is expected that in a short time dredging operations will begin. Tests made by boring in different parts of the claim have revealed the existence of gold in what is believed to be payable quantities.

There are several mines at work at Kuaotunu, but, with the exception of the Mountain King and the Handsworth, none of them is yielding payable returns. A little over eight thousand pounds' worth of gold was obtained from this district during the last twelve months.

Mining at Te Aroha and Waiorongomai has not produced anything of importance during the year. The syndicate which was formed for the purpose of prospecting, by means of a low-level tunnel, the country at the back of the township in the Te Aroha Mountain, from which, near the surface, rich specimens were produced in the early days of the goldfield, has suspended operations, not having met with any success. At Waiorongomai the only companies at work are the Hardy's Mines (Limited) and the Bendigo Company. The former are doing merely prospecting-work, and the latter are opening out their mine and taking out quartz in readiness for treatment at the ten-head stamper battery which is nearing completion. Tests made of samples of the ore have given very satisfactory results, and the shareholders look forward with confidence to a profitable undertaking.

There is only one mine at work at present on the Great Barrier Island—viz., the Barrier Reefs. A prospecting-drive is being driven from the battery level in a northerly direction, but so far nothing payable has been discovered.

The Ngatiawa Company did a very considerable amount of driving on their property, but not meeting with success, they have discontinued operations.

MERCURY.

The Ascot Cinnabar Company, at Mackaytown, Ohinemuri, are not at present at work. The new plant has not altogether proved satisfactory in the treatment of the ore, and alterations and additions are in contemplation. During the year 1,500 lb. of mercury was obtained, and the result of the operations so far shows that with adequate and efficient plant shareholders may look forward to the establishment of a profitable industry.

COAL.

Last year two coal-mining licenses were granted by the Warden, one at Ohinemuri and one at Whangamata. Both of these, after a systematic prospecting by the owners, have been given up. No seam of any commercial value was discovered in either case.

Notwithstanding the encouraging nature of the developments in a few of the principal mines of the district, I am sorry to say that, taking the goldfield as a whole, it cannot be said that the outlook is as favourable as it was at the time of writing my last report. The fall on the market of the value of Waihi shares, consequent upon the disappointing result of operations in the lowest level of the mine, and the contemplated reductions in the future output, has caused a depreciation in all other mining stock, and public interest of an active kind in mining in the district has, during the latter portion of the year, seriously declined. A number of small local companies which have been carrying on unremunerative prospecting operations upon capital raised by calls on the shareholders find it difficult, and in many cases impossible, to collect any further calls, the shareholders preferring to forfeit their shares rather than to continue contributing. These companies have, in consequence, to seek protection from the Warden or abandon their holdings. The depression in the mining market is, I believe, only temporary, but in the meantime it is seriously affecting the prosecution of

prospecting-work in the district. It is, however, satisfactory to be able to say that there are several companies carrying on mining operations in various parts of the district—as, for example, the Sylvia, Watchman, Waitangi, Mount Zeehan, and Monowai, at Thames; the Kapanga, Old Hauraki, and Hauraki Reefs, at Coromandel; the Silver Stream, at Maratoto; and the Waihi Extended, at Waihi—the shareholders of which have continued, notwithstanding the depression, to furnish the funds necessary for prospecting and development works. None of these mines has yet reached the paying stage, but they certainly appear within measurable distance of success; and some of them will, no doubt, before the end of the present year be contributing to the yield of gold from the district. The success of these mines is looked forward to hopefully as a means to re-establishing interest generally in the other mines of the district.

I have, &c.,

THOMAS J. BURGESS, Warden.

Mr. Warden FLORANCE, Blenheim, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,—

Warden's Office, Blenheim, 30th March, 1911.

I have the honour to present my report on the Marlborough Mining District, for the year ended the 31st December last.

ENDEAVOUR INLET.

There is no activity evinced in working the antimony- or gold-mines in this district. Portion of the land is being thrown open for selection under the Lands for Settlement Act.

HAVELOCK, MAHAKIPAWA, AND CULLENSVILLE.

A slight revival is apparent at Cullensville in the neighbourhood of old workings on Cullen's Creek, under the direction of Messrs. Morton and Nyberg.

At the Wakamarina Valley, besides several small prospects, Humphries Brothers, now known as the "Dominion Consolidated Company," are doing good work. They have laid down 27 chains of aerial tramway to work their new drives at the Dominion Mine, and are spending considerable sums of money in developing their prospects in gold and scheelite. They are about to lay down six miles of fluming to give an increased supply of water for their battery. But for the recent dry weather and consequent shortage of water, very much more ore would have been got out of the mines than has been. They expect to be working day and night with a large body of men directly they can get sufficient water for their purposes.

ARM CHAIR AND TOP VALLEYS.

The miners in these valleys are still very hopeful of good results. By far the largest undertakings are those of the Wairau Valley Gold-mining Company, who are putting in a long drive at a lower level to cut the reef, which has taken a decided dip away from the old working at the top of the hill. They hope to obtain profitable returns from this venture in a few months' time.

In all other respects I cannot report any new discoveries in this district.

The year has passed without any serious accidents having been reported to me.

I have, &c.,

R. STONE FLORANCE, Warden.

Mr. Warden EVANS, Nelson, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,—

Warden's Office, Nelson, 31st March, 1911.

I have the honour to report on the mining industry in the Nelson portion of the Karamaea Mining District for the year ended the 31st December, 1910.

NELSON.

There has been a slight improvement in the volume of mining applications dealt with in this Court, from the previous year, chiefly in respect of prospecting licenses in and about Wangapeka. Eight such have been granted, but no finds have been reported, and none of these licenses have been exchanged into claims.

MOTUEKA AND TAKAKA.

Little or nothing in the way of mining grants has been dealt with in these Courts during the past year. In Motueka one prospecting right has been granted, while in Takaka nothing at all has been dealt with by the Warden's Court. Mining at the Takaka Court is practically dead.

COLLINGWOOD.

There has been a slight increase of mining business operations in this Court lately, but the number of applications, on the whole, is small. The various mining companies in the district are still carrying on operations, but without sensational results.

The Parapara iron lease is in practically the same position as in 1909. Operations are being carried on by a reduced number of men.

Generally, there may be said to be a slight increase in mining activity, but nothing marked.

I have, &c.,

J. E. EVANS, Warden.

Mr. Warden RAWSON, Westport, to the UNDER-SECRETARY, Mines Department, Wellington.

STR,—

Warden's Office, Westport, 31st March, 1911.

I have the honour to report upon the gold-mining industry in the Karamea Mining District for the twelve months ended 31st December, 1910.

WESTPORT SUBDISTRICT.

Twenty-two alluvial claims and two quartz claims were granted during the year.

Waimangaroa.—The liquidator of the Britannia Gold-mining Company recently sold all interests of the company to a syndicate, who are now working the claim on a prospecting license.

Addison's.—The Long Tunnel Sluicing Company are still working, but, judging from present appearances, the payable ground is being rapidly exhausted.

Millikin and party are earning about £4 per week per man.

The Victoria Company (Senior and party) have sold their water-rights to the Westland Gold-mining syndicate, of London, which has taken up the old Shamrock Claim. The syndicate is putting in a tail-race about two miles in length. It is estimated it will take about twelve months to complete.

McNeight and party (Addison's Township) are getting good gold.

Bradshaw's.—Schlichting and party, after spending about £600 to £700 and working for some six or seven months, found that the cement was not payable, and discontinued operations.

Wet Lead.—Millard and party sold out their interests to the local Carthage Gold-mining Company (capital £8,250), who have let a contract in connection with developing—bringing in water—and hope to start actual mining operations within three months. It is proposed to work the special claim of 50 acres on the hydraulic sluicing and elevating method.

Giles's Terrace.—The Golden Basin Gold-mining Syndicate has ceased operations, owing, it is believed, to the caving-in of the prospecting-shaft.

KARAMEA SUBDISTRICT.

There is no change of any importance in this district to record since my last report. Hunter and party are laying about 26 chains of 7 in. pipes at Reef Creek, Oparara Beach, for working the black sand by hydraulic sluicing and elevating. A few men are still working up Fenian Creek, with satisfactory results. Occasionally a few men on the Wanganui and North beaches work the black sand when water is available.

MURCHISON SUBDISTRICT.

Sixty-six applications for mining privileges were lodged during the year.

Mangle's River.—A special claim has been applied for, and further developments are expected in the locality.

The Six-mile.—Mr. Walter Gibbs's claim is still working, but it is not known with what results.

Upper Matakītaki.—The Matakītaki Hydraulic Sluicing Company (Limited) have commenced operations on their special claim of 100 acres. Their water-race has been extended at a cost of £900. At the intake in the Matakītaki River a supply of about 30 heads is available. The result of the company's first wash-up being satisfactory, it has been decided to enlarge the race to carry 130 heads. In addition to working their own claim, it is proposed by the company to lease water to miners in the district.

Beilby's, Richardson's, also McNee's and Hunter's sluicing claims are reported to be doing well. There are a number of Europeans and Chinese profitably engaged in this locality.

Glenroy.—There are several one-man claims in this locality, all of which are payable.

Upper Maruia.—J. Thomson and Sons hold a number of claims in this neighbourhood, which are being worked, but with what result is not known.

The Walker Maruia Gold-sluicing Company's claim is still being worked on tribute by Dwan Brothers, who are reported to be doing well.

Rappahannock Valley.—On my last visit to Murchison I found great interest being taken in this locality. I granted a number of mining privileges, and some of the applicants spoke in enthusiastic terms of the prospects. Further developments are awaited with interest.

Lower Maruia.—A number of Chinese are working about here, and are reported to be making wages.

Newton Flat.—The Newton Claim has changed hands, and is now owned by Beilby, Warneford, and Fairhall. They have been to some expense putting in a new tail-race. They have had one wash-up, but the result is not ascertainable. Barclay Brothers, Fairhall, and Beilby, and White and Ritchie are reported to be doing well out of their sluicing claims. There are also several one-man claims returning wages.

LYELL SUBDISTRICT.

Gold-mining has practically been at a standstill during the year. The New Alpine Gold-mining Company, at Lyell Creek, went into liquidation, and the property was bought by a Greymouth syndicate last August for £500. With the exception of three men who are doing a little prospecting in various parts of the mine, without as yet meeting with any success, the present holders have done practically nothing since taking it over. A Greymouth syndicate—Messrs. Wickes, Hennicker, and Harrison—have been prospecting the old Victory Quartz-mine at Eight-mile, and during the few months they have been at work it is reported that they have obtained good prospects. A few other parties have been out prospecting, but have nothing to report. Alluvial mining is practically dead. Two dredges, Harrison's (Old Diggings dredge) and Smeaton's, at Rocklands, are the only two working

on the Buller River. They have been working steadily during the year, with fairly successful results. The *New Mokia*, at Three Channel Flat, went into liquidation in the early part of the year. The dredge was bought by a Greymouth syndicate and dismantled, for removal to Greymouth.

SEDDONVILLE SUBDISTRICT.

Very little mining is being done in this district, but on the whole there are indications of increasing activity. It is reported that a rich reef 20 ft. wide has been struck at the Red Queen. It has been driven on for 60 ft., and shows good gold. A company is being formed to develop the find.

CHARLESTON SUBDISTRICT.

Six prospecting licenses were granted during the year over 550 acres of Crown land. Three of these have run out and three have been surrendered, and special claims over 300 acres taken up in their place. Parson Brothers and Hampton Brothers are still crushing cement on Brown's Terrace, and doing well. Powell's claim is still working three shifts, and is reported to be paying very well. During the year there was a good deal of rough weather on the coast, which caused a fair amount of gold to be cast up with the black sand on the Nine-mile Beach. The claimholders have had almost constant work, and have done better than for some years past. One of the oldest miners in the district, a man named "Barney" Shepherd, was killed by a fall of earth whilst building a dam, and his claim, which was disposed of by public auction, was bought by James Butterworth for £315.

I have, &c.,

E. RAWSON, Warden.

Mr. Warden CROOKE, Greymouth, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,—

Warden's Office, Greymouth, 10th April, 1911.

I have the honour to present my annual report on the mining industry in the mining district under my charge for the year ended 31st December, 1910.

GREYMOUTH SUBDISTRICT.

The North Beach dredge, privately owned, sank about the middle of the year, but was raised again, and, except for a short time, has been continuously worked.

At Poerua twenty-one ordinary prospecting licenses, of 100 acres each, together with water-races and battery-sites, have been granted in connection with auriferous reefs in that locality. The Poerua Gold-mining Company (Limited) has been formed to work a portion of the reefs.

A stone-quarry at Dobson held under a mineral license has been worked actively during the year, a steady demand evidently being made for the output.

A belt of country embracing the Kotuku oilfields, and containing 25,500 acres, extending from No Town Creek to the Taramakau River, has been granted to Messrs. David Ziman, of London, and Felix Campbell, of Greymouth, under mineral-prospecting warrants. An expert in prospecting for petroleum-oil was introduced from Europe, who, after a careful examination of the field, made what is understood to be a satisfactory report. Geologists representing the Mines Department have also inspected and reported on the possibilities of the field.

Near Barrytown the auriferous sands are still being treated by means of a large extent of tables, under the management of Messrs. McKay and McKay and White, with, I understand, excellent results.

AHAURA SUBDISTRICT.

South Side of Snowy Creek.—There is still considerable prospecting-work being carried out here in the hope of picking up the continuation of the Blackwater reefs, but, so far, nothing permanent has been met with.

In Noble's, Duffer's, and Half-ounce Creeks about thirty-five men are working at alluvial mining, in most cases in old-worked ground.

Orwell Creek and Ahaura.—There are about thirty-five men following alluvial mining in these districts, but the results, except in the cases of one or two, are not of a very payable nature.

There is a prospect of an English syndicate bringing in a water-race of 80 heads of water from Lake Hochstetter to work rich alluvial ground behind Riverview and Sullivan's Creek. Should this eventuate, alluvial mining should receive a fresh lease of life.

Moonlight and Blackball.—In these districts, although there is considerable prospecting being done, nothing of a payable nature has so far been met with. The Moonlight Dredging Syndicate are, however, well satisfied with the results obtained from their dredge.

Nelson and Callaghan's Creeks.—These districts remain about the same. The dredges in the former are nearing the end of their ground, and probably will cease operations shortly. In No Town the population is decreasing, and consists now of about twenty-five alluvial miners. This district, like many other alluvial centres, suffers from the want of water for sluicing purposes on the higher levels, where gold is known to exist in payable quantities. The construction of races to convey water to the high terraces appears to be the only method now remaining to enable alluvial mining to be continued. It is manifest that the cost of construction of such races can be borne only by companies with considerable capital.

The No Town dredge maintains a fair average weekly return, but the ground is now nearly worked out.

REEFTON SUBDISTRICT.

This district may be said to extend from Larry's Creek on the north to Snowy Creek on the south, and quartz-mining is being carried on at intervals over the whole of this area.

The Caledonian United Company, which has been carrying on operations at Larry's Creek for some considerable time without finding anything of a payable nature, was obliged to go into liquidation, and the property has now been acquired by Mr. Robert Duffy.

The Golden Arch Gold-mining Company (Limited), at Italian's Creek, between Larry's and Boatman's, has also been obliged to go into liquidation during the year, and the company is now being wound up by the liquidator.

At Caplestone the old Welcome Mine has been floated as a limited liability company under the style of the "New Welcome Gold-mining Company (Limited)," and mining operations, chiefly of a prospecting nature, have been carried on during the year.

The old Just-in-Time Claim, adjoining the Welcome, has been floated into a limited company, and active work has been commenced on the claim. The shaft, which had been full of water for some years, has been successfully unwatered, and a start made to clean up the old workings.

The Fiery Cross Claim, also adjoining, is held by a syndicate, but no active operations have yet commenced on this property.

At Kirwan's Hill, Victoria Range, the old Kirwan's Reward Claim is held by Pettigrew and party, who have been doing some prospecting-work in order to try and locate the main reef.

Crossing the Waitahu River, the first workings met with on the south are those of the New Ulster Quartz-mining Company. Very little work has been done on this claim during the year, protection having been granted to the company to enable them to raise more capital. These remarks apply also to the properties held by the Wellington Mines (Limited) at the head of Murray Creek. The option held over these properties by Messrs. McMahon and Lee was allowed to lapse, and towards the end of the year mining operations were resumed by the company, with a reduced number of men.

The Golden Fleece Mine, owned by the Consolidated Goldfields of New Zealand (Limited), has been continuously worked during the year by a party of tributers, and very good returns have been reported.

The Wealth of Nations (or Energetic) Mine, owned by the same company, has also given very good returns during the year, and is looked upon as one of the best mines in the district.

The old Keep-it-Dark Mine, adjoining the Wealth of Nations, has been continuously worked during the year, the ore being of rather low grade.

The largest mine in the district is the Progress, the property of the Progress Mines (Limited). A large number of men are employed at this mine and at the reduction-works, which are situated on the south bank of the Inangahua River. Returns from this mine have been very regular and consistent for a number of years.

No work of any consequence has been done on any properties between the Progress Mine and the Big River Mine, although a considerable area is held under prospecting licenses, and in some cases a few men have been employed in legitimate prospecting.

The Bonanza Syndicate's claim, at the head of Auld's Creek, over which an option had been obtained by an English syndicate, was prospected with a certain amount of success during portion of the year. The option-holders, however, did not take over the property, and since August the claim has been protected.

Thornton and party, at Murray Creek, have had one or two men on their prospecting license during the greater part of the year, as also have the Messrs. Willis and party on their lease at Black's Point, and Kirwan and party on their claim adjoining the New Big River Gold-mining Company's special claim. Nothing, however, of a payable nature has so far been located on any of these leases.

In the Big River district the principal mine is that owned by the New Big River Company; this is one of the leading mines on the field. It has yielded regular returns during the year, and paid a number of dividends.

Further to the south are to be found the Big River South Mine and the St. George Mine, both of which have been floated as limited liability companies during the year, and are still in the prospecting stage. Low-level tunnels are being driven on each claim, in order to locate the reefs which outcrop on the surface.

In the Blackwater district the only mine so far producing gold is that owned by the Blackwater Mines (Limited). This has now developed into a permanent and prosperous mine, yielding a large amount of gold, and giving employment to several hundred men. A township, called Waiuta, has sprung up round the mine-mouth, and altogether this discovery has been the most important and valuable in the district for many years. A large number of prospecting licenses have been taken up in this locality, and some rich leaders of quartz discovered; but nothing of a payable nature outside the company's ground has so far been located.

Dredging.

Of the five dredges that were at work in this district at the end of 1909, one company has discontinued operations during the current year—viz., the Antonio's Creek Dredging Company, all the available ground having been treated. The dredges now at work are Hessey and Cameron's dredge at Caplestone, Slab Hut Syndicate's dredge on Slab Hut Creek, Worksop dredge on Antonio's Creek, and the Blackwater dredge on the Blackwater Creek.

In addition to these, Messrs. Hessey and Cameron are now erecting another dredge on their special claim at Frying-pan Flat, near Cronadun.

Alluvial.

A few miners still eke out a living by fossicking for gold in the back gullies, and a few alluvial claims are still being worked at Boatman's, Merrijigs, Antonio's, and Blackwater, but no ventures of any extent are in operation in this district. None of the claims employ more than two or three men.

I have, &c..

ALFRED CROOKE, Warden.

Mr. Warden HEWITT, Hokitika, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,—

Warden's Office, Hokitika, 31st March, 1911.

I have the honour to present my report for the year 1910 on the general condition of the mining industry in the district under my jurisdiction.

HOKITIKA SUBDISTRICT.

There is little fresh to report concerning the Governor's Terrace, Arch Creek, Seddon's Terrace, Back Creek Terrace, Tucker Flat, and Humphrey's Gully fields. The claims remain about the same in number as at the date of my last report, the miners engaged in these localities being at least profitably employed.

A considerable area of land has been taken up in the vicinity of Kanieri Township and at the Hauhau, the results of the prospecting operations having proved a sufficient inducement to a number of local miners and others to endeavour to obtain capital to bring in a supply of water, the rights for which have been obtained. Some portion of the ground has been worked in the primitive methods of the early days of the field, and proved very rich. With the water-supply available in connection with the present scheme the working of the ground should be profitable.

A number of claims aggregating in area some 1,600 acres have, with the consent of the Hon. the Minister of Mines, been taken up on the Rimu Flat and at Hauhau by various persons. At the time of writing my last annual report it was anticipated that the development of these fields would be commenced on a large scale during 1910, but this has not eventuated, owing to the difficulty experienced in obtaining the necessary capital to bring in a sufficient water-supply. The grant of a right to 120 heads of water by gravitation from the Toaroa River has been obtained. The conduit, if constructed, would be thirteen miles in length and would require seven miles of pipes and three miles of tunnel, the remainder being ditching.

The Mahinapua Gold-mining Company pushed on with the bringing-in of their water-supply, which is to be utilized in working their extensive claim by means of a hydraulic elevator. The locality should, I think, give payable returns.

The construction of the Success dredge at Brennan's Creek is nearing completion. The dredge is a powerful machine, with a large capacity; length, 93 ft.; beam, 30 ft.; depth, 7 ft.; height of gantry, 30 ft.; height of top tumbler, 21 ft. 3 in.; length of shoot 63 ft., width 6 ft. Two powerful engines are installed. The operations of this dredge will be interesting.

Development at the quartz reefs at Wilberforce proceeded steadily during the summer months of the year. The claims of Baucke and Fiddes were taken over by the King Gold-mining Company, as a result of which the forthcoming year should witness the speedy development of the mine. Wilson's Reward Claim provided work for three men during favourable weather, the operations being chiefly confined to clearing out the drive put in by Hyndman and party, and testing the various outcrops of the reef. The results have proved satisfactory, but development is hindered for lack of the necessary capital to carry on.

KUMARA SUBDISTRICT.

Several new claims have been taken up in the vicinity of Westbrook and Maori Point, a good deal of fossicking having been done in these localities. As the Government Kumara Water-race extension nears completion more claims will doubtless be taken up. The extension of the race has been steadily carried on during the year. The whole of the pipe-line formation, about two miles in length, is practically completed. At the crossing of the Taramakau River the mooring-piles have been driven and the pipe-laying pontoons constructed. The ditching on the north bank of the river is well under way. A large shed has been built at Dillmanstown wherein to manufacture the 30 in. main. When this important work is completed fresh impetus will be given to alluvial mining in the district commanded by this race.

Five men have been engaged throughout the year by the Long Tunnel Company. The returns from the claim show a decrease from former years.

McGrath and party have extended their tunnel tail-race a further distance of 400 ft. Mining operations have continued on their claim throughout the year, on which ten men have been kept employed.

Garner and party have extended their tunnel tail-race a distance of 650 ft. Three men have been employed in driving this tunnel, which is now nearing completion.

Mining operations at Cape Terrace and Westbrook have been carried on steadily throughout the year, some twenty-three men being engaged. The returns have proved satisfactory.

Dredging has been carried on at the junction of the Blackwater and Greenstone Creeks by Mr. J. W. McIlroy's dredge. Three shifts have worked continuously throughout the year, with fair returns.

A good deal of prospecting has been done in various parts of this subdistrict, some 460 acres having been taken up and vigorously prospected during 1910.

STAFFORD SUBDISTRICT.

At Kelly's Terrace, where it was expected a number of new claims would be taken up in the vicinity of the drainage-channel, the only claim working is that of Sullivan and party, which has been worked continuously, and has yielded satisfactory returns. Little work has been done on the property of the Wheel-of-Fortune Company. A number of alterations and improvements have been made, at considerable expense to the company. The management anticipate, with the improved conditions for working, that the claim will prove remunerative. This claim provides employment for a large number of miners.

At Tunnel Terrace and German Gully all claims have been working full time, and giving very satisfactory results.

At Middle Branch and Goldsborough there are some four parties working at present. Miners in this locality hope for the deviation of the main road, as the ground is stated by them to be highly auriferous. Miners having claims along the road are retaining them, with the view of acquiring portions of the road to work if the deviation is permitted.

At Callaghan's three claims are being worked, with satisfactory results. A considerable amount of prospecting is being done in the vicinity. Messrs. Linklater and party, who received a Government subsidy, drove a tunnel a considerable distance without success. The ground was subsequently abandoned.

Prospecting is being carried on at Red Jack's, but difficulty is experienced owing to the nature of the country being unsuitable for tunnel-driving. It has been decided by the syndicate interested in the locality to procure the Government Keystone drill, which is shortly to arrive in the district. Payable returns have been received by the Stafford Gold-dredging Company from their dredge, which has been operated throughout the year.

ROSS SUBDISTRICT.

The chief interest in this subdistrict centred round the operations of the Ross Goldfields (Limited). The company's mine was pumped out and retimbered, and mining operations commenced about June last. The company at this time employed about a hundred men, sixty of whom were miners working underground. After the mine had been worked for a few months an accident to the electrical-power line resulted in the flooding of the mine, as the result of which, and the fact that the capital of the company had become exhausted, the mine was closed down, and subsequently the company went into voluntary liquidation. During the time mining operations were carried on a considerable amount of gold was won, and the amount would no doubt have increased as the development of the mine proceeded.

During the opening months of the year Osmer's and party continued to obtain payable ore from their reef, the quantity actually crushed during the year being 97 tons, yielding gold to the value of £425. The ore at the level at which they were then working became exhausted.

The Mont d'Or Company has carried on sluicing operations whenever water-supply has been available, and the results have enabled the company to continue the payment of dividends. A new tail-race at a lower level has been constructed at a considerable cost.

A considerable amount of prospecting has been done in this subdistrict, and although mining operations have suffered a decline during the year, the prospect of an improvement during 1911 is good.

OKARITO SUBDISTRICT.

Mining in South Westland is practically at a standstill, the only claim in connection with which any work at all is being done is that owned by the Dominion Gold and Ironsand Company, which company are at present engaged in clearing a pipe-line from Lake Alpine to their special claim at the Five-mile Beach preparatory to commencing operations on a large scale. This may give an impetus to the mining industry generally throughout this district.

Carrol Brothers, of Gillespie's Beach, have lately been granted prospecting licenses over a fairly large tract of country; they are also applying for a water-race, estimated to take three years to construct, at a cost of £8,000. Should work be proceeded with it will no doubt tend to improve the condition of the mining industry in South Westland.

Cowern and Basham, of Hawera, have formed a company, and intend purchasing a dredge to work their ground, which is on the banks of the Okarito Lagoon.

Several parties of prospectors have lately come into the district, but do not seem to be doing very much work, the present spell of dry weather no doubt hampering operations to a certain extent.

I have, &c.,

J. GEORGE L. HEWITT, Warden.

Mr. Warden HUTCHISON, Oamaru, to the UNDER-SECRETARY, Mines Department, Wellington.
SIR,—

Magistrate's Court, Oamaru, 29th April, 1911.

I have the honour to present my report for the year ended 31st December, 1910.

With regard to the Livingstone Goldfield, operations have been unimportant. The claims on the Maerewhenua River are all working profitably; some of the miners there, it is believed, are doing really well. On the Livingstone side of the river mining is not quite so active. The accumulation of tailings from the claims on the higher ground, for the present, prevents operations on the lower ground, and so restricts the extent of mining operations there; but when the upper ground has been exhausted of its gold, operations can be carried out upon the lower ground. Expert opinion favours the view that the Livingstone field can be profitably worked for several years to come. A large amount of

capital has been sunk in order to develop the field, principally in bringing water from a distance. There are 130 miles of constructed conduits to the field in eleven distinct races, varying in length from twenty-seven miles down to five miles, and having a total carrying-capacity of 44 heads.

The following table sums up the present statistics of the field : Number of miners, 39 ; number of water-races, 11 ; carrying-capacity of races, 44 heads ; number of sluicing plants, including two elevators, 19 ; length of piping for sluicing plants, 18,900 ft. ; length of water-races, 170 miles.

The business transacted during the year was as follows : Grants—Claims, 8 ; water-races, 7 ; tail-races, 7 ; residence-site, 1. Surrenders—Claims (including five for amalgamation), 13 ; water-race, 1 ; tail-race, 1.

I have, &c.,

J. HUTCHISON, Warden.

Mr. Warden HASELDEN, Naseby, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,—

Naseby, 25th April, 1911.

I have the honour to present extracts from the annual reports of the Mining Registrars within my district for the year ended 31st December, 1910.

My Wardenship of the district began on the 1st February last ; since then I have thrice been through the different localities comprised therein, but I am unable to offer any observations which would differ from the tale that has been told so often during past years.

Mr. Registrar Tansey reports as follows regarding Cromwell district :—

During the year ended 31st December last I was not in charge of this district, but as far as I can ascertain nothing calling for special mention has transpired.

The supplies of water seem to be gradually diminishing, and this has affected the returns from the sluicing claims, which are slightly less than in the previous year.

The number of dredges in active operation is also decreasing, but those at work mostly get good returns, and the industry, generally speaking, is a paying one, and likely to be so for some time to come.

The following business was transacted in the Warden's office during the year :—Claims granted, 22 ; surrendered, 29 ; water-races granted, 21 ; surrendered 4 ; dams granted, 2 : surrendered, nil ; tail-races granted, nil ; surrendered, 1 ; ordinary prospecting licenses granted, 6 : surrendered, 5 ; special sites granted, 2 : surrendered, nil.

Mr. F. Jeffery, Clerk of Courts, reports as under regarding the Clyde, Black's, and Alexandra districts :—

During the year ended 31st December last I was not in charge of this district, but from what I can ascertain nothing calling for special mention has transpired.

The supplies of water seem to be gradually but surely diminishing, and the returns of gold from the hydraulic-sluicing claims are, as a consequence, slightly less than the previous year. Dredging, however, although probably on the decline, is yet a paying industry, and may be for some considerable time to come.

The following are details of the business transacted in the Warden's Court for the year ended 31st December, 1910 : Applications, 171 ; complaints, 23 ; general registrations, 356 ; water-races, 39 ; miners' rights, 230 ; Court fees, £24 6s. ; total revenue, £1,456 9s. 3d.

I have, &c.,

W. R. HASELDEN, Warden.

Mr. Warden BARTHOLOMEW, Lawrence, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,—

Warden's Office, Lawrence, 13th April, 1911.

I have the honour to present my report for the year ended 31st December, 1910, on that portion of the Otago Mining District now under my administration.

WEATHERSTONE AND BLUE SPUR.

The state of mining is much the same as in the previous year. All the parties working are still hampered by the scanty supply of water, which each year has been steadily decreasing in quantity. The production of gold in this portion is almost wholly obtained by hydraulic sluicing, and that is principally confined to small companies and working-parties. The richer alluvial ground has long been worked out, and for successful working a fairly large quantity of ground must be turned over ; and with the present scarcity of water during the summer months, the chance of obtaining payable results is seriously affected.

WAIPORI.

In addition to hydraulic sluicing, which is carried on under the same handicap of an inferior water-supply as in other places, several quartz claims are being developed here, with moderate success. There is only one dredge at present working in this subdistrict.

WAITAHUNA.

The same general remarks on the state of mining apply also to this portion of my district. There is little change in mining prospects here, and all forms of alluvial mining are steadily declining.



BEUL SPRING HYDRAULIC SLUICING AND ELEVATING CANAL, GABRIEL'S GULCH, OREGON.

At this claim about 50 acres of auriferous fluvio glacial conglomerate has been removed by sluicing, and the remarkable mud race to the right has been laid bare for a height of about 100 ft.

ROXBURGH.

Mining in this portion of my district remains in much the same condition as last year. Dredging and hydraulic sluicing alike have suffered considerably from the exceptionally dry season, and probably there has been a slight falling-off in the return of gold in consequence. The business transacted in the Court at Roxburgh has, however, slightly increased, the following being the details: Applications, 72; general registrations, 251; water-races, 14; miners' rights, 134; rents and royalties, £314 13s. 9d.; fees and fines, £25 9s.

I have, &c.,

J. L. BARTHOLOMEW, Warden.

Mr. Warden YOUNG, Queenstown, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,—

Warden's Office, Queenstown, 31st March, 1911.

I have the honour to present my report for the year ended 31st December, 1910, on that portion of the Otago Mining District under my charge.

QUEENSTOWN-ARROWTOWN.

Lode-mining for scheelite has during the year been actively carried on at the head of Lake Wakatipu. In connection with this industry nine mineral licenses and seven prospecting licenses were granted.

Two companies were formed and registered with the object of working alluvial areas in the Shotover, and several alluvial claims and water-rights were taken up by parties in and about the Shotover and Arrow Rivers. A large amount of development was done in connection with sluicing, elevating, and driving operations in these rivers, and this year there should be a very substantial increase in the output of gold from this locality.

In several places in the Cardrona Valley sluicing on a small scale was carried on, and two dredges, driven by water-power, were kept at work throughout the year.

WAIKAIKA.

The water-supply in this portion of the district has during the past year been considerably below the average, and, in consequence of this, expectations as to an increased output of gold have not been realized. It is estimated that gold to the value of £50,000 has been obtained, but this return is a little below that of former years.

The Muddy Terrace Sluicing Company continued working at the faces opened in the spring of 1909, the area sluiced on top of the terraces being about 5½ acres, and this yielded, on an average, about 2 gr. to the yard. The contents of a paddock of from 4 to 5 acres have passed through the two elevators at the foot of the terraces, for an average yield of about 4 gr. to the yard. The company's plant having been designed and placed to work the ground on a large scale, operations were considerably hampered last year by the scarcity of water. An increased supply is being brought in, and if weather conditions and rainfall go back to normal, work at all the faces should be regularly carried on this year.

There were nine dredges at work, being five less than in the previous year.

GORE-WAIKAKA.

Dredging continues to be the only form of mining in this portion of the district. Nineteen dredges were at work, being three less than in the previous year; two were worked in the Waimumu with poor returns, three in the Charlton with fair results; whilst the returns were, on the whole, good from the fourteen at work in the Waikaka Valley.

I have, &c.,

H. A. YOUNG, Warden.

Mr. Warden CRUICKSHANK, Riverton, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,—

Riverton, 10th April, 1911.

I have the honour to present the following general report upon goldfield matters in this district during the year 1910:—

Mining remains much as during 1909. There is no new discovery to report, or any incident or movement worthy of note.

Now that gold-mining is languishing the residents of Orepuki and Round Hill are turning their attention more and more to cultivating the soil, instead of sluicing it away. There are large areas of Crown land covered with bush of varying milling character, and strong efforts are being made to have these lands thrown open for settlement. The Miners' Associations watch this movement closely; and all applications to obtain either the freehold or a renewable lease of any part of this mining area are scrutinized, and objection made to the Warden if in their opinion the future of the mining industry is imperilled.

So far, however, the two industries are working well together without friction. The miners see that the farmers must supplant them in the occupation of most of this land, and many of them are taking up land themselves, and for their families, for pastoral purposes.

ROUND HILL.

With the exception of the work done by the Round Hill and Ourawera Companies, mining operations in this locality are not of an extensive nature. These companies, however, have been responsible for

some good work, and nearly fifty men are kept constantly employed by them. But the trouble in this field seems to be the failing supply of water. A great deal of bush-clearing has been done, thus exposing the races to some very dry winds. As a consequence, the water-supply is very limited when there is not much rainfall.

Round Hill Mining Company.—This company has two elevators at work, and the area of ground treated during the year was 10 acres; the amount of gold won being 1,843 oz., an increase on that of the previous year, while the amount paid in dividends during the year was £1,130. The water-supply has not been good, on account of the dry weather and heavy winds. New paddocks are about to be opened, which will necessitate the removal of the elevators. The total cost of this work, added to that of new piping, will be over £1,700; but the elevators will then be a fixture for three or four years' work.

Ourawera Mining Company.—This company, capitalized at only £3,000 in £1 shares, has proved itself a very payable concern, £13,615 having been declared in dividends since registration in 1895. The dividends for 1910 amounted to £900, being equivalent to 6s. per share. This company also is handicapped by the inadequate supply of water.

OREPUKI.

No large gold-mining companies are in operation in this field, the sluicing-work being entirely confined to the individual miners, all of whom seem to get a very steady livelihood out of their employment.

The smelting-works, erected in 1909 by the New Zealand Smelting Company, have been closed down during the year. The manager is at present out of the Dominion on business in connection with the works, and it appears likely that operations will be resumed on his return.

The New Zealand Coal and Oil Company carried on extensive and successful boring operations during the year. Four bores were put down, and proved that a considerable area of coal and oil-bearing shale occurs between the site of the works and the sea-coast.

PRESERVATION.

Crown Gold-mining Company.—The property which was formerly held by this company was sold in September last to Mr. George Holloway, who has since been doing some development thereon. Prior to the sale very little work was done.

Tarawera Company.—The preliminary work on this property is now nearing completion, and the company expect to start operations some time in April, 1911. There are six men at present employed, but if smelting begins there would be employment for more.

Morning Star Company.—The reef on this claim is about 6 ft. wide, and a little gold has been found in the quartz, but not sufficient to pay. In the vicinity of the rich shoot worked by the former company an upper drive has been commenced, with favourable prospects of success.

I have, &c.,

G. CRUICKSHANK, Warden.

ANNEXURE C.

REPORTS OF DIRECTORS OF SCHOOLS OF MINES.

Professor JAMES PARK, M.Inst.M.M., M.A.I.M.E., F.G.S., Director of the Otago University School of Mines, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,—

Dunedin, 14th April, 1911.

I have the honour to report as follows on the work done at the Otago School of Mines during the year 1910 :—

The mining school for the year showed an attendance of thirty-one students, of whom eight were taking the courses in mining and metallurgy, three the course in geology, and five the course in surveying. Of the remaining fifteen students, eleven attended the classes in geology, two the class in dental metallurgy, and two the classes in surveying and applied mechanics. Twenty-nine students presented themselves at the annual examinations in October, and all passed except one in mathematics and one in surveying. In the New Zealand University November examinations, Henry Mayall Budd gained the M.Sc. degree, with first-class honours, in physical science and geology; Leonard J. Wild, second-class honours in geology; and Montague Ongley, the New Zealand Senior Scholarship in geology. Mr. W. A. Macleod, B.Sc., A.O.S.M., general manager of the Brilliant Gold-mining Company (Limited), Charters Towers, was awarded the forty-guinea prize of the Institution of Mining and Metallurgy, London, for 1910, for his paper on "The Surface Condenser in Mining Power Plant."

Two graduates of the school of mines who had already passed the necessary examinations, and presented satisfactory evidence that they had complied with the regulations relating to practical work, were awarded the diploma of Associate—namely, one in mining and one in geology—and three were awarded the certificate of Land and Mine Surveyor. The diplomas granted by the University of Otago in the divisions of mining, metallurgy, and geology since 1887 are as follow: Mining, 90; metallurgy, 49; geology, 16: total, 155.

Among the more important appointments obtained by graduates of the mining school during 1910 are the following: G. L. Hercus, A.O.S.M., Director, Westport School of Mines; O. Gore Adams, A.O.S.M., consulting engineer, Bolivia Mining Company (Limited); S. Napier-Bell, A.O.S.M., consulting engineer, African Tin-mining Company, Nigeria; Geoffrey W. E. Turner, A.O.S.M., manager, Progress Mines (Limited), Reefton; A. Spencer, A.O.S.M., assistant general manager, New Zealand Consolidated Goldfields (Limited); J. Allan Thomson, M.Sc., A.O.S.M., geologist to British Antarctic Expedition (1910), retired owing to ill health; P. Fitzgerald, A.O.S.M., general manager, Oroga Links Gold-mining Company (Limited), Kalgoorlie; D. M. Timlinson, A.O.S.M., B.Sc., assistant general manager, Korea Copper Company (Limited), Korea; Oluf Moen, A.O.S.M., manager, Scandinavia Gold-mining Company (Limited), St. Bathans; Philip McDouall, assistant mine-surveyor, Progress Mines, Reefton.

Surveyors' Examinations.—R. Thompson, R. M. Mouat, and W. Black succeeded in passing the examinations of the Surveyors' Board of Examiners as licensed surveyors.

Mine-managers' Examination.—G. W. Eaton-Turner passed the examination of the Board of Examiners under the Mining Act, gaining a first-class mine-manager's certificate.

Post-graduate Course.—The two years' course of Mr. Norman Shand, A.O.S.M., the present holder of the Berwick Moreing post-graduate place, expired on the 31st December, 1910. At the request of the general manager of the Talisman Mine the time has been extended for another year.

New Zealand Research Scholarship for Otago.—The Scholarship for 1910 was awarded to Mr. H. M. Budd, M.Sc., a graduate of the Otago Mining School.

EQUIPMENT.

The laboratory of the department of applied mechanics is now well equipped with an Avery's testing-machine for testing materials in tension and compression, Avery's shot cement-tester with accessories, wire-torsion tester, and a transverse cement-tester. All the machines are constructed after the latest models. The new apparatus also includes many working models illustrative of steam-engine construction and practice; various roof-trusses; numerous models of iron joints and methods of riveting, apparatus for showing bending-moments, reaction at points of support, and stresses in girders; reaction of jet of water, and hydraulic tank for showing flow from different kinds of apertures under a varying head.

During the past year there have been added to the equipment of the department of metallurgy two electrical motors, each developing about 2 B.H.P., a dynamo of 3.5 B.H.P., and a small electrically-driven rock-crusher for the reduction of samples of ore forwarded to the school for valuation. The gas-engine, rock-breaker, and berdan-pan have been removed from the old experimental plant, and re-erected in the basement of the new mining-school building, where they are conveniently situated for use and for class demonstration. The rock-breaker and berdan have been erected in such a way that they can be driven either by the gas-engine or by an electric motor. To the department of geology there have been added a powerful projection lantern and a Newton projection polariscope for the illustration of lectures.

METALLURGICAL LABORATORY.

During the year 1910 the number of samples sent in for assay showed a considerable increase, being as follows: Number of lots forwarded, 141; total number of samples, 267; number of separate estimations, 277. Besides these, about twenty samples were reported on for "Notes and Queries" in the *Otago Witness*. Of the foregoing samples, the largest number were determinations for gold, but many scheelite samples were forwarded for the estimation of tungstic acid. Other samples consisted of fireclays, phosphate rock, limestones, coals, iron-ores, bullion, &c.

The majority of the samples were forwarded from Otago and Southland, but many were sent from the West Coast districts, whilst others came from the North Island, and from such distant places as the Philippine Islands and Fiji.

The work of the assay laboratory has gradually increased during late years, and there is no doubt that this department of the school of mines is of growing value to the mining community. The necessity for assaying is becoming more and more obvious to miners and mining companies as time goes on. The scheelite industry finds the mining-school laboratory especially useful, since it affords mine-owners a means of quickly finding the value of their ores and concentrates. A small working-model cyanide plant has just been completed for treating tailings experimentally, and it is hoped that it will prove of use to the mining community for the testing of small parcels of gold-bearing ore. The metallurgical department is under the supervision of Professor Waters.

During the year Professor Marshall examined and reported on, free of charge, some fifty samples of rock and ore, and the Director on forty-three samples. The examinations were in most cases made for miners, prospectors, and others interested in the discovery of minerals of economic importance.

I have, &c.,

JAMES PARK, Director.

Mr. A. H. V. MORGAN, M.A., Director of the Waihi School of Mines, to the UNDER-SECRETARY,
Mines Department, Wellington.

SIR,—

Waihi, 13th March, 1911.

I have the honour to present the following report on the work of the school during the year ended the 31st December, 1910:—

Attendance.—The average number of students during 1910 was eighty, and the average class attendance 159, or just about two classes per student. The number of individual students enrolled

constitutes a record, but the average number of classes attended by each student shows a slight decrease. The classes in electrical engineering were specially well patronized during the year.

Examinations.—At the annual schools of mines examinations conducted by the Mines Department during December, 1910, 30 students presented themselves for the written papers, and 12 for the practical tests. The results are exceedingly satisfactory, 29 first-class, 17 second-class, and 4 third-class certificates being obtained, and only 3 papers failing to secure certificates. In addition, 13 passes were recorded in the practical examinations, and 2 students (S. Clark and J. M. Corbett) qualified for the bullion-assayers' certificate issued by the Department of Trade and Customs.

The gold medal presented by the president (Mr. T. Gilmour) for the highest aggregate in any four subjects was this year won by J. M. Corbett. Mr. J. Livesey's gold medal for mining subjects was won by H. Langdon, who obtained 6½ first-class passes and 1 second-class. The gold medal presented by Mr. M. F. Haszard for surveying was won by J. Thomson. A number of other prizes, consisting of valuable text-books, have been donated by the Engine-drivers' Association and the School of Mines Council, as in previous years.

Government Certificates.—At the examinations for Government certificates, held in April, 1910, 2 students of this school (G. A. C. Ulrich and R. Broad) gained certificates in the first-class metal-mine managers' examination, and 3 (H. A. de Lautour, W. L. Dutton, and L. Moore) obtained partial passes. One student (E. J. Scoble) obtained a partial pass in the first-class coal-mine managers' examination. In the examination for battery-superintendents 1 student (N. Carless) was successful, and 2 (P. S. Ritchie and T. Andrews) obtained partial passes. During the current year more students, viz., Messrs. H. Langdon, L. O. Moore, H. A. de Lautour, and W. S. Dutton passed the Government examination and obtained first-class certificates of competency as managers under the Mining Act, and one student, Mr. T. T. Andrews, passed the examination and obtained the battery-superintendent's certificate. Altogether 32 students of this school have obtained certificates as first-class metal-mine managers, 2 as first-class coal-mine managers, 40 as battery-superintendents, and 19 as assayers of bullion under the Customs Department. In addition, a number of second-class certificates, engine-drivers' certificates, &c., have been obtained.

General.—I have to acknowledge with thanks receipt of specimens for the museum from Messrs. R. E. Williams, W. Morrison, P. G. Morgan, and others, and of a parcel of volumes of *Knowledge* from Mr. H. B. Devereux. I desire also to take this opportunity of recording my appreciation of the ability and enthusiasm displayed by the other members of the staff, and of the unfailing co-operation and assistance of the Council and secretary.

I have, &c.,

A. H. V. MORGAN, Director.

Mr. F. W. REID, Director of the Karangahake School of Mines, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,—

Karangahake, 1st April, 1911.

I have the honour to present my report upon the work of the Karangahake School of Mines and of the branch school at Waikino for the year ended 31st December, 1910.

Attendance.—The average number of students in attendance for the three terms of the year was 47.6, with an average class enrolment of 89. There were nine classes in operation at Karangahake and six at Waikino.

Examinations.—At the annual examinations held in December, 14 candidates presented themselves at Karangahake. Eleven passes were obtained in the practical and 27 in the written examinations, the latter being distributed in the three grades as follows: First class, 12; second class, 10; third class, 5. At Waikino 9 students sat for examination, the results being: practical work, 4 passes; written examinations, 3 first-class, 1 second-class, and 3 third-class passes. Karangahake headed the list in six of the subjects of examination, and Waikino was equal with Waihi for top place in one subject.

The following students completed the examinations entitling them to H.M. Customs certificate for bullion-assaying, viz.: T. R. Hogg, H. T. Harman, and W. J. Mayberry.

Prizes.—A prize presented by Mr. D. M. Deane (ex-President of Council) was awarded to G. Hyde, and one presented by Mr. W. Wilson (President of Council) to F. Smale.

Scholarships.—The Council of the School of Mines is now offering two scholarships annually, open for competition to boys attending the public schools of the district. At the examination held in December for the purpose of awarding these scholarships, 9 candidates presented themselves, the successful ones being A. Connelly and R. Morrison.

Equipment.—Additions to the Waikino school, completed early in the year, greatly facilitated the work in practical chemistry and wet assaying. An assay-balance and other apparatus were purchased during the year. Additional electrical apparatus is now on order, and will serve to remove a disability under which the classes in electricity have been labouring. Several standard volumes have been added to the library.

Assays.—During the year 67 assays were made for prospectors and others.

Conclusion.—I desire to express my appreciation of the conscientious work done by the members of the teaching staff, and of the unfailing interest and support of the Council of the school.

I have, &c.,

F. W. REID, Director.

Mr. J. F. McPADDEN, Director of the Coromandel School of Mines, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,—

Coromandel, 18th April, 1911.

I have the honour to report on the work of the Coromandel School of Mines for the year ended 31st December, 1910.

Attendance.—The average individual attendance was 18, with a class attendance of 43.

Examinations.—Seven students sat for the annual Government examinations held in December, and obtained 8 first-class, 7 second-class, and 4 third-class certificates, while 1 student (Mr. F. L. K. Broadgate) secured the only School of Mines Government Scholarship awarded: this student having gained the excellent average percentage of 73.1 for ten subjects.

During the year 101 assays were made for the public.

I have, &c.,

J. F. McPADDEN, Director.

Mr. J. HENDERSON, M.A., D.Sc., Director of the Reefton School of Mines, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,—

Reefton, 31st March, 1911.

I have the honour to present my report on the work of the Reefton School of Mines for the year ended 31st December, 1910.

The total number of students for the three terms was, 25, 38, and 36 respectively, and the class attendance for the same periods, 28, 37, and 43. These figures, the best of recent years, reflect the increasing mining prosperity of the district.

Instruction was given in chemistry, assaying, blowpipe analysis, metallurgy, mathematics, surveying, and all mining subjects.

At the annual December examinations 8 students presented themselves, obtaining 2 first-class passes; 1 student also passed in the practical examinations.

During the past year 213 assays were made, the bulk of these for gold only; coal and ores of copper, tin, and lead were also reported on. As in former years, prospectors' samples were assayed free of charge.

The lending library has been largely used, and students greatly appreciate the standard works donated by the Mines Department.

I have, &c.,

J. HENDERSON, Director.

Mr. W. F. WORLEY, Director of the Nelson School of Mines, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,—

Nelson, 24th March, 1911.

I have the honour to present my report on the Nelson School of Mines for the year ended 31st December, 1910.

The work undertaken may be grouped under five heads—(1) Teaching mineralogy and blowpipe analysis to boys attending the public school; (2) making assays and tests for the public; (3) adult classes for geology and assaying; (4) giving popular lectures on some subject connected with geology; and (5) systematic study of the geology of this district.

(1.) *Mineralogy and Blowpipe Analysis Classes.*—These classes are still the most important branch of our work, and interest in them is well maintained. At the beginning of the year twenty-five lads were enrolled. Eight of these left during the year, owing chiefly to the demand for boy-labour. The usual course of study was followed; and by the end of the year those remaining in the class were able to identify, by means of blowpipe, tests all the ordinary ores of commerce, if not too complicated. Three examinations were held during the year, and certificates of merit were presented to those able to pass all three of the examinations, the successful students being H. Newport, J. Marris, and P. Stewart. H. Newport headed the list with 90 per cent. of marks, and was awarded a prize.

(2.) *Assays made for the Public.*—Only seven of these were made, and not one of them was of much importance. This falling-off in assaying-work is due to the pretty general lack of interest in mining development. There are indications, however, that Nelson has reached its lowest ebb in this respect.

(3.) *Adult Classes.*—One young man took a short course of lessons in assaying, but not enough to be of any practical use to him. He intended to work as assayer for a mining syndicate carrying on prospecting in the Wangapeka district. One lady student took a short course of lessons in geology, and passed an examination in that subject in connection with examinations for teachers held by the Education Department.

(4.) *Popular Lectures.*—A lecture on volcanoes, illustrated by lantern-slides, was repeated five times during the year in as many different localities. The interest shown in these lectures is highly gratifying, and indicates that much useful knowledge may be disseminated in this way. The lecture for the current year will be on the mining industry of New Zealand.

(5.) *Geology of Nelson District.*—For some time past attention has been given to the geology of this district, but until quite recently no attempt was made to place on record the results of these studies. Now, however, a series of papers on the geology of Nelson is being supplied to the "Nelsonian," the official organ of the Nelson Boys' College. These papers are specially written for the College Field Club; and, with that object in view, they are made suggestive rather than dogmatic, the aim being to stimulate geological research.

I have, &c.,

W. F. WORLEY, Director.

Mr. W. H. BAKER, B.Sc., Director of the Thames School of Mines, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,—

Thames, 18th April, 1911.

I have the honour to report on the work of the Thames School of Mines for the year ended 31st December, 1910.

The attendance is again slightly better than that of the previous year, chiefly due to the engineering subjects—drawing and electricity. The small amount of bullion now being derived from this field, and the uncertainty of an immediate revival, have placed mining in a subordinate position; but any development in the deeper levels will have an immediate effect upon the mining industry and the school. Considering this depressed state, the attendance is very satisfactory.

At the annual examinations 27 students presented themselves, and obtained 8 first-class, 14 second-class, and 6 third-class certificates.

In the practical examinations 10 papers were presented, of which 8 secured passes. One student, H. Cropp, has qualified for the Customs bullion-assayers certificate.

The President's prize, donated by the Hon. James McGowan, M.L.C., was awarded to H. Cropp. A special prize for electricity was awarded to T. Causeley.

The results of the Saturday science class show lower marks than usual, on account of the attendance being now restricted to primary-school pupils; whereas in previous years the candidates were all secondary-school students.

Three candidates sat for the mine-managers examinations, one each for coal and first- and second-class gold-mine certificates.

The experimental plant has required various alterations, but is now in running-order, though improvements will have to be made to the elevators to get satisfactory work.

I have to acknowledge with thanks the receipt of various samples donated to the museum.

During the year 210 assays were made for the public, including those done free of charge for prospectors.

During the year the school has lost the services of Mr. A. J. Newman, drawing instructor, and Mr. H. Dodson, electrical instructor. Both these gentlemen performed their duties in a most satisfactory manner, and their departure is a distinct loss to the school. Mr. William Craig has been appointed temporarily as drawing instructor, and is carrying out the work satisfactorily.

I wish to express my appreciation of the work done by the staff, and my thanks for the interest and support of the Council in furthering the advance of the school.

I have, &c.,

W. H. BAKER, Director.

Mr. G. L. HERCUS, Director of the Westport School of Mines, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,—

Westport, 27th March, 1911.

I have the honour to present the following report on the work done at the Westport School of Mines for the year 1910:—

Attendance.—The total number of individual students was 29, with an average class attendance of 16.

Examinations.—In the annual examinations three students sat in four subjects. Owing to the fact that most of the students reside at the mines, it is very difficult to get them to sit at these examinations. During the year one student sat for and obtained his underviewer's certificate, and two obtained deputies' certificates under the Coal-mines Act.

During the year 174 gold-assays and 11 coal-assays were made for the public, and 10 samples of mine-air were analysed for the Inspector of Mines, besides which numerous mineral determinations were made (free) for various prospectors.

The mineral collection donated by the Mines Department has been fully classified and cased in the school museum.

I have, &c.,

G. L. HERCUS, Director.

ANNEXURE D.

REPORTS OF WATER-RACE MANAGERS.

Mr. JAMES ROCHFORD, Manager of Waimea-Kumara Water-races, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,—

Kumara, 29th April, 1911.

I have the honour to present my report on the working of the Waimea-Kumara water-races for the financial year ended 31st March, 1911.

WAIMEA RACE.

The cash received from this race for the year ended 31st March, 1911, was £847 7s. 3d., and the expenditure on gauging, maintenance, and repairs amounted to £588 8s. 1d., showing a credit balance of £258 19s. 2d. on the year's transactions.

The average number of miners supplied with water from the race during the year was 31.33, a decrease of 3.66 as compared with the previous year; and the approximate quantity of gold obtained by them was 1,784 oz., having a value of £6,957 12s.

The sales of water for the year amounted to £854 8s. 8d., or £87 19s. 2d. less than the previous year.

The cash received for sales of water was £91 10s. 2d. less, and the expenditure on gauging, maintenance, and repairs was £13 18s. 5d. greater than during the preceding year.

The head-works at Wainihinihi and Kawhaka, the Waimea siphon, tunnels, main and branch races, have been well maintained, and are now in good working-order.

The old flumings along the Waimea Race are in a very decayed condition, particularly the superstructure, which in most cases is rotten. The revenue from the Stafford section of this race shows a decrease on the previous year, but there is a large area of ground in the locality that will pay for sluicing if worked on up-to-date principles. A portion of this ground has been held for the past eighteen months, and the party has filed an application for twelve heads of water for five hours daily. Unfortunately, there are portions of the Waimea Race between Goldsbrough and Stafford that will only carry three heads of water, and there is not sufficient spare water available at present to warrant the expenditure required to increase its carrying-capacity.

The tributers of the Waimea Hydraulic Sluicing Company worked steadily throughout the year, but the results were only fairly satisfactory, as the ground became poorer as they sluiced back from the edge of the Waimea Creek.

Linklater and party worked both their claims during the year with satisfactory results, and purchased water to the amount of £226 3s. 8d. The total value of water purchased by this party since the siphon was completed to lower German Gully is £534 4s. 11d., and the work cost the Department £404 17s. 3d., which gives a clear profit of £129 7s. 8d. in less than two years and a half, and all the pipes are still in excellent condition.

At Tunnel Terrace six parties have been taking water from the race during the year, and as there is still a large area of payable ground in the locality I do not anticipate any falling-off in the sales of water for some time to come. There was a good supply of water during the year, with the exception of the months of February and March, when it was reduced from thirty-three to eighteen heads. Authorized free water to the amount of £5 17s. 1d. was supplied from this race during the year.

The following is a summary showing the revenue and expenditure of the Waimea Water-race for the year ended 31st March, 1911: Sales of water, £854 8s. 8d.; cash received, £847 7s. 3d.; expenditure, £588 8s. 1d.; approximate quantity of gold obtained, £6,957 12s.; average number of miners employed, 31.33.

BRANCH RACE TO CALLAGHAN'S AND MIDDLE BRANCH OF WAIMEA CREEK.

The cash received from this race during the year ended 31st March, 1911, was £359 9s. 7d., and the expenditure for the same period on gauging, maintenance, and repairs amounted to £470 5s., showing a debit balance of £110 15s. 5d. on the transactions for the year.

The average number of miners supplied with water was 16.66, an increase of 0.91 as compared with the previous year; and the approximate quantity of gold obtained by them was 1,024 oz., having a value of £3,993 12s.

The total sales of water amounted to £352 9s. 7d., a decrease of £83 6s. 11d. on the previous year, and the cash received showed a decrease of £106 3s. 5d. The falling-off in the sales of water was principally due to the long spell of dry weather towards the end of the year.

The approximate quantity of gold obtained by the miners was 357 oz. less than during the previous year, representing a decrease in value of £1,392 6s.

The expenditure on gauging, maintenance, and repairs was £132 7s. 10d. less than the previous year, and the races, tunnels, and fluming are now in good order.

M. Hanrahan and party are still working their claim at Goldsbrough, and purchased water to the value of £67 13s. 4d. during the year. Carmine and party have been engaged for the past eighteen months in constructing a tunnel tail-race from the Middle Branch Creek above Goldsbrough to their claim at Middle Branch Flat, a distance of 1,952 ft. The tunnel is driven for the whole distance under old workings, and in several places (owing to natural depressions in the reef bottom, which could not have been previously ascertained by levels) these old workings were met with on the line of tunnel, and had to be driven through. This greatly increased the cost of the work, but it is now completed, and sluicing operations were commenced a few days ago. There was practically only one party sluicing into the Waimea Main Tail-race during the year. The greater portion of the payable ground commanded by this Main Tail-race, with the exception of the ground on which the Hokitika-Kumara Road now stands, is worked out, but when the road is deviated on to the old workings sluicing into the Main Tail-race will be recommenced by four or five parties. This in conjunction with Carmine's new claim will give an impetus to mining on the Middle Branch Flat, and the demand for water from the Callaghan's Race for two or three years at least should be in excess of the available supply. Flushing-water was supplied to the Main Tail-race during the year free of charge.

At Callaghan's Flat, Havill and party sluiced intermittently throughout the year, with satisfactory results, but, owing to the hard nature of the ground treated, the quantity of water purchased did not come up to expectations. This party has dams on a higher level than the Callaghan's Race, for conserving flood-water to break down the ground and flush their low-graded tail-race. In dry seasons this flood-water is limited, consequently less ground is broken down, and the quantity of water purchased to sluice it away is correspondingly reduced. Cook and Honey did a fair amount of work in their claim during the year, and purchased water to the value of £107 12s. 6d. This amount would have been materially increased but for the fact that there was not sufficient water available during the months of February and March to work their Main Tail-race. Owing to the depth of the ground and the limited pressure from the Callaghan's Race the opening-up of this claim presented great difficulties, and the party had their pipes broken and plant covered over on several occasions by slips from the sides of the face. At the present time, however, they are in fairly good working-order, and the ensuing year should thoroughly test the value of the property. Manzoni and party were greatly impeded by the want of fall in the face and the limited tailing room in the Little Kapitea Creek, and did practically

no sluicing during the year. Some three months ago this party let a contract for driving a tunnel tail-race from Manukau Creek, which when completed should give every facility for working this highly auriferous area.

The following is a summary of the revenue and expenditure of this race for the year ended 31st March, 1911: Sales of water, £352 9s. 7d.; cash received, £359 9s. 7d.; expenditure, £470 5s.; approximate quantity of gold obtained, £3,993 12s.; average number of miners employed, 16'66.

KUMARA RACE.

The cash received for sales of water from this race for the year ended 31st March, 1911 was £351 7s. 11d., and the expenditure on gauging, maintenance, and repairs was £363 3s. 6d., showing a debit balance of £11 15s. 7d. on the year's transactions.

The average number of miners supplied with water from this race was eight, a decrease of 4'16 on the previous year; and the approximate quantity of gold obtained by them was 641 oz., of the value of £2,499 18s.

The sales of water for the year amounted to £330 2s. 10d., an increase of £3 12s. on the preceding year, and the cash received shows a decrease of £3 14s. 11d.

The approximate quantity of gold obtained was 79 oz. less than during the previous year, representing a decrease in value of £308 2s.

The expenditure on gauging, maintenance, and repairs was £281 16s. 3d. less than the previous year. The head-race tunnel was well maintained during the year, but a considerable amount of lining and relathing has yet to be done before it can be taxed to its full carrying-capacity. This work, together with repairs to the long-disused branch race leading to Garner's new claim, will have to be carried out at an early date. All the other branch races and siphons (except the No. 5 siphon) are in good repair.

The Long Tunnel Company were the only party that sluiced into the No. 3 Channel deviation during the year, and they purchased water to the value of £245 12s. 6d.; but I regret to state that, owing to the very heavy expenditure incurred in maintaining and extending the channel, the results were so unsatisfactory that they have decided to close down until some of the other parties are ready to sluice into the deviation. This company deserve every credit for the honest effort they made to keep their men employed, although running their claim at a loss. Had other parties holding ground commanded by the No. 3 deviation shown a like spirit and persevered with their preparatory work they would have been ready to sluice long before the end of the year, and the Long Tunnel Company would now be a dividend-paying concern. Shannon and party and Garner and party have practically completed the driving of their tunnel tail-races, but the boxing, blocking, and other preparatory work has yet to be done. Both these parties should be ready to start sluicing in July or August. Messrs. Benyon and Murchie have been engaged for the past seven months in forming and laying a pipe-line to deviate the water-race between Dillmanstown and Kumara to enable them to get sufficient water to work their new claim on the eastern boundary of the Kumara Borough. The work has been carried out in a most creditable manner, and it is to be hoped that they will be well rewarded for their energy and enterprise. This party should also be ready to start sluicing in three months.

McGrath and Co.'s was the only private tail-race supplied with water from this race during the year. The No. 1 and No. 2 Kapitea Dams were empty from the 1st to 22nd March, and the sales of water showed a falling-off of £38 4s. 7d. on the previous month. The usual quantity of flushing-water authorized by the Department was supplied to the No. 3 Channel deviation, and water was also supplied to the Borough of Kumara free of charge for fire-brigade and other purposes.

The following is a summary of the revenue and expenditure of this race for the year ended 31st March, 1911: Sales of water, £330 2s. 10d.; cash received, £351 7s. 11d.; expenditure, £363 3s. 6d.; approximate quantity of gold obtained, £2,499 18s.; average number of men employed, 8.

WAIMEA-KUMARA WATER-RACES.

The following is a summary of the revenue and expenditure of these races for the financial year ended 31st March, 1911: Sales of water, £1,537 1s. 1d.; cash received, £1,558 4s. 9d.; expenditure, £1,421 16s. 7d.; approximate quantity of gold obtained, £13,451 2s.; average number of miners employed, 56.

It will be seen by the above summary that the value of sales of water from the combined races for the year was £1,537 1s. 1d., as against £1,704 15s. 4d. for the previous year, thus showing a decrease in the value of sales of water of £167 14s. 3d.

The total expenditure on gauging, maintenance, and repairs was £1,421 16s. 7d., as against £1,822 2s. 3d. for the previous year, a decrease in the cost of maintenance of £400 5s. 8d.

The cash received was £1,558 4s. 9d., as against £1,759 13s. 3d. for the previous year, showing a falling-off in revenue of £201 8s. 6d.

In my last annual report I stated that the combined races should show a profit for the year ending 31st March, 1911: and, notwithstanding the temporary and unexpected falling-off in the sales of water from the Waimea and Callaghan's Races, I am pleased to state that my expectations were realized, and that the revenue exceeded the expenditure by £136 8s. 2d. This is worthy of note, as it is the first occasion for ten years on which the combined races have paid a profit over working-expenses, and unless some unforeseen circumstance occurs the ensuing year should show a further improvement.

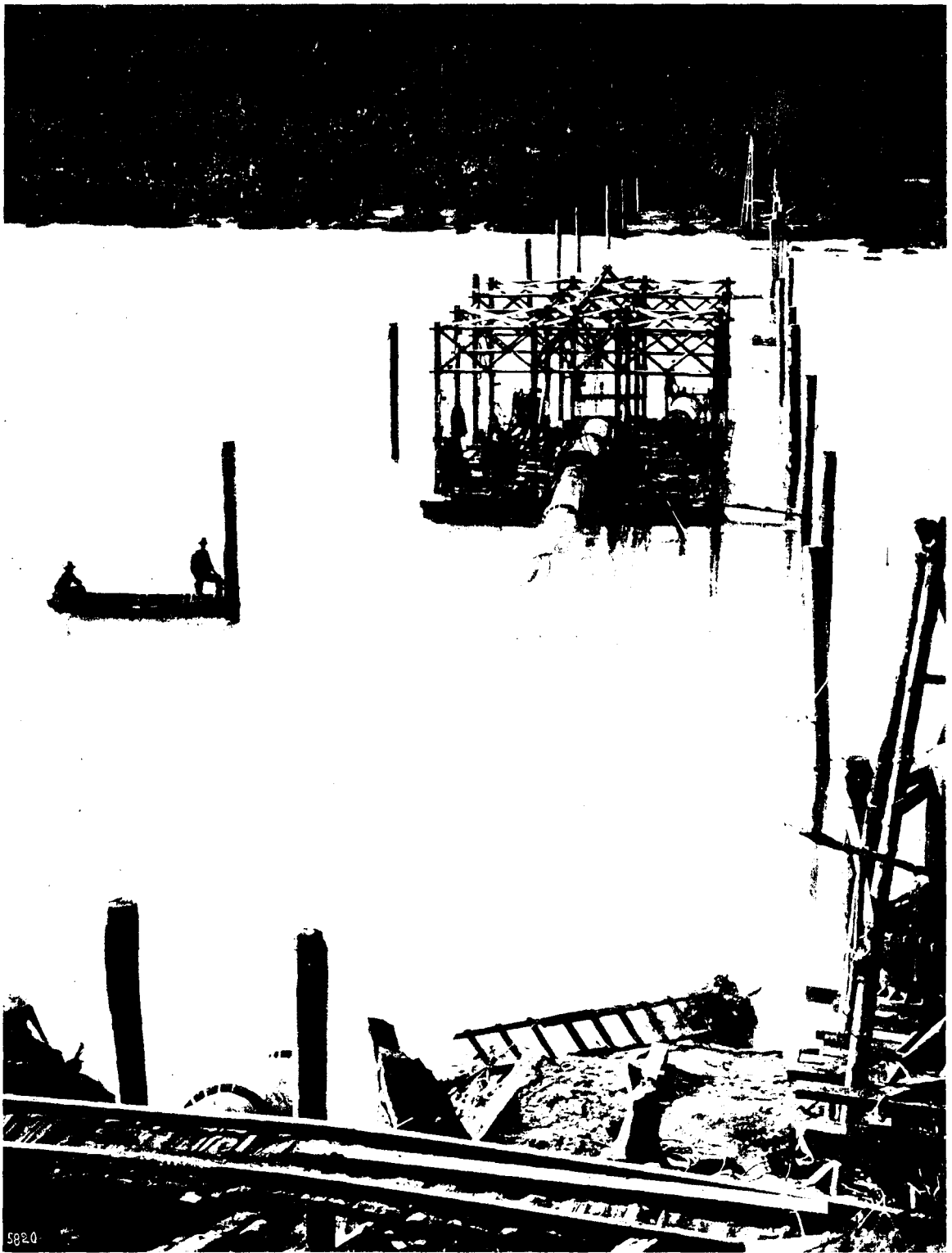
WAINIHI NIHI WATER-RACE.

There was an excellent supply of water from this race for the first ten months of the year, but during the months of February and March the quantity was considerably reduced.

No breaks occurred, and the race has been well maintained, and is now in a thorough state of repair.

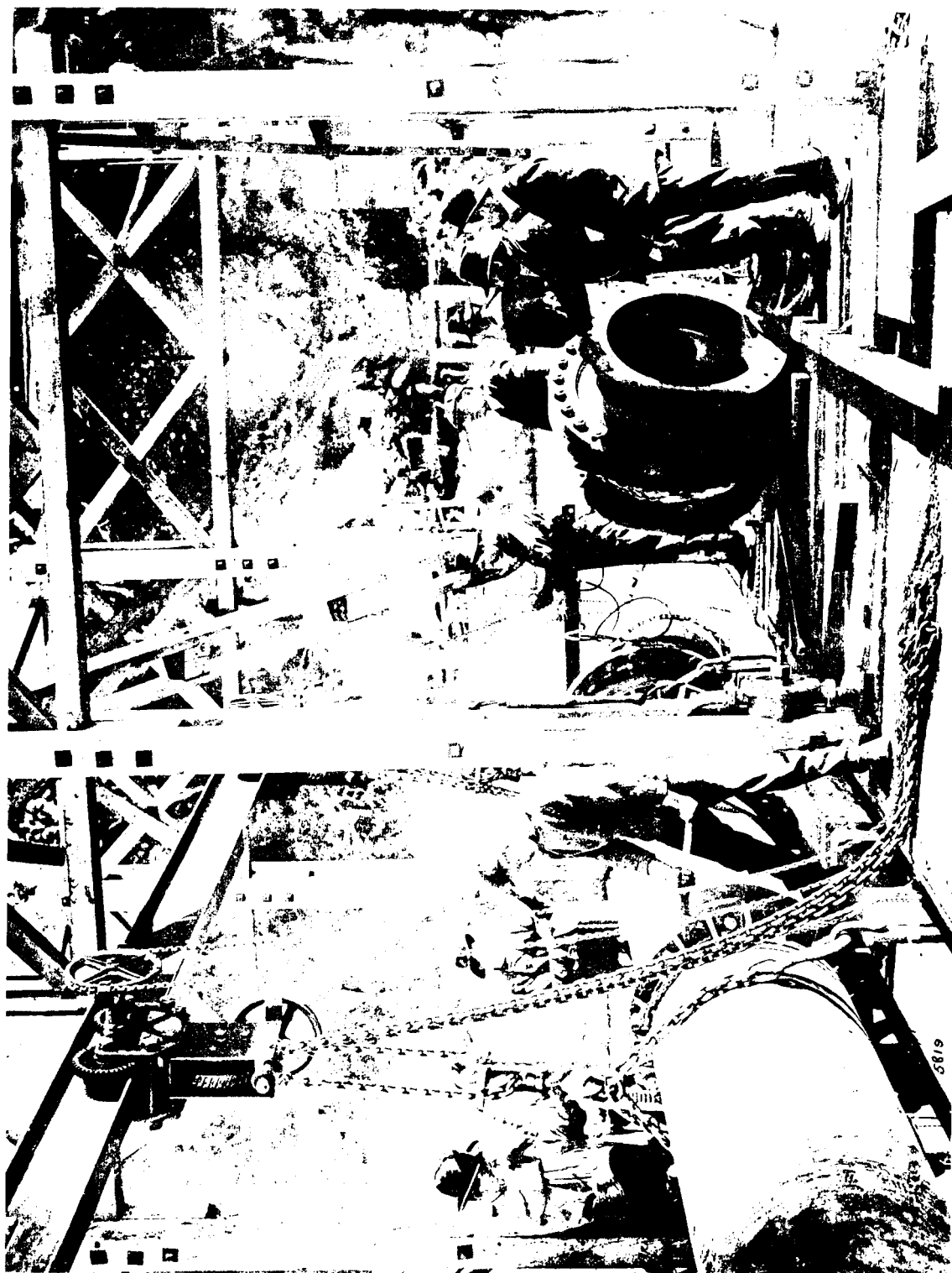
I have, &c.,

JAMES ROCHFORD, Manager, Water-races.



KUMARA WATER-RACE EXTENSION, WESTLAND.

The specially designed pontoon from which is being laid across the bed of the swiftly flowing River Taramakan (650 ft. wide) 30 in. flexible-joint cast-iron pipe. The velocity of the current is about five miles per hour.

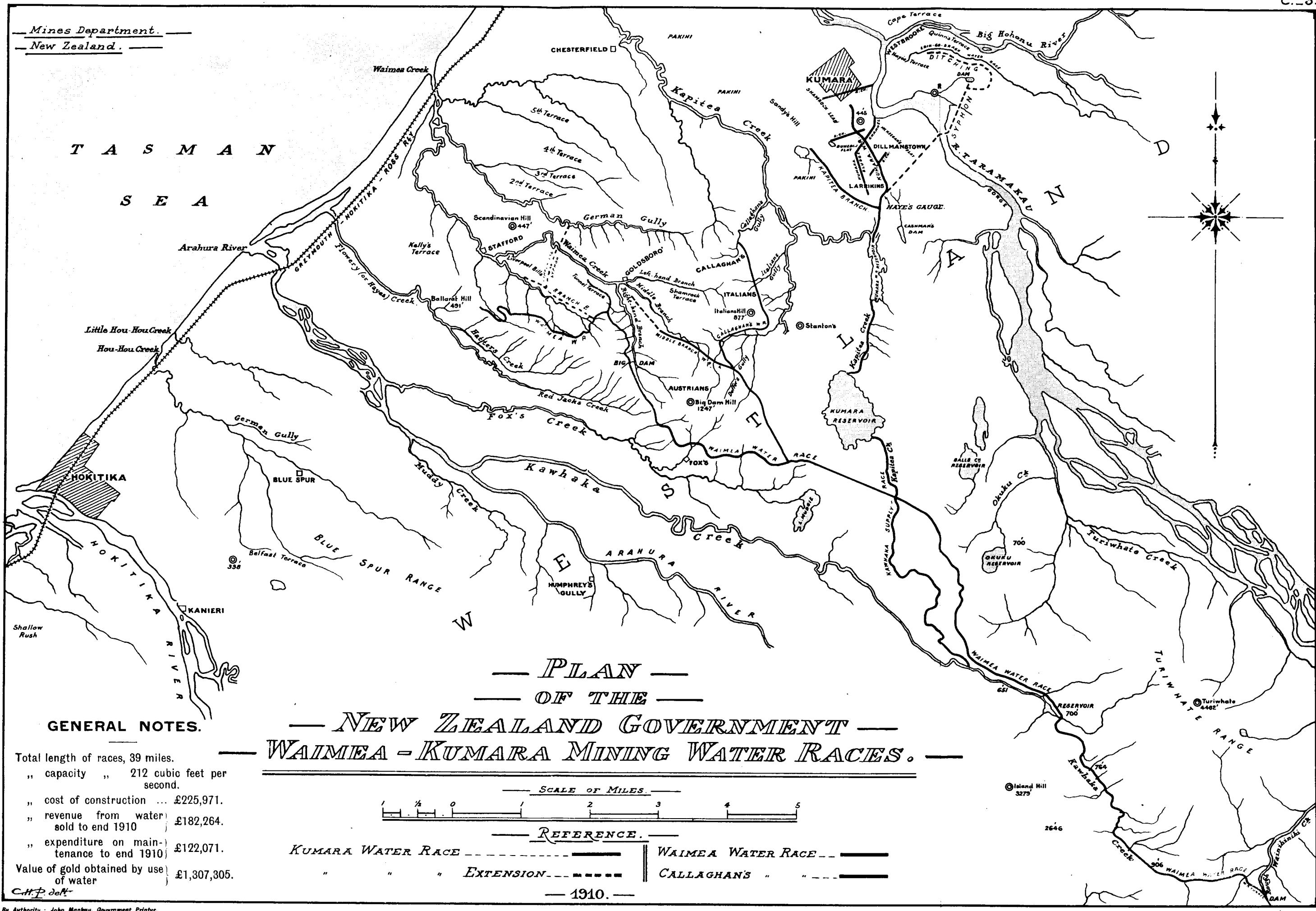


KUMARA WATER-RACE EXTENSION, WESTLAND.

On board the specially designed pontoon: A section of the 30 m. flexible joint inverted siphon about to be submerged in the River Taramakau.



Mines Department.
New Zealand.

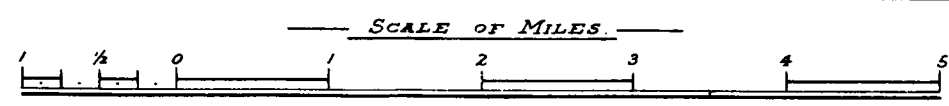


GENERAL NOTES.

Total length of races, 39 miles.
" capacity " 212 cubic feet per second.
" cost of construction ... £225,971.
" revenue from water sold to end 1910 £182,264.
" expenditure on main-tenance to end 1910 £122,071.
Value of gold obtained by use of water £1,307,305.

C.H.P. del.

— PLAN —
— OF THE —
— NEW ZEALAND GOVERNMENT —
— WAIMEA - KUMARA MINING WATER RACES. —



— REFERENCE. —
KUMARA WATER RACE ————
" " " EXTENSION ————
WAIMEA WATER RACE ————
CALLAGHANS " " ————

— 1910. —

Mr. ROBERT MURRAY, Manager of the Central Otago Water-races, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,—

Naseby, 13th April, 1911.

I have the honour to present my report on the Mount Ida, Blackstone Hill, and Alexandra Water-races for the year ended the 31st March, 1911.

The total sales of water from the Mount Ida Race during the year amounted to £819 0s. 6d., a decrease as compared with last year of £302 17s. 3d. The expenditure on maintenance and repairs for the same period was £1,346 6s., a decrease on that of last year of £352 11s. 6d. The total cash received amounted to £819 0s. 6d. On account of payment in advance free water to the value of £8 7s. 8d. was supplied, and free water for washing up was also supplied to the value of £63 5s. 9d. The total value of water supplied from this race during the year amounted to £890 13s. 11d., a decrease as compared with last year of £324 1s. 3d. The average number of miners supplied with water was 36, being the same number as last year. The approximate quantity of gold obtained by parties using water from this race was 1,175 oz., valued at £4,538 8s. 9d., a reduction on that of last year of £354.

The weather from the 1st April to the 19th June was so dry that there was less than a third of the necessary water-supply; on that date a slight thaw set in, increasing the quantity available to seventeen heads, but hard frost immediately following, the supply was reduced again by a quantity of travelling ice in the race. A thaw occurred on the 25th, and on the 27th the race was running full; on the 29th a break took place in the 27th mile, near the Little Idaburn, but owing to frost and snow setting in I could not get at it until the 4th July, when the race was repaired, and water was available again on the 9th; but a snowstorm with high wind, increasing to a gale, set in during the night, drifting the snow into the race and forcing the water over the by-washes, when the whole of the water had to be turned out of the race, but no damage was done, hard frost continuing, with occasional snow showers. A thaw set in again in the first week in August, the race being in fairly good working-order, with the exception of five short stretches in shady places and high rubbly rock sidlings. I started on the 8th with all the strength I could muster to remove the obstructions, and on the 15th a supply was again available to the miners. There was very little snow on the range, and the weather was cold with slight frost during the night, nipping up the water from what little thaw there was during the daytime. Thus only sufficient water was available to keep half the claims going at a time, week about. During September the weather was very rough, with light falls of snow on the high country; sleet and rain on the race-level gave nearly a full supply to the end of October, and from this on to the end of March the weather was practically one continuous drought so far as giving a water-supply was concerned. At the beginning of April I had to renew a timber water-chute in one of the distributing races; having suitable iron pipes I replaced it by them, thus doing away with all climatic trouble. During December I renewed two gauge-boxes and strengthened 18 ft. of the Enterprise Dam bank. The water having declined to four heads, I started on the 20th February to clean out the race with all the strength I could procure, and with forty-three men finished to the head of the race on the 1st April. The race is now in good working-order, but only four heads of water are flowing. During the year there was barely a half-supply of water. With the exception of September and October—when there was almost a full supply—the old miners here say that it has been the driest season ever experienced in Central Otago.

There was only one month's water sent along the Blackstone Hill Race.

ALEXANDRA WATER-RACE.

The total sales of water from this race during the year amounted to £379 9s., an increase on those of the previous year of £203 17s. 4d. On account of payment in advance, free water to the value of £1 was also supplied. The total value of water supplied from this race amounted to £380 9s., the total expenditure being £432 7s. The Manorburn Sluicing Company, the principal users of water from this race, started hydraulic sluicing and elevating on the 7th April, using five heads night and day, but the weather being so very dry the dam emptied on the 27th, when they were compelled to suspend work. The weather continuing dry, there was no water-supply until the 17th June, when a regular blizzard set in, drifting the snow into the race, damming the water, and forcing it over the side. The damage done was repaired by the maintenance men, and water was flowing on the 20th of the same month, but on account of hard frost on the upper section the water was turned off. This company resumed operations again on the 22nd August and continued till the 26th November, when the dam emptied; the weather was so dry that they did not consider it worth while starting again for a few weeks' work. The other ground-slueicing parties were supplied, two of them using their tail-water for irrigating their farms. As it takes twenty-nine hours for water to flow from the dam to the point where required for use, it cannot be shut off when only required for one day's supply, and on these occasions it is given to the farmers, who require it for irrigation. Thus no water goes to waste. At 6.30 p.m. on the 12th February a heavy thundercloud burst along the whole length of the lower section of the race, filling it with *débris* and breaking it in many places. This damage I started to repair and clean out with twenty-three men and a horse and dray. In repairing the breaks I made use of a sufficient number of the large pipes bought, together with the race, by the Government.

I have, &c..

R. MURRAY Manager.

ANNEXURE E.

MINING STATISTICS.

Table 1.

STATEMENT showing the REVENUE of the GOLDFIELDS collected in the several DISTRICTS of the Dominion of New Zealand for the Period from 1st January to 31st December, 1910.

District.	Miners' Rights.	Business Licenses, Machine and Residence Sites.	Water-races, Sluices, &c.	Gold-mining Leases, Rents, and Royalties.	Registration.	Fees and Fines, Wardens' Courts.	Miscellaneous.	Totals.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
AUCKLAND.								
Coromandel ..	54 10 0	87 5 0	1 0 0	415 9 11	9 0 0	15 16 0	19 12 0	602 12 11
Te Aroha ..	32 15 0	611 12 11	13 0 0	554 1 8	14 2 0	25 12 0	0 5 0	1,251 8 7
Paeroa ..	75 10 0	142 4 11	..	1,430 5 0	..	98 1 0	150 9 2	1,896 10 1
Thames ..	127 0 0	1 0 0	2 0 0	1,268 16 1	25 14 0	7 0 0	272 4 0	1,703 14 1
Puhupuhi ..	5 0 0	..	..	2 0 0	..	1 14 0	..	8 14 0
Tauranga ..	1 10 0	..	..	..	..	..	1 6 0	2 16 0
Waihi ..	159 10 0	599 1 0	..	1,467 8 0	57 14 0	77 13 0	181 12 11	2,542 18 11
Totals ..	455 15 0	1,441 3 10	16 0 0	5,138 0 8	106 10 0	225 16 0	625 9 1	8,008 14 7
NELSON.								
Wangapeka ..	5 0 0	..	..	21 0 0	0 4 0	1 4 0	..	27 8 0
Motueka ..	1 10 0	..	..	14 11 8	0 3 0	0 12 0	..	16 16 8
Collingwood and Takaka ..	9 15 0	..	1 10 0	288 15 0	1 3 0	4 16 0	5 12 0	811 11 0
Westport, Seddonville, and Granity ..	108 10 0	38 4 0	5 0 0	640 16 3	26 10 0	65 11 0	92 13 0	977 4 3
Charleston ..	19 5 0	..	..	47 6 3	0 11 0	3 10 0	2 1 0	72 13 3
Ahaura ..	45 5 0	27 15 0	3 15 0	352 6 0	7 10 0	22 19 0	2 17 0	462 7 0
Reefton ..	72 15 0	13 9 6	..	909 0 0	8 16 0	51 14 0	179 14 10	1,235 9 4
Lyell and Murchison ..	5 5 0	0 1 0	..	25 17 9	0 1 0	3 5 0	16 11 0	51 0 9
Nelson ..	5 0 0	..	..	21 0 0	..	..	1 5 0	27 5 0
Totals ..	272 5 0	79 9 6	10 5 0	2,320 12 11	44 18 0	153 11 0	300 13 10	3,181 15 3
MARLBOROUGH.								
Havelock ..	2 0 0	0 1 0	..	20 17 9	..	..	7 16 3	80 15 0
Blenheim ..	9 5 0	..	..	209 1 8	..	1 4 0	10 13 6	230 4 2
Totals ..	11 5 0	0 1 0	..	229 19 5	..	1 4 0	18 9 9	260 19 2
WESTLAND.								
Hokitika ..	58 0 0	1 10 0	6 15 0	490 1 2	8 4 0	29 13 0	53 11 0	647 14 2
Greymouth ..	91 10 0	..	1 15 0	4,369 2 3	3 0 0	32 16 0	242 9 0	4,740 12 3
Ross ..	21 0 0	..	0 10 0	169 13 5	6 4 6	6 19 0	21 3 0	225 9 11
Stafford and Goldsborough ..	17 5 0	0 15 0	..	326 19 4	..	25 13 0	..	370 12 4
Okarito ..	9 10 0	0 10 0	1 0 0	122 14 10	0 13 0	..	2 9 0	136 16 10
Kumara ..	51 15 0	21 5 0	2 5 0	731 11 7	8 14 0	33 17 6	26 1 0	875 9 1
Totals ..	249 0 0	24 0 0	12 5 0	6,210 2 7	26 15 6	128 18 6	345 13 0	6,996 14 7
CANTERBURY.								
Ashburton ..	..	..	..	..	..	..	..	..
OTAGO AND SOUTHLAND.								
Middlemarch ..	3 0 0	..	..	27 2 7	0 10 0	..	0 5 0	80 17 7
Hindon ..	22 5 0	..	0 5 0	36 5 0	0 1 0	0 2 0	1 2 0	60 0 0
Naseby ..	33 15 0	..	..	463 19 10	..	..	88 2 0	535 16 10
Black's Alexandra } ..	91 0 0	26 7 0	13 5 0	1,657 18 10	30 7 0	39 7 0	3 7 2	1,861 12 0
Clyde } ..								
Roxburgh ..	11 0 0	3 12 0	..	123 1 7	4 0 0	8 17 0	..	150 10 7
Arrowtown ..	57 5 0	6 10 0	0 10 0	564 1 4	..	46 9 0	46 6 6	721 1 10
Cromwell ..	38 15 0	5 1 0	0 5 0	311 14 1	6 8 0	11 14 0	2 18 0	376 15 1
Queenstown ..	45 15 0	3 15 0	..	434 3 2	11 18 0	13 15 0	9 5 0	518 11 2
Lawrence ..	..	..	..	20 19 3	1 5 0	4 11 0	4 1 0	30 16 3
Orepuki ..	25 15 0	15 11 0	..	234 1 9	2 13 0	5 6 0	29 13 0	312 19 9
Riverton ..	3 10 0	..	..	..	0 1 0	3 8 0	..	6 19 0
Pembroke ..	4 15 0	..	..	381 19 7	..	9 10 0	26 14 0	422 18 7
Waikaia ..	1 15 0	..	0 5 0	9 8 9	0 5 0	0 12 0	0 10 0	12 15 9
Wyndham ..	7 5 0	..	..	83 13 2	1 6 0	1 12 0	1 2 0	99 18 2
Gore ..	..	..	..	..	..	..	..	..
Totals ..	345 15 0	60 16 0	14 10 0	4,353 8 11	58 14 0	145 3 0	163 5 8	5,141 12 7
Grand totals ..	1,334 0 0	1,605 10 4	53 0 0	18,252 4 6	233 17 6	654 12 6	1,453 11 4	23,589 6 2

Table 2.

STATEMENT showing the REVENUE of the GOLDFIELDS collected in the several Districts of the Dominion of New Zealand for the Period from 1st January to 31st March, 1911.

District.	Miners' Rights.	Business Licenses, Machine and Residence Sites.	Water-races, Sluices, &c.	Gold-mining Leases, Rents, and Royalties.	Registration.	Fees and Fines, Wardens' Courts.	Miscellaneous.	Totals.
AUCKLAND.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Coromandel ..	14 15 0	14 15 0	..	108 14 9	1 14 0	1 13 0	2 9 0	144 0 9
Thames ..	32 5 0	..	0 5 0	344 18 6	5 5 0	2 4 0	32 4 0	417 1 6
Te Aroha ..	4 5 0	152 5 9	16 10 0	30 0 9	7 6 0	1 18 0	3 10 0	215 15 6
Paeroa ..	52 0 0	31 2 6	..	294 10 10	..	13 18 0	68 13 10	460 5 2
Puhipuhi ..	0 10 0	..	..	..	..	0 7 0	..	0 17 0
Tauranga ..	0 10 0	..	..	..	..	..	1 1 0	1 11 0
Waikato ..	24 5 0	117 16 0	..	687 15 4	6 4 0	8 14 0	60 2 3	904 16 7
Totals ..	128 10 0	315 19 3	16 15 0	1,466 0 2	20 9 0	28 14 0	168 0 1	2,144 7 6
NELSON.								
Wangapeka ..	3 15 0	..	0 5 0	123 12 1	0 8 0	1 8 0	7 3 0	136 6 1
Collingwood and Takaka ..	3 10 0	..	..	..	..	..	..	..
Westport, Seddonville, and Granity ..	32 15 0	6 12 0	0 5 0	355 16 9	3 1 0	9 5 6	75 7 3	483 2 6
Charleston ..	5 10 0	..	..	2 12 6	..	0 18 0	..	9 0 6
Ahaura ..	10 15 0	2 5 0	1 5 0	47 6 3	0 18 0	6 6 0	1 1 0	69 16 3
Reefton ..	56 5 0	9 11 6	..	405 13 6	2 0 0	15 14 0	56 9 6	545 13 6
Lyell and Murchison ..	11 0 0	0 1 0	..	42 18 8	..	3 2 0	11 4 0	68 5 8
Motueka ..	0 15 0	..	..	10 0 0	0 3 0	0 14 0	..	11 12 0
Nelson ..	3 15 0	..	..	..	..	..	0 8 0	4 3 0
Totals ..	123 0 0	18 9 6	1 15 0	987 19 9	6 10 0	37 16 6	151 12 9	1,332 3 6
MARLBOROUGH.								
Havelock ..	..	0 1 0	..	9 18 9	..	..	0 13 0	10 12 9
Blenheim ..	4 15 0	..	..	41 12 6	..	0 8 0	2 9 0	49 4 6
Totals ..	4 15 0	0 1 0	..	51 11 3	..	0 8 0	3 2 0	59 17 3
WESTLAND.								
Hokitika ..	11 5 0	..	0 10 0	208 7 3	4 0 0	14 18 0	1 0 0	240 0 3
Greymouth ..	33 5 0	..	..	1,472 7 1	0 16 0	5 10 0	9 9 0	1,521 7 1
Ross ..	6 10 0	..	0 10 0	82 13 3	1 14 6	0 2 0	1 0 0	92 8 9
Stafford and Goldsbrough ..	11 10 0	..	..	52 4 6	..	4 6 0	..	68 0 6
Kumara ..	46 10 0	2 5 0	0 10 0	97 14 0	2 18 0	5 8 0	5 6 0	160 11 0
Okarito ..	2 5 0	1 1 0	0 10 0	12 8 0	0 4 0	..	0 10 0	16 18 0
Totals ..	111 5 0	3 6 0	2 0 0	1,925 13 1	9 12 6	30 4 0	17 5 0	2,099 5 7
CANTERBURY.								
Ashburton ..	0 5 0	..	..	..	..	..	..	0 5 0
OTAGO AND SOUTHLAND.								
Hindon ..	4 15 0	..	..	13 17 6	0 2 0	0 4 0	0 5 0	19 3 6
Naseby ..	10 0 0	0 2 0	..	144 8 5	..	..	9 10 0	164 0 5
Roxburgh ..	..	..	..	..	..	..	..	..
Alexandra ..	26 10 0	4 8 1	3 5 0	309 7 6	5 5 0	12 0 6	0 3 0	360 19 1
Clyde ..	..	..	..	..	..	..	..	..
Black's ..	..	..	..	..	..	..	..	..
Arrowtown ..	3 0 0	0 1 0	..	116 19 10	1 1 0	0 12 0	..	121 13 10
Pembroke ..	0 10 0	..	..	..	..	..	..	0 10 0
Cromwell ..	10 15 0	..	0 5 0	235 8 0	..	13 0 0	14 16 0	264 4 0
Queenstown ..	15 15 0	0 12 0	..	152 14 3	2 12 0	3 9 0	1 1 0	176 3 3
Lawrence ..	28 10 0	..	..	164 0 0	0 19 0	2 1 0	1 10 0	197 0 0
Waikeke ..	1 0 0	..	..	72 12 2	..	0 13 0	0 11 0	75 1 2
Orepuki ..	..	..	..	10 1 3	0 6 0	0 10 0	..	10 17 8
Riverton ..	6 10 0	4 10 0	..	45 13 0	1 2 0	1 17 0	4 16 0	64 8 0
Wyndham ..	0 10 0	..	..	0 18 9	..	0 10 0	..	1 18 9
Middlemarch ..	0 10 0	..	..	1 5 0	0 1 0	..	..	1 16 0
Gore ..	1 10 0	..	..	101 1 4	0 1 0	0 4 0	1 1 0	103 17 4
Totals ..	109 15 0	9 13 1	3 10 0	1,358 7 0	11 9 0	35 5 6	33 13 0	1,561 12 7
Grand totals ..	482 10 0	347 8 10	24 0 0	5,789 11 3	48 0 6	132 8 0	373 12 10	7,197 11 5

Table 3.

STATEMENT showing the QUANTITY of QUARTZ CRUSHED and GOLD OBTAINED in the HAURAKI MINING DISTRICT, for the Year ended 31st December, 1910.

Locality and Name of Mine.	Average Number of Men employed.	Quartz crushed.	Gold obtained.		Estimated Value.
			Amalgamation.	Cyanide.	
WAIHI BOROUGH.					
Waihi—		Tons cwt. qr. lb.	Oz. dwt.	Oz. dwt.	£ s. d.
Waihi	1,400	442,020 0 0 0	96,926 0	1,428,009 0	894,815 4 1
Grand Junction	462	84,226 0 0 0	..	137,134 16	132,295 16 0
Sundries from various sources	30	7,100 0 0 0	..	5,921 0	2,788 14 0
	1,892	533,346 0 0 0	96,926 0	1,571,064 16	1,029,899 14 1
OHINEMURI COUNTY.					
Waitekauri—					
New Waitekauri	2	88 0 0 0	65 7	99 9	186 3 8
Scotia	6	200 10 0 0	38 10	229 3	352 11 1
Jubilee	5	4 0 0 0	26 5	..	*124 8 7
Maoriland	13	644 0 0 0	301 10	290 13	1,377 18 1
	26	931 10 0 0	431 12	619 5	2,040 16 5
Karangahake—					
Talisman Consolidated	380	45,020 0 0 0	40,173 17	195,087 19	210,264 3 6
New Zealand Crown	70	6,661 0 0 0	..	5,296 0	13,301 8 11
	450	51,681 0 0 0	40,173 17	200,383 19	223,565 7 5
Komata—					
Komata Reefs	75	10,880 0 0 0	3,232 2	22,050 9	20,576 9 6
Maratoto—					
Walker's Maratoto	2	Dish washings.	5 16	..	4 7 0
Totals	553	68,492 10 0 0	43,843 7	223,053 13	246,187 0 4
PIAKO COUNTY.					
Wairongomai—					
Westralia	6	15 0 0 0	15 0	..	80 5 11
COROMANDEL COUNTY.					
Waikoromiko—					
Ross and Dooley, prospectors	2	1 10 0 0	9 12	..	25 0 0
P. Ryan, prospector	2	0 1 0 20	7 0	..	19 3 6
Four-in-Hand	10	0 0 3 6	61 11	..	176 14 6
W. Morrison, prospector	2	0 0 0 4	5 0	..	15 0 0
	16	1 12 0 2	83 3	..	235 18 0
Tokatea—					
Royal Oak	8	0 10 1 22	34 15	..	89 8 0
Pride of Tokatea	6	5 2 2 0	88 15	..	250 14 3
West Tokatea	2	2 10 2 3	11 0	..	29 10 0
Exalt	2	0 0 0 2	1 16	..	4 15 0
Mount Welcome	6	9 4 2 18	240 10	..	702 6 3
Monte Christo	5	1 10 0 14	24 19	..	68 17 0
	29	18 18 1 3	401 15	..	1,145 10 6
Kapanga—					
Kapanga	17	150 0 0 0	85 4	..	239 12 0
Scotty's	2	23 0 0 6½	28 12	..	85 10 0
Success	2	0 5 1 0	20 2	..	56 4 6
	21	173 5 1 6½	133 18	..	381 6 6
Hauraki Block—					
Old Hauraki	31	704 7 2 11	4,381 15	..	13,057 13 1
Hauraki Reefs	10	39 1 0 8	291 8	..	845 7 9
Hauraki East	2	0 2 0 0	6 9	..	18 0 0
Golden Pah	4	8 0 0 0	12 6	..	36 18 0
	47	751 10 2 19	4,691 18	..	13,957 13 10
Bremner's Freehold—					
Bremner's Freehold	6	0 19 3 18	1,012 18	..	2,238 8 4
Kuaotunu—					
Mountain King	25	369 0 0 0	1,194 7	610 11	5,358 15 10
Handsworth	9	40 2 2 0	761 0	..	1,877 6 7
New Waitaia	10	136 0 0 0	312 18	..	829 12 6
	44	1,045 2 2 0	2,268 5	610 11	8,065 14 11
Matamataharakeke—					
Mills's Reward	3	2 0 0 0	8 7	..	9 0 0
Totals	166	1,993 8 2 20½	8,595 4	610 11	26,033 17 1

* 2 tons sold in England for £37.

Table 3—continued.

STATEMENT showing the QUANTITY of QUARTZ CRUSHED and GOLD OBTAINED in the HAURAKI MINING DISTRICT for the Year ended 31st December, 1910—continued.

Locality and Name of Mine.	Average Number of Men employed.	Quartz crushed.	Gold obtained.		Estimated Value.
			Amalgamation.	Cyanide.	
THAMES COUNTY AND BOROUGH.					
Gumtown—		Tons cwt. qr. lb.	Oz. dwt.	Oz. dwt.	£ s. d.
Kapowai	4	50 0 0 0	56 7	..	147 13 7
Tapu—					
Portia	2	2 0 2 9	63 14	..	192 9 6
Waiomio—					
Monowai	20	100 0 0 0	..	400 0	455 0 0
Mount Zeehan	7	15 19 3 0	..	47 0	176 7 10
	27	115 19 3 0	..	447 0	631 7 10
Puru—					
Crown and Golden Crown	12	6 0 0 0	6 1	..	15 16 0
Tararu—					
Day Dawn and Norfolk Mines	8	190 0 0 0	36 15	94 4	290 19 0
New Sylvia	20	627 16 0 0	735 0	..	2,940 0 0
Watchman	7	74 10 0 0	..	75 7	233 11 8
Waitangi	12	72 0 0 0	87 0	..	252 5 3
	47	964 6 0 9	858 15	169 11	3,716 15 11
Moanatairi—					
Kuranui-Caledonian	5	16 0 0 0	31 0	..	84 1 7
Thames Foreshore	7	7,623 0 0 0	..	1,801 18	1,195 1 0
Point Russell	8	20 0 0 0	6 15	..	17 0 0
Thames	4	20 1 0 4	97 19	..	259 10 9
	24	7,678 1 0 4	135 14	1,801 18	1,555 13 4
Kuranui—					
Kuranui	5	13 0 0 0	11 6	..	27 17 2
Waioatahi—					
Waioatahi	27	1,972 0 0 22	2,556 15	1,181 1	7,752 4 7
Ballarat	2	5 1 1 0	162 0	..	410 0 0
Nonpareil	3	15 0 2 14	74 4	..	215 11 6
Punga Flat	2	148 0 0 0	55 7	..	139 0 0
Cambrian	2	8 0 0 25	59 12	..	149 0 0
Golden Drop	1	0 3 0 0	6 0	..	16 0 0
	37	2,148 5 1 6	2,913 18	1,181 1	8,681 16 1
Grahamstown—					
Victoria	7	71 0 3 21	203 18	..	574 17 10
Waioakaraka—					
May Queen	29	1,690 2 0 6	1,124 16	..	3,165 4 9
Karaka—					
Claremont	1	0 2 1 9	233 11	..	607 15 8
Halcyon	4	9 0 0 0	23 1	..	63 19 3
Good Hope	6	22 0 0 0	41 10	..	120 10 6
	11	31 2 1 9	298 2	..	792 5 5
Hape Creek—					
Lord Nelson	4	50 2 2 20	325 4	..	846 15 8
Summer Hill	1	1 3 2 25	71 7	..	185 2 7
Adventure	1	5 0 0 0	28 3	..	72 5 4
Dart Extended	2	20 0 0 0	77 3	..	215 17 11
New Dart	3	5 1 0 19	113 13	..	280 0 0
Old Fortuna	2	2 0 1 5	25 15	..	64 7 6
	18	83 7 3 13	641 5	..	1,664 8 7
Puriri—					
Champion	4	30 0 0 0	55 19	..	134 8 9
Neavesville—					
Golden Belt	9	160 0 0 0	..	518 14	678 17 11
Tairua—					
Golden Hills	25	650 0 0 0	..	59 13	252 14 6
Phoenix	8	13 0 0 0	..	40 15	73 1 10
	33	663 0 0 0	..	100 8	325 16 4
SUMMARY.					
Waihi Borough	1,892	533,346 0 0 0	96,926 0	1,571,064 16	1,029,899 14 1
Ohinemuri County	553	63,492 10 0 0	43,843 7	223,053 13	246,187 0 4
Piako County	6	15 0 0 0	15 0	..	30 5 11
Coromandel County	166	1,993 8 2 20½	8,595 4	610 11	26,083 17 1
Thames County and Borough	264	13,706 5 3 21	6,369 15	4,218 12	22,305 4 0
Totals, 1910	2,881	612,553 4 2 13½	155,749 6	1,798,947 12	1,324,456 1 5
Totals, 1909	2,778	573,469 13 2 17½	178,913 14	1,921,392 18	1,301,001 12 3
Increase	103	39,083 10 3 24	..	..	23,454 9 2
Decrease .. .. .	..	..	23,164 8	122,445 6	..

Table 3—continued.

STATEMENT showing QUANTITY of QUARTZ CRUSHED and GOLD OBTAINED in the MARLBOROUGH, NELSON, AND WESTLAND MINING DISTRICTS for the Year ended 31st December, 1910.

Locality and Name of Mine.	Average Number of Men employed.	Quartz crushed.	Gold obtained.		Estimated Value.
			Amalgamation.	Cyanide.	
MARLBOROUGH.					
Wakamarina— Dominion Consolidated	8	Tons. 355	Oz. dwt. gr. 37 9 18	Oz. dwt. gr. ..	£ s. d. 93 15 4
COLLINGWOOD COUNTY.					
Taitapu— Golden Blocks	9	Cleaning up	15 12 0	..	50 8 7
BULLER COUNTY.					
Mokihinui— Red Queen	2	20	29 0 0	..	114 0 0
Waimangaroa— Britannia	2	55	81 14 6	..	316 18 6
Lyell— New Alpine	6	Cleaning up	16 6 0	45 0 0	194 8 6
Totals	10	75	127 0 6	45 0 0	625 2 0
INANGAHUA COUNTY.					
Boatman's— Golden Arch.. ..	2	74	68 0 0	..	244 0 0
Victoria Range— Lord Brassey	2	Cleaning up	6 0 11	..	25 2 8
Reefton— Keep-it-Dark	50	3,273	520 9 0	397 6 0	3,024 14 2
Wealth of Nations	129	21,363	6,974 16 0	2,459 12 0	36,385 9 8
Golden Fleece	34	2,796	2,489 15 0	194 0 0	10,167 19 9
Progress	353	50,207	14,689 12 0	4,127 6 0	71,352 4 10
Lankey's Creek	4	1,160	288 19 22	..	1,155 11 9
.. ..	570	78,799	24,963 11 22	7,178 4 0	122,086 0 2
Big River— New Big River	45	3,040	3,293 11 0	918 4 0	15,628 7 4
Waiuta— Blackwater	274	39,192	20,472 19 0	2,896 1 0	91,331 4 8
Totals	893	121,105	48,799 2 9	10,992 9 0	229,314 14 10
GREY COUNTY.					
Ten-mile Creek— Mount Paparoa	6	200	74 12 0	..	296 16 5
WESTLAND COUNTY.					
Ross— Osmers	4	97	118 1 2	..	425 17 0
SUMMARY.					
Marlborough	8	355	37 9 18	..	93 15 4
Collingwood County	9	..	15 12 0	..	50 8 7
Buller County	10	75	127 0 6	45 0 0	625 2 0
Inangahua County	893	121,105	48,799 2 9	10,992 9 0	229,314 14 10
Grey County	6	200	74 12 0	..	296 16 5
Westland County	4	97	118 1 2	..	425 17 0
Totals	930	121,832	49,171 17 11	11,037 9 0	230,806 14 2
Totals, 1909	868	108,136	46,005 8 17	10,817 14 0	214,876 6 7
Increase	62	13,696	3,166 8 18	219 15 0	15,930 7 7

Table 3—continued.

STATEMENT showing the QUANTITY of QUARTZ CRUSHED and GOLD OBTAINED in the SOUTHERN MINING DISTRICT for the Year ended 31st December, 1910.

Locality and Name of Mine.	Average Number of Men employed.	Quartz crushed.	Gold obtained.	Estimated Value.
FIORD COUNTY				
Preservation Inlet—		Tons.	Oz. dwt.	£ s. d.
Tarawera	8	..	..	..
Morning Star	6	..	..	..
LAKE COUNTY.				
Macetown—				
Anderson, Hannah, and party	4	70	51 8	208 10 1
United Goldfields of New Zealand	13	838	461 11	1,777 7 11
	17	908	512 14	1,980 18 0
Skipper's—				
Shotover	4	80	6 5	23 7 0
New Discovery	2	60	26 8	104 6 0
Totals	6	140	82 18	127 13 0
VINCENT COUNTY.				
Carrick—				
Carrick .. .. .	..	..	..	..
Bendigo—				
Cromwell	9	..	..	..
Alexandra—				
Conroy's	1	27	0 2	0 11 6
Bald Hill Flat—				
Advance	3	135	154 0	602 19 2
Totals	13	162	154 2	603 10 8
MANIOTOTO COUNTY.				
Hyde—				
Mount Highlay	13	..	6 12	23 14 10
N.Z. Gold and Tungsten .. .. .	..	..	..	..
Returns included under Sundries, Waihemo County.				
WAIHEMO COUNTY.				
Macrae's—				
Sundries	34	4,020	532 4	2,072 8 0
TAIERI COUNTY.				
Barewood—				
Barewood	21	5,428	1,045 19	4,118 9 5
SUMMARY.				
Fiord County	14	..	..	..
Lake County	23	1,048	545 7	2,108 11 0
Vincent County	13	162	154 2	603 10 8
Maniototo County	13	..	6 12	23 14 10
Waihemo County	34	4,020	532 4	2,072 8 0
Taieri County	21	5,428	1,045 19	4,118 9 5
Totals	118	10,658	2,284 4	8,926 8 11
Totals, 1909	85	11,400	2,945 4	10,982 15 4
Increase	33	..	..	..
Decrease .. .. .	..	742	661 0	2,056 6 5

Table 3—continued.

STATEMENT of VALUE of BULLION WON from QUARTZ CRUSHED for ALL DISTRICTS for the Years ended 31st December, 1909 and 1910.

Mining District.	Year ended 31st December, 1909.	Year ended 31st December, 1910.
	£	£
Hauraki	1,301,002	1,324,455
Marlborough, Nelson, and West Coast ...	214,876	230,807
Otago and Southland...	10,983	8,923
Totals	1,526,861	1,564,189

Table 4.

GROSS TOTALS and VALUE of BULLION PURCHASED by BANKS for the Year ended 31st December, 1910.

Bank.	Bullion purchased.	Value.
<i>Hauraki Mining District (Northern Inspection District).</i>		
	Oz. dwt. gr.	£ s. d.
Bank of New Zealand	180,306 0 0	191,194 16 4
Bank of New South Wales	2,016 17 6	4,559 19 0
National Bank of New Zealand	6,605 0 0	3,898 0 0
Totals	188,927 17 6	199,652 15 4
<i>Marlborough, Nelson, and Westland Mining Districts (West Coast Inspection District).</i>		
Bank of New Zealand	22,864 8 4	90,124 19 1
National Bank of New Zealand	12,684 1 0	49,182 10 7
Bank of New South Wales	7,909 0 10	31,451 15 6
Union Bank of Australia	1,848 0 0	7,342 0 0
Totals	45,305 9 14	178,101 5 2
<i>Otago and Southland Districts (Southern Inspection District).</i>		
Bank of New Zealand	59,774 13 6	235,208 4 10
Bank of New South Wales	28,933 5 0	112,400 6 8
National Bank of New Zealand	6,508 9 5	25,413 2 10
Bank of Australasia	757 9 16	2,878 0 0
Union Bank of Australia	5,109 2 6	20,416 11 1
Private buyers	270 12 0	1,040 10 4
Totals	101,353 11 9	397,356 15 9
Grand totals	335,586 18 5	775,110 16 3

Table 5.

RETURN of GOLD DUTY credited to LOCAL BODIES for the Year ended 31st December, 1910, and the Quarter ended 31st March, 1911.

Local Body.	For the Year ended 31st December, 1910.	For the Quarter ended 31st March, 1911.
COUNTIES—	£ s. d.	£ s. d.
Coromandel	325 19 3	.. ..
Ohinemuri	5,722 10 5	1,153 6 2
Piako .. ..	.. ..	.. ..
Thames	215 18 10	.. ..
BOROUGHs—		
Thames	353 19 5	51 9 10
Waihi	21,981 12 7	4,535 17 8
Totals	28,601 0 6	5,740 13 8

Table 6.

RETURN of the QUANTITY and VALUE of GOLD ENTERED for DUTY* for EXPORTATION from New Zealand from 1st April, 1857, to 31st December, 1910.

PRODUCE OF THE GOLDFIELDS IN		DURING THE QUARTER ENDED 31st DECEMBER, 1910.		ENTERED FOR EXPORTATION TO THE 30th SEPTEMBER, 1910.		TOTAL ENTERED FOR EXPORTATION FROM NEW ZEALAND TO THE 31st DECEMBER, 1910.	
County or Borough.	District.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
		Oz.	£	Oz.	£	Oz.	£
County of Thames ..	Auckland	11,459	41,480				
Ohinemuri ..		..	..	
Coromandel ..		515	1,499				
Borough of Thames ..		57,268	233,919				
Waihi ..		..	..	
Great Barrier Island ..		69,242	276,898	5,093,308	19,349,560	5,162,550	19,626,458
	Wellington ..	..	..	188	706	188	706
County of Marlborough	Marlborough ..	..	..	90,283	351,735	90,283	351,735
Collingwood	Nelson ..	16	62	1,724,341	6,836,214	1,724,357	6,836,276
County of Buller ..	West Coast	83	326				
Inangahua ..		14,169	55,623				
Grey ..		1,373	5,582				
Westland ..		652	2,674				
Borough of Ross ..		..	..	
		16,277	64,205	5,581,566	22,189,063	5,597,843	22,253,268
	Canterbury ..	..	..	99	387	99	387
County of Taieri ..	Otago	263	1,053				
Tuapeka ..		2,825	11,525				
Vincent ..		5,593	22,446				
Maniototo ..		367	1,511				
Waihemo ..		235	935				
Waitaki ..		311	1,245				
Lake ..		249	985				
Wallace ..		908	3,648				
Bruce ..		178	732				
Cutha ..		303	1,278				
Fiord ..		92	360				
Southland ..		8,547	34,515				
		19,871	80,233	7,114,324	28,287,095	7,134,195	28,367,328
Unknown ..	..	13	47	234	926	247	973
Totals ..	..	105,419	421,445	19,604,343	77,015,686	19,709,762	77,437,131

* Gold duty abolished in the South Island on the 31st March, 1891, by the Gold Duty Abolition Act, 1890.

Table 7.

COMPARATIVE RETURN for the Years ended 31st December, 1910 and 1909.

PRODUCE OF THE GOLDFIELDS IN THE DISTRICT OF	DURING THE QUARTER ENDED				TOTALS FOR YEAR 1910.		TOTALS FOR YEAR 1909.	
	31st March, 1910.	30th June, 1910.	30th September, 1910.	31st December, 1910.	Quantity.	Value.	Quantity.	Value.
	Oz.	Oz.	Oz.	Oz.	Oz.	£	Oz.	£
Auckland ..	64,318	68,008	84,958	69,242	286,526	1,136,057	288,614	1,142,098
Marlborough ..	..	..	53	..	53	212	39	155
Nelson ..	63	..	38	16	117	466	2,572	10,288
West Coast ..	22,252	25,449	28,058	16,277	92,036	358,099	95,014	369,930
Otago ..	27,342	17,147	35,167	19,871	99,527	401,391	120,121	484,385
Unknown ..	..	..	16	13	29	103	11	46
Totals for 1910	113,975	110,604	148,290	105,419	478,288	1,896,328	..	..
Totals for 1909	117,136	121,157	134,225	133,853	..	..	506,371	2,006,900

Table 8.

RETURN of the QUANTITY and VALUE of GOLD ENTERED for DUTY* for EXPORTATION from New Zealand from 1st April, 1857, to 31st March, 1911.

PRODUCE OF THE GOLDFIELDS IN		DURING THE QUARTER ENDED 31ST MARCH, 1911.		ENTERED FOR EXPORTATION TO THE 31ST DECEMBER, 1910.		TOTAL ENTERED FOR EXPORTATION FROM NEW ZEALAND TO THE 31ST MARCH, 1911.	
County or Borough.	District.	Qu'ntity	Value.	Quantity.	Value.	Quantity.	Value.
		Oz.	£	Oz.	£	Oz.	£
County of Thames ..	Auckland	260	1,084				
" Ohinemuri ..		11,533	89,539				
" Coromandel ..		..	..	
Borough of Thames ..		313	1,104				
" Waihi ..		45,359	187,844				
Great Barrier Island ..		..	..	
		57,465	229,571	5,162,550	19,626,458	5,220,015	19,856,029
	Wellington ..	..	..	188	706	188	706
County of Marlborough ..	Marlborough ..	30	120	90,283	351,735	90,313	351,855
County of Collingwood ..	Nelson	1,887	5,546				
" Waimea ..		70	281				
" Takaka ..		24	95				
" Murchison ..		30	119				
		1,511	6,011	1,724,357	6,836,276	1,725,868	6,842,817
County of Buller ..	West Coast	1,959	7,707				
" Inangahua ..		14,899	59,136				
" Grey ..		6,326	25,413				
" Westland ..		3,621	14,532				
Borough of Ross ..		632	2,527				
		27,437	109,315	5,597,843	22,253,268	5,625,280	22,362,583
	Canterbury ..	..	..	99	387	99	387
County of Taieri ..	Otago	183	727				
" Tuapeka ..		5,439	21,736				
" Vincent ..		10,479	42,622				
" Maniototo ..		2,186	8,635				
" Waihemo ..		155	618				
" Waitaki ..		883	3,323				
" Lake ..		1,414	5,738				
" Wallace ..		1,064	4,280				
" Bruce ..		273	1,052				
" Clutha ..		279	1,122				
" Fiord ..		..	..	
" Southland ..		8,793	35,711				
		31,148	125,564	7,134,195	28,967,328	7,165,343	28,492,892
Unknown ..	..	7	30	247	973	254	1,003
Totals ..	..	117,598	470,641	19,709,762	77,437,131	19,827,360	77,907,772

* Duty payable on gold exported, the produce of the North Island, 2s. 8d. per oz.; duty payable on gold exported, the produce of the South Island, 3d. per oz. *Vide* sections 1 and 2 of the Gold Duty Act, 1908, and section 16 of the Mining Act Amendment Act, 1910.

Table 9.

COMPARATIVE RETURN for the Quarters ended 31st March, 1911, and 31st March, 1910.

District of				Quarter ended 31st March, 1911.		Quarter ended 31st March, 1910.	
				Quantity.	Value.	Quantity.	Value.
				Oz.	£	Oz.	£
Auckland ..	..	..	..	57,465	229,571	64,318	254,529
Wellington ..	..	..	..	..	..	..	..
Marlborough ..	..	..	..	30	120	..	..
Nelson ..	..	..	..	1,511	6,041	63	253
West Coast ..	..	..	..	27,437	109,315	22,252	86,145
Canterbury ..	..	..	..	..	..	..	..
Otago ..	..	..	..	31,148	125,564	27,342	110,147
Unknown ..	..	..	..	7	30	..	..
Totals ..	..	..	..	117,598	470,641	113,975	451,074

Table 10.

RETURN showing the AVERAGE PRICES of PROVISIONS on the Goldfields for the Year ended 31st December, 1910.

District.		Bread— Wheaten.	Butter— Fresh.	Butter— Salt.	Cheese.	Coffee.	Flour.	Grain— Wheat.	MEAT.							Sugar.	Tea.
									Beef.	Mutton.	Pork.	Milk.	Rice.	Salt.			
															Per lb.		
		Per lb.	Per lb.	Per lb.	Per lb.	Per lb.	Per 100lb.	Per Im. bushel.	Per lb.	Per lb.	Per lb.	Per qt.	Per lb.	Per lb.	Per lb.	Per lb.	
AUCKLAND—		d.			d.				d.	d.	d.	d.	d.	d.	d.		
Thames	2	1/1	/7	7	1/10	11/6	4/6	5	4	6	4	2½	1	2	3	1/6	
Paeroa	2	1/2	/9	7	1/6	15/	4/6	6-8	6	6½	3	2½	1	2	2	1/6	
Coromandel ..	2	1/2	/9	8	1/6	12/6	..	6	5	6	4	2	1	2	2	1/-2/6	
Tauranga	2	10-1/2	..	8	1/6-2/	13/	5/	4½-8	5-6	6	4	2½	1	2-2½	1	1/-1/10	
Te Aroha	2	1/2	/9	10	1/6	15/	5/	6-8	6	6½	3	2½	1	2	2	1/6	
Waihi	1½	1/2	/11	8	1/9	12/6	5/	7	6	6	4	2	1	2½	1	1/4-2/8	
Puhipuhi	2	1/	..	8	1/7	11/6	4/3	4½	4½	4½	3	2½	1	2½	2½	1/6	
NELSON—																	
Wangapeka ..	2	1/3	1/	9	1/9	17/	7/	6	5	6	4	4	2	3½	2	2/	
Collingwood ..	2	9-1/1	/8	8	1/10	11/6	5/3	5	4½	5	4	3	1	2½	1	1/2-2/6	
Motueka	3	1/	/10	8	2/	11/6	5/	4½	3½	5½	4	2½	1	2½	2	2/	
Karamea	2½	1/	/10	10	1/3	12/	5/	6	6	7	6	3	1½	3	2	2/	
Lyell	2½	1/3	1/	10	2/	12/6	6/	6	6	6	4½	3	1½	3½	1	1/6-2/6	
Murchison	2½	1/2	1/	9	1/6	16/	7/	4½	4½	5	4	3	2	3½	1	1/6-2/	
Westport	2	1/1	1/1	8	1/10	10/6	4/6	6	6	8	5	3	1	2½	1	1/3	
Charleston ..	2	1/4	..	8	2/	14/	6/	5-6	7	7	5	3	1	3	1	2/	
Ahaura	2	1/1	1/	8	2/	15/	6/	6	6	8	4	3	2	3½	2	2/	
WESTLAND—																	
Stafford and Goldsborough	2	1/3	1/	9	1/6	13/	6/6	6	6	6	6	3	1	3	2	2/	
Hokitika	1½	1/2	1/	7	1/6	11/6	6/	6	6	7	5	2½	1	3	1	1/6-3/	
Ross	2	1/1	/9	8	1/6	12/	6/	4-6	5-6	6	5	2½	1	2½	1	1/6-2/4	
Okarito	3	1/3	..	10	1/9	17/	7/	5½	5½	5½	..	4	2	3½	2	2/	
Greymouth	2	1/2	1/1	8	1/9	11/6	6/	6	5	7	4	2½	1½	3	2	2/	
Kumara	2	1/2	1/	8	1/6	14/	6/6	6	6	6	6	3	1	2½	2	2/	
Reefton	2	1/1	/10	9	1/9	13/	5/6	6	6	7	4	3	1	2½	1	1/10-2/6	
OTAGO—																	
Hindon	2	1/3	/10-1/	9	1/9	16/	5/	6	5	6	4	3	2	3	2	2/	
Cromwell	2	1/1	1/4	8	1/6	12/9	5/	6	3	6	4	3	1	2½	1	1/-2/	
Clyde																	
Alexandra	2	1/2	1/3	8	1/9	10/	4/6	5	4	6	5	2	1	2	1	1/9-2/	
Roxburgh																	
Black's																	
Lawrence	1½	/11	/10	8	1/10	10/	4/0	5	4½	6	4	2½	1	2½	1	1/9	
Naseby	2	/10	/7	8	1/3-2/2	10/	4/9	3½-6	4-6	6	4	2	1	2½	1	1/3	
Macrae's	2	1/2	1/1	8	2/	13/6	4/	5	5	4	4	4	1	2½	2	2/	
St. Bathans ..	2	1/	1/3	9	2/	13/	5/	6	5½	6	4	3	2	3	1	1/6	
Queenstown ..	1½	1/	/10	8	1/9	10/	3/	4-6	4-6	6	3	3	1	3	1	1/10	
Arrow (Wakatipu Goldfield)	2	1/	/10	8	1/6	11/	3/	6	5½	6	2	2½	2	3	1	1/10	
Waikaka	2	1/3	1/	10	2/	16/	..	7	6	6	4½	3½	2	3	1	1/10-2/10	
Riverton and Orepuki	1½	/10	/10	8	1/6	12/9	5/6	6½	5	8½	5	2½	1	2	1	1/10	
Gore	1½	/10	/8	8	1/8	13/	3/6	4	3	7	4	2½	1	2½	1	1/6	
Wyndham	1½	1/3	1/	8	/9	9/	3/6	4½	4½	6	3	3	1	3	1	1/9	

Table 11.
TABLE showing the AVERAGE RATE of WAGES per Week for the Year ended 31st December, 1910.

District.	General Managers.	Legal Managers.	Mining Managers.	Engineers.	Engine-drivers.	Stokers.	Blacksmiths.	Carpenters.	Miners.	Labourers.	Boys.	Chinese.	Agricultural Labourers.	Domestic Servants.
AUCKLAND—														
Paeotia	£ s. d. £200 to £1000 per annum	£ s. d. £1 to £2	£ s. d. £4 to £10	£ s. d. £4 to £6	£ s. d. £2/10 to £3	£ s. d. £2/5—£2/11	£ s. d. £2/14 to £3	£ s. d. £2/14 to £3/10	£ s. d. £2/8 to £3/10	£ s. d. £2 to £2/10	£ s. d. £1 to £2	£ s. d. ..	10/-30/ found	10/ to 17/6
Thames	£400 p.a.	1 10 0	5 0 0	3 10 0	3 0 0	2 8 0	3 0 0	3 0 0	2 11 0	2 8 0	1 0 0	..	30/- and found	12/
Te Aroha	£500 p.a.	1 10 0	£300 p.a.	10/ p.d.	9/ p.d.	8/6 p.d.	10/6 p.d.	11/ p.d.	10/ p.d.	8/ p.d.	1 5 0	..	15/-25/ found	15/ to 22/6
Goromandel	£500 to £600 per annum	1 0 0	£16 to £20 per month	£16 p.m.	9/ p.d.	8/ p.d.	9/ p.d.	9/ to 10/ p.d.	8/6 to 9/ p.d.	8/ p.d.	5/ p.d.	..	..	15/
Tauranga	..	..	£4 to £7	£3/6—£3/10	3 0 0	2 10 0	10/ p.d.	10/ p.d.	..	8/ to 9/ p.d.	5/ to 25/	..	20/-25/ food	15/
Waihi	..	..	..	..	..	..	2 14 0	3 0 0	2 14 0	2 5 0	1 15 0	..	25/- and found	10/ to 15/
NELSON—														
Reefton	£8 to £10	2 0 0	6 0 0	£4/10 to £5	3 10 0	3 0 0	3 10 0	4 0 0	3 0 0	£2/10 to £3	1 16 0	..	25/- and board	12/6 to 20/
Collingwood	..	£500 p.a.	£8 to £10	£3/10 to £4	3 0 0	£2/10 to £3	3 10 0	£3/ to £3/12	£2/17 to £3	2 14 0	..	..	£2 to £2/10	15/ to 30/
Charleston	..	..	3 10 0	..	..	..	3 0 0	3 12 0	3 0 0	2 10 0	0 15 0	..	£2 10s.	17/6
Westport	..	10/ to 20/	4 0 0	..	3 0 0	2 14 0	3 0 0	3 12 0	2 14 0	2 8 0	1 10 0	..	..	12/ to 20/
Iyell	..	3 0 0	6 0 0	4 10 0	3 10 0	3 0 0	3 12 0	3 10 0	3 0 0	3 0 0	1 10 0	..	30/- and found	15/ to 20/
Ahaura	..	£1 to £2	5 0 0	4 0 0	3 10 0	3 0 0	3 12 0	3 12 0	3 0 0	2 8 0	1 10 0	1 5 0	20/-25/ found	15/ to 20/
Wangapeka	..	..	..	..	..	..	..	3 12 0	3 10 0	2 8 0	..	..	30/- and found	15/
Murchison	..	..	5 0 0	4 0 0	3 10 0	3 0 0	3 0 0	3 0 0	3 0 0	2 14 0	1 0 0	£2 to £2/7	30/- and found	15/ to 20/
Motu	7 0 0	..	..	4 0 0	11/4 p.d.	..	11/4 p.d.	11/ p.d.	10/ p.d.	10/ p.d.	..	..	25/-30/ found	15/ to 20/
Seddonville	..	..	..	..	3 3 0	..	3 12 0	3 3 0	4 4 0	2 14 0	1 10 0	..	7/ p.d.	8/ to 15/
..	..	..	..	..	..	..	..	..	..	..	..	..	£2 14s.	20/
WESTLAND—														
Goldsbrough & Stafford	..	3 0 0	5 0 0	4 0 0	3 0 0	2 15 0	3 0 0	3 12 0	3 0 0	2 14 0	1 10 0	1 0 0	20/- and found	15/
Hokitika	..	1 10 0	£4 to £5	4 0 0	3 12 0	3 10 0	3 3 0	3 18 0	£9/14 to £3	£2/14 to £3/	1 10 0	..	£1 16s.	10/ to 20/
Ross	7 0 0	1 10 0	£4 to £5	7 10 0	3 0 0	..	..	3 12 0	£3/ to £3/6	3 0 0	1 10 0	0 10 0	25/- and found	10/ to 25/
Kumara	..	1 0 0	4 0 0	3 0 0	3 0 0	3 0 0	3 0 0	3 0 0	3 0 0	2 14 0	2 0 0	£1 and found	..	15/ to 25/
Greymouth	..	£1 to £2	£5 to £7	5 0 0	4 0 0	2 10 0	3 15 0	3 10 0	3 0 0	2 14 0	1 0 0	..	20/-30/ found	7/6 to 30/
Okarito	..	..	5 0 0	..	..	..	..	12/ p.d.	10/ p.d.	10/ p.d.	0 15 0	..	30/- and found	15/ to 20/
OTAGO AND SOUTHLAND—														
Hindon	..	£30 p.a.	£4 to £5	..	9/ p.d.	..	10/ p.d.	..	8/ to 10/ p.d.	8/ p.d.	..	..	..	..
Cromwell	..	3 0 0	5 0 0	4 10 0	3 0 0	3 0 0	3 12 0	3 10 0	3 0 0	£2/8 to £2/14	1 0 0	1 10 0	25/- and found	15/
Clyde	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Alexandra	..	..	5 0 0	£4 to £5	£3 to £3/12	..	3 10 0	3 10 0	3 0 0	2 8 0	10/ to 15/	1 0 0	25/- and found	15/
Black's	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Roxburgh	..	..	5 0 0	4 0 0	3 0 0	2 14 0	3 0 0	3 0 0	2 8 0	2 2 0	0 15 0	1 0 0	25/- and found	17/6
Lawrence	12 0 0	..	4 0 0	..	..	..	3 0 0	3 4 0	2 8 0	£2/5 to £2/10	10/-15/ found	20/-25/ found	£1 to £1/5	8/ to 15/
Naseby	5 0 0	..	4 0 0	..	2 14 0	2 8 0	3 0 0	3 12 0	2 14 0	£2/5 to £2/10	1 16 0	2 5 0	20/-30/ found	8/ to 15/
Macrae's	..	..	5 0 0	..	..	..	3 0 0	3 0 0	2 11 0	2 8 0	..	..	20/- and found	12/6
St. Bathans	..	..	4 10 0	4 0 0	9/ per shift	..	10/ p.d.	11/ p.d.	8/ p.d.	8/ p.d.	10/ to 15/	15/ to 20/	20/-27/ found	14/ to 17/
Waikaka	..	..	4 0 0	3 12 0	2 16 0	2 9 0	2 14 0	2 14 0	2 8 0	2 10 0	1 0 0	1 16 0	30/- and found	10/
Orepuki and Riverton	5 0 0	4 0 0	4 0 0	3 10 0	3 10 0	2 10 0	3 0 0	3 0 0	2 10 0	2 8 0	10/ to 25/	£1/5 to £1/10	25/- and found	8/ to 20/
Arrow	..	..	£4 to £7	4 0 0	3 10 0	2 10 0	3 0 0	3 0 0	2 10 0	2 8 0	10/ to 25/	£1/5 to £1/10	25/- and found	8/ to 20/
Queenstown	..	..	£4 to £7	4 0 0	3 10 0	2 10 0	3 0 0	3 0 0	2 10 0	2 8 0	10/ to 15/	10/-15/ found	20/-25/ found	7/6 to 15/
Mount Ida	5 0 0	..	4 0 0	3 0 0	8/ p.d.	..	9/ p.d.	3 4 0	2 8 0	7/ p.d.	..	..	25/- and found	15/
Gore	..	..	4 10 0	3 0 0	..	3 0 0	3 0 0	..	..	2 8 0	0 15 0	..	£2 8s.	13/
Wyndham	..	..	..	..	..	3 0 0	3 0 0	3 0 0	2 8 0	2 8 0	..	..	..	..

Electrical.

Table 12.

STATEMENT OF AFFAIRS OF MINING COMPANIES, as published in accordance with the Companies Act, 1908.

Name of Company.	Date of Registration.	Subscribed Capital.	Amount of Capital actually paid up.	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 or Silver produced since Registration.		Total Expenditure since Registration.	Total Amount of Dividends paid.	Amount of Debts owing by Company.
										Quantity.	Value.			
AUCKLAND DISTRICT.														
Ajax Gold-mining Company (Limited)	21/10/08	£ 17,000	£ 1,875	£ 1,750	170,000	£ s. d. 6d. & 4d.	£	140	2	Oz.	£	£ 1,923	£	£ 9
Alburnia Gold-mining Company (Limited)	2/9/10	7,800	948	..	155,994	2d. & 1d.	352	182	6	..	..	816	..	27
Bendigo Gold-mining Company (Limited)	26/3/08	14,396	5,674	1,424	143,958	0 1 0	470	160	5	14	18	5,507	..	373
Bonanza Gold-mining Company (Limited)	22/10/06	10,000	5,250	..	100,000	0 0 9	..	105	4	..	..	2,974	..	5
Bremner's Freehold Gold-mining Company (Ltd.)	5/8/10	10,000	417	..	100,000	0 0 1	..	86	8	345	956	506	..	57
Champion Mines (Limited)	21/11/05	22,500	14,250	8,250	150,000	0 3 0	16	271	3	..	715	16,033	..	1,823
Commonwealth Gold-mining Company (No Liability)	18/1/10	8,318	808	625	66,540	5d. & 6d.	..	46	3	..	..	865	..	..
Crown Royal Mines (Limited)	24/8/09	13,500	1,524	825	135,000	4d. & 6d.	..	47	5	..	..	1,374	..	..
Dixon's Consolidated Gold-mining Company (Ltd.)	22/6/04	4,500	3,326	500	100,000	1/ & 9d.	20	138	4	..	..	3,231	..	29
Dominion Gold-mining Company (Limited)	3/3/08	18,760	2,532	..	187,600	0 0 7	..	215	5	..	..	2,742	..	30
Four-in-Hand Gold-mining Company (Limited)	4/6/09	17,971	3,844	3,500	88,857	2/1, 1/3, 1/6	270	77	9	90	178	3,345	..	231
Glamorgan Gold-mining Company (Limited)	13/8/09	10,000	1,667	417	100,000	0 0 5	..	66	3	..	..	1,600	..	13
Golden Belt Gold-mining Company (Limited)	12/8/02	36,064	31,086	5,250	360,645	Various	159	315	9	7,071	14,612	49,739	..	1,534
Golden Cross Gold-mining Company (Limited)	12/11/06	10,170	7,286	575	101,750	4d., 1/6, & 1/8	618	110	10	522	419	6,299	..	100
Golden Pah Gold-mining Company (Limited)	20/3/08	5,000	2,181	375	100,000	7d. & 4d.	360	107	4	29	88	2,202	..	59
Haleyon Gold-mining Company (Limited)	31/7/06	5,000	3,413	..	100,000	43d. & 104d.	88	105	4	..	70	3,382	..	3
Handsworth United Gold-mining Company (Ltd.)	27/7/09	14,000	2,500	1,000	140,000	0 0 6	..	160	9	1,018	2,491	4,190	..	..
Hare-Ratjen Copper Company (Limited)	5/5/07	7,600	1,000	6,600	7,600	1 0 0	..	20	1	..	..	1,261	..	17
Hauraki Reefs (Limited)	28/4/10	20,000	2,521	5,083	175,000	0 0 5	..	422	12	278	807	2,476	..	274
Imperial Gold-mining Company (Limited)	20/10/09	4,840	874	375	96,800	33d., 11d., & 3d.	163	71	3	..	..	704	..	50
Kaipara Copper Developing Company (Limited)	25/6/08	1,470	1,010	480	1,470	1 0 0	..	119	1	..	..	1,006	..	76
Kapanga Gold-mining Company (Limited)	12/12/08	20,000	11,390	1,500	200,000	Various	1,277	128	17	..	..	11,242	..	1,684
Kapowai Gold-mining Company (Limited)	24/11/06	10,500	5,505	4,000	105,000	1/7, 1/6, & 1/5	391	112	4	858	2,032	6,848	..	25
Karangaheke Gold-mining Company (Limited)	6/9/07	10,525	6,178	750	105,250	0 1 4	56	72	5	..	43	5,981	..	5
Kirikiri Consolidated Mines (Limited)	2/10/09	15,000	2,988	7,500	150,000	0 1 5	137	56	7	..	..	1,186	..	150
Kuranui Gold-mining Company (Limited)	12/9/95	22,394	14,784	3,450	89,575	0 4 1	..	107	5	..	1,876	16,016	..	36
Lanigan's Antimony and Minerals (Limited)	20/8/07	5,725	3,055	..	114,505	1/ & 10d.	..	66	..	..	142	3,875	..	265
Last Shot Gold-mining Company (Limited)	26/6/08	5,500	1,800	1,000	110,000	0 0 4	33	17	..	556	816	2,493	..	391
Lord Plunket Gold-mining Company (Limited)	20/6/05	3,100	368	1,000	30,900	0 1 0	..	40	..	..	..	425	..	52
Luck-at-Last Gold-mining Company (Limited)	25/8/09	1,908	1,880	26,767	83,260	0 0 5 1/2	28	25	5	..	..	1,761	..	769
May Queen Gold-mining Company (Limited)	15/5/07	64,000	14,539	4,500	256,000	0 3 3	295	580	25	4,236	11,944	36,383	..	950
Mills Reward Gold-mining Company (Limited)	6/8/10	9,984	1,371	1,125	36,560	0 0 6	284	188	5	..	..	809	..	..
Missouri Mines (Limited)	7/10/08	12,650	1,905	..	126,500	0 0 6	132	51	4	..	..	1,812	..	6
Moanatairi Gold-mining Company (Limited)	7/12/09	22,450	7,457	..	179,596	0 0 10	26	231	..	..	..	7,194	..	8,084
Monowai Gold-mining Company (Limited)	21/9/09	25,000	6,551	750	100,000	1/5 & 1/3	1,356	58	30	382	455	8,068	..	2,473
Monte Christo Gold-mining Company (Limited)	4/8/09	5,000	1,439	..	100,000	6d. & 5d.	19	96	2	24	69	1,429	..	14
Mountain King Gold-mining Company (Limited)	15/2/08	12,000	6,000	2,000	120,000	0 1 4	..	169	26	1,519	4,466	10,190	..	98

Table 12—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 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 or Silver produced since Registration.	Total Expenditure since Registration.	Total Amount of Dividends paid.	Amount of Debts owing by Company.
		£	£	£		£ s. d.				Oz.	£	£	£
AUCKLAND DISTRICT—continued.													
Mountain Queen Gold-mining Company (Limited)	18/8/09	6,850	741	750	68,500	0 0 6	222	57	..	..	701	..	..
Mount Welcome Gold-mining Company (Limited)	1/7/09	5,000	796	458	100,000	3d. & 1d.	412	104	4	240	1,478	..	50
New Comstock Gold-mining Company (Limited)	23/11/09	28,750	1,084	3,746	113,860	3/4, 2/5, 2/6	..	79	..	..	1,150	..	..
New Magnet Gold-mining Company (Limited)	14/7/10	5,000	477	..	100,000	2d. & 1d.	356	68	4	..	423	..	50
New Success Gold-mining Company (Limited)	29/10/09	5,228	1,368	375	104,550	0 0 4	..	57	1	19	1,389	..	66
New Sylvia Gold-mining Company (Limited)	2/10/05	30,000	16,292	1,208	300,000	0 1 2	..	254	8	843	19,020	..	1,153
New Waitaia Gold-mining Company (Limited)	25/2/09	16,000	4,532	2,500	150,000	0 1 0	468	153	15	463	5,462	..	..
New Waitekauri Gold-mining Company (Limited)	12/9/06	12,500	7,203	1,500	100,000	1/3d., 1/9d.	..	127	2	1,025	9,887	..	23
New Zealand Cinnabar Company (Limited)	2/6/10	5,000	1,475	3,500	200	25 0 0	25	29	11	..	1,897	..	263
Occidental Consolidated Gold-mining Company (No Liability)	3/8/09	5,500	2,139	..	110,000	0 0 7	102	50	7	..	2,175	..	170
Old Hauraki Gold-mines (Limited)	3/8/04	21,000	11,375	..	210,000	0 1 1	..	348	34	5,108	18,226	2,625	180
Phoenix Gold-mining Company (Limited)	12/3/08	9,670	4,167	30,000	96,700	0 1 2d.	175	119	4	..	4,279	..	172
Point Russell Gold-mining Company (Limited)	2/8/09	15,000	2,938	1,125	150,000	0 0 6d.	225	183	5	37	2,730	..	3
Pride of Tokatea Gold-mining Company (Limited)	12/7/09	6,000	1,679	667	120,000	0 0 5	29	108	6	89	1,874	..	..
Pride of Waiki Gold-mining Company (Limited)	15/1/01	50,000	2,917	1,250	100,000	0 0 10	..	218	..	..	3,130	..	40
Reliance Gold-mining Company (Limited)	20/12/06	5,500	4,226	..	110,000	11d., 9d., & 8d.	817	53	4	..	4,241	..	86
Rising Sun Gold-mining Company (Limited)	11/12/08	16,500	3,271	2,229	110,000	0 0 6	300	141	9	..	2,956	..	49
Royal Oak Gold-mining Company (Limited)	22/3/04	12,500	1,244	6,875	100,000	1/7 & 1/6	256	173	6	4,077	15,072	..	25
Saxon Gold-mining Company (Limited)	2/12/07	35,000	6,366	13,333	200,000	8d. & 7d.	301	335	8	39	7,281	..	91
Scotia Gold-mining Company (Limited)	11/9/09	1,036	1,022	1,000	102,150	0 0 4	..	74	3	268	1,286	..	58
Seddon Gold-mining Company (Limited)	13/8/09	10,000	875	375	100,000	0 0 3	..	57	..	..	882	..	15
Silver Stream Mines (Limited)	7/7/09	43,950	2,621	35,200	43,950	10/ & 6d.	1,129	79	8	..	2,537	..	120
Tangaroa Gold-mining Company (Limited)	19/10/07	11,000	3,836	..	110,000	0 1 1	48	182	..	..	3,820	..	..
Tairua Broken Hills Gold-mining Company (Ltd.)	12/7/09	17,500	17,500	..	175,000	0 2 0	..	339	20	44,355	95,043	24,710	116
Tairua Drednought (Limited)	21/9/08	7,045	707	40,000	70,450	0 0 6	104	46	3	..	715	..	69
Tairua Gem Gold-mining Company (Limited)	11/9/09	11,300	1,478	875	113,000	0 0 5	146	51	..	..	1,454	..	68
Tairua Golden Hills (Limited)	8/8/10	35,000	5,000	20,000	200,000	0 0 6	..	96	4	..	4,308	..	4,450
Tairua Monarch Consolidated (Limited)	27/4/08	23,750	4,156	..	190,000	0 0 5	23	204	20	..	4,078	..	250
Tararu Mines (Limited)	28/8/09	10,200	1,526	800	102,000	0 0 6	224	43	..	..	1,502	..	..
Tauri Tomtit (Limited)	14/12/10	3,750	1,000	250	..	1/ & 3/4	..	7	1	..	357	..	..
Tellurides Proprietary (Limited)	2/11/09	26,150	4,977	1,550	261,305	0 0 6	192	303	16	..	3,999	..	580
Te Puke Gold Reefs (Limited)	4/5/98	12,685	12,685	..	101,478	0 2 6	..	102	..	..	12,916	4,545	14
Thames Foreshore Dredging Company (Limited)	16/5/08	5,000	5,000	..	10,000	0 10 0	..	10	8	2,807	10,794	..	7,106
Thames Gold-mining Company (Limited)	16/12/05	15,000	12,500	..	150,000	0 1 8	..	190	7	80	12,498	..	30
Towai Prospecting Company (Limited)	1/1/09	798	742	..	798	0 18 7	30	118	2	..	684	..	143
Union Hauraki Gold-mines (Limited)	9/10/09	14,525	2,928	850	116,200	0 0 9	580	98	12	..	2,843	..	337
Victoria Gold-mining Company (No Liability)	8/12/06	29,523	6,429	..	147,615	0 0 10	336	272	6	1,019	9,371	..	49
Waihi Extended Gold-mining Company (Limited)	12/8/05	149,967	44,178	5,498	149,967	0 6 7d.	..	453	19	..	44,631	..	265

Waipi Gladstone Gold-mines (Limited)	29/5/06	25,000	1,875	12,500	100,000	0 0 4½	1,806	27	..	..	1,862	26
Waipi Paeroa Gold-extraction Company (Limited)	4/3/10	100,000	13,194	60,000	100,000	7/6 & 6/6	..	70	40	..	9,348	819
Waipi Reefs Consolidated (Limited)	26/10/09	172,250	7,560	164,750	172,250	1 0 0	..	247	26	..	6,996	1,817
Waitangi Consolidated Gold-mining Company (No Liability)	23/10/08	146,833	2,169	..	169,800	7d. & 2d.	1,017	231	14	1,369	5,597	101
Waitawheta Gold Prospecting Company (No Liability)	21/12/07	7,250	1,927	750	145,000	0 0 3½	..	121	5	38	1,696	17
Waiohahi Gold-mining Company (Limited)	28/7/71	18,000	15,000	..	240,000	0 1 3	..	686	27	673,094	264,585	191
Wakarewa Gold-mining Company (Limited)	17/11/09	5,665	742	700	113,300	3d. & ½d.	161	36	2	..	741	31
Watchman Gold-mining Company (Limited)	11/12/06	11,250	4,333	1,917	150,000	0 0 10	..	143	13	501	5,058	99
Zechan Consolidated (Limited)	23/8/10	11,300	1,412	..	113,000	0 0 3	..	67	10	..	1,256	..
Totals...	..	1,720,350	430,798	506,882	10,279,633	..	16,034	11,966	639	77,405	842,115	38,904

NELSON DISTRICT (INCLUDING WEST COAST).

Addison's Long Tunnel Gold-mining Company (Limited)	24/9/98	1,857	1,766	83	1,857	Various	8	24	4	2,810	11,068	11,643	1,095	60
Big River South Gold-mines (Limited)	22/7/09	15,000	2,700	750	30,000	0 2 3	104	79	6	..	..	3,260	..	4
Blackwater River Gold-dredging Company (Ltd.)	27/4/00	9,475	5,892	3,000	9,475	0 18 0	..	88	12	10,784	42,494	37,812	9,000	..
Just-in-Time Gold-mining Company (Limited)	6/8/10	6,425	1,253	1,000	12,850	10/ & 2/6	103	65	7	..	..	1,227	..	22
Keep-it-Dark Quartz-mining Company (Limited)	2/3/74	20,000	8,708	10,000	20,000	0 18 8½	..	44	50	115,547	443,509	478,586	158,667	..
King Gold-mining Company (Limited)	13/5/10	10,728	2,426	17,500	28,228	0 8 0	1,908	266	1	..	..	1,580	..	4,285
Mahinapua Gold-mining Company (Limited)	11/1/09	5,000	4,100	900	5,000	1 0 0	..	77	9	57	224	7,323	..	2,334
Matakitaki Hydraulic Sluicing Company (Limited)	16/4/10	5,225	3,947	4,600	9,825	Various	31	100	15	..	..	3,738	..	215
Minerva Gold-mining Company (Limited)	24/2/90	12,000	6,856	400	17,248	0 6 4½	..	8	1	821	2,947	11,646	..	..
Mont d'Or Gold-mining and Water-race Company (Limited)	25/7/82	12,000	10,800	..	12,000	0 18 0	..	42	12	34,906	134,054	97,872	49,800	..
Nelson Creek Gold-dredging Company (Limited)	3/8/09	3,000	2,250	..	3,000	0 15 0	..	33	9	1,088	4,104	6,067	..	119
New Big River Gold-mining Company (Limited)	19/8/07	6,000	600	..	24,000	0 0 6	..	56	45	19,756	79,961	38,344	38,400	..
New Trafalgar Dredging Company (Limited)	13/4/04	6,500	2,500	2,000	6,500	1 0 0	..	100	9	6,189	24,370	26,076	4,550	284
New Ulster Quartz-mining Company (Limited)	11/3/08	5,260	3,587	1,250	10,730	0 6 10	..	30	..	241	882	4,666	..	..
No Town Creek Gold-dredging Company (Ltd.)	9/3/00	8,500	8,500	3,500	12,000	1 0 0	..	122	10	17,727	68,737	44,685	28,800	180
Pactolus Gold-dredging Company (Limited)	30/8/99	8,125	8,125	1,250	12,500	0 15 0	..	131	9	31,805	125,899	71,550	60,625	181
Parapara Hydraulic Sluicing and Mining Company (Limited)	18/6/92	50,600	26,210	20,000	40,600	20/ 5/ 12/	150	60	10	11,807	45,396	67,595	..	..
Stafford Gold-dredging Company (Limited)	17/5/05	289	289	1,734	2,023	1 0 0	..	7	7	5,118	19,923	19,183	2,883	218
St. George Gold-mining Company (Limited)	9/10/09	12,150	2,871	3,000	24,300	10/ & 3/3	102	83	8	..	..	2,871	..	30
Workshop Gold-dredging Company (Limited)	20/3/07	4,500	4,500	1,500	6,000	1 0 0	..	75	11	5,081	19,620	16,877	6,600	188
Totals...	..	202,634	107,880	72,467	288,136	..	2,406	1,490	235	263,717	1,023,188	952,501	360,420	8,120

OTAGO DISTRICT (INCLUDING SOUTHLAND).

Advance Gold-dredging Company (Limited)	27/10/10	360	360	..	1,200	0 6 0	..	14	9	60	231	229	..	200
Arrow River Hydraulic Mining Company (Limited)	15/1/07	2,007	1,007	1,000	2,007	1 0 0	..	18	7	1,743	2,009	4,935	1,907	77
Arthur's Point Gold-mining Company (Limited)	22/10/09	4,868	1,426	..	4,868	20/ 10/ 5/	31	57	10	..	..	1,630	..	27
Bakery Flat Sluicing Company (Limited)	10/9/96	2,013	2,013	..	2,500	0 18 6	..	28	..	3,893	14,750	15,482	1,062	160
Barewood Gold-mining Company (Limited)	24/12/03	7,900	7,900	..	7,900	1 0 0	..	54	21	9,119	35,258	35,340	2,800	1,098
Ben Nevis Sluicing Company (Limited)	13/3/07	2,750	3,644	..	2,750	1 0 0	..	16	7	1,424	5,431	6,092	..	450
Central Charlton Dredging Company (Limited)	8/12/99	5,300	5,300	1,700	7,000	1 0 0	..	100	8	9,248	36,529	32,336	9,450	..

Table 12—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 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 or Silver produced since Registration.	Quantity.	Value.	Total Expenditure since Registration.	Total Amount of Dividends paid.	Amount of Debts owing by Company.
		£	£	£	£	£ s. d.	£			Oz.	£	£	£	£	£
Chicago Gold-dredging Company (Limited)	1/11/99	2,500	6,750	2,500	5,000	1 0 0	..	57	8	9,855	38,277	31,749	8,964	133	
Crewe Gold-dredging Company (Limited)	7/9/02	2,000	2,000	3,000	5,000	1 0 0	..	20	14	8,166	31,471	26,722	6,125	510	
Cromwell Gold-mines Development Company (No Liability)	23/6/10	15,000	1,500	12,000	15,000	0 10 0	..	60	10	..	..	975	..	55
Deep Stream Gold-mining Company (Limited)	19/11/06	2,500	500	2,000	2,500	1 0 0	..	7	5	965	3,716	4,242	812	10	
Earnsclough Gold-dredging Company (Limited)	15/7/01	8	8	10,992	11,000	1 0 0	..	14	40	36,855	141,254	117,781	24,200	577	
Electric Gold-dredging Company (Limited)	2/9/99	26,000	..	26,000	26,000	1 0 0	..	275	20	51,007	197,545	79,429	122,842	125	
Gabriel's Gully Sluicing Company (Limited)	2/5/07	600	180	..	600	0 6 0	..	6	4	1,192	4,581	3,536	1,140	120	
Golden Bed Dredging Company (Limited)	5/5/99	11,000	10,694	2,000	12,794	1 0 0	..	152	9	14,174	54,756	43,750	13,347	250	
Golden Crescent Sluicing Company (Limited)	26/11/98	3,500	3,500	..	3,500	1 0 0	..	25	8	5,748	22,348	18,223	7,262	90	
Golden Sun Dredging Company (Limited)	2/12/10	1,560	337	..	1,795	0 5 0	53	34	3	..	..	373	..	988
Golden Treasure Dredging Company (Limited)	11/7/93	1,500	1,384	1,500	3,000	1 0 0	..	42	9	18,645	71,853	51,100	23,871	180	
Golden Star Sluicing Company (Limited)	7/5/10	850	638	250	850	1 0 0	..	17	3	7	26	634	..	200	
Good Chance Dredging Company (Limited)	24/3/09	1,250	779	..	1,250	1 0 0	..	56	8	1,400	5,489	5,495	625	159	
Hamilton's Sluicing Company (Limited)	8/6/10	4,000	4,000	2,000	6,000	1 0 0	75	36	2	79	304	4,479	..	249	
Hartley and Riley Beach Dredging Company (Ltd.)	14/7/97	6,500	6,300	200	6,500	1 0 0	..	319	8	31,282	121,068	42,741	83,037	21	
Havelock Sluicing Company (Limited)	3/3/08	4,000	3,400	600	4,000	1 0 0	..	11	6	1,446	5,573	9,283	..	800	
Hit-or-Miss Water-race Company (Registered), Mount Ida	19/6/67	*	*	..	301	20 0 0	..	3	..	*	*	*	*	..	
Hydraulic Motor Dredging Company (Limited)	—/2/04	300	300	..	300	1 0 0	..	4	..	464	1,785	1,313	..	434	
Island Block Gold-dredging and Sluicing Company (Limited)	26/2/00	24,030	12,030	12,000	25,000	1 0 0	..	108	8	7,421	28,945	34,894	2,403	223	
Jutland Hydraulic Dredging Company (No Liability)	28/6/01	5,000	4,100	900	5,000	1 0 0	..	9	7	5,144	19,788	20,746	3,250	270	
Karaunui Dredging Company (Limited)	12/10/09	5,115	2,765	2,350	5,115	1 0 0	..	92	9	446	1,731	6,247	..	1,860	
Kia Ora Victoria Gold-dredging Company (Limited)	10/10/01	9,100	5,915	..	9,100	0 13 0	..	35	16	21,412	86,806	60,838	31,622	..	
Koputai Gold-dredging Company (Limited)	9/1/06	3,200	3,200	300	3,500	1 0 0	..	50	7	7,003	27,500	19,140	11,302	..	
Lady Roxburgh Gold-mining Company (Limited)	3/3/00	9,000	4,885	2,000	11,000	0 14 0	..	104	9	6,053	23,260	26,187	3,593	179	
Lady Smith Gold-dredging Company (Limited)	19/4/00	12,000	3,964	3,000	14,500	0 10 0	..	78	9	7,457	28,757	24,881	7,940	186	
Lammermoor Mining Company (Limited)	6/7/08	5,000	4,950	1,000	5,950	1 0 0	..	23	6	58	223	5,041	..	423	
Lowburn Dredging Company (Limited)	26/1/09	2,000	2,000	1,350	2,000	1 0 0	..	8	14	1,103	4,242	6,564	..	570	
Lower Nevis Dredging Company (Limited)	29/9/06	600	600	600	1,200	1 0 0	..	7	7	2,248	8,555	8,551	840	197	
Magnum Bonum Gold-dredging Company (Limited)	1/3/06	2,500	2,500	..	2,500	1 0 0	..	9	8	5,179	20,897	14,751	7,063	130	
Manuhierika Gold-dredging Company (Limited)	1/8/99	12,000	6,000	6,000	12,000	1 0 0	..	167	9	16,573	63,443	35,213	32,387	71	
Manuka Mining Company (Limited)	26/5/04	200	200	..	200	1 0 0	..	7	2	498	1,934	2,507	..	166	
Maori Gully Sluicing Company (Limited)	8/4/09	6,400	..	6,400	3,200	2 0 0	..	14	6	716	2,835	2,582	320	85	
Masteron Gold-dredging Company (Limited)	6/1/04	5,000	3,500	1,500	5,000	1 0 0	..	76	8	13,224	52,142	24,733	30,250	..	
Molynoux Hydraulic Gold-dredging Company (Limited)	25/5/00	5,896	5,896	..	5,896	1 0 0	..	84	7	12,176	46,868	52,206	6,781	57	
Morgan Diving and Suction Gold-dredging Company (Limited)	27/8/10	4,000	1,000	3,000	4,000	1 0 0	..	40	4	..	..	813	..	343

OTAGO DISTRICT (INCLUDING SOUTHLAND)—continued.

Mount Morgan Sluicing Company (Limited)	2/7/02	800	800	2,000	2,800	1 0 0	..	11	2	1,425	5,490	5,266	210	13,241
Muddy Terrace Sluicing Company (Limited)	4/10/06	14,400	14,400	5,550	19,950	1 0 0	..	133	25	2,277	9,013	36,654	..	84
Mystery Flat Gold-dredging Company (Limited)	16/7/00	5,512	4,512	1,000	5,512	1 0 0	..	99	8	14,030	55,467	32,888	26,595	26
Naseby Dredging and Hydraulic Sluicing Company (Limited)	16/7/07	5,000	2,287	2,000	5,000	0 15 3	..	24	4	3,967	15,278	15,768	3,375	..
Nevis High Lead Sluicing and Elevating Company (Limited)	1/7/08	1,470	1,470	..	2,100	0 14 0	..	9	7	145	453	1,061	..	80
New Luagata Hydraulic Sluicing Company (Ltd.)	5/12/08	2,000	300	1,300	2,000	1 0 0	..	24	7	609	2,436	2,857	..	185
909 Gold-dredging Company (Limited)	6/10/09	3,000	3,000	..	3,000	1 0 0	..	7	10	1,262	4,948	4,400	1,500	386
Nokomai Hydraulic Sluicing Company (Limited)	26/3/98	24,000	7,000	17,000	24,000	1 0 0	..	59	44	26,264	98,906	77,242	28,284	381
Olrig Dredging Company (Limited)	13/3/99	9,955	8,955	1,000	9,955	1 0 0	..	70	8	7,536	29,270	31,088	4,173	174
Orago Gold-dredging Company (Limited)	20/5/95	3,000	2,000	3,000	5,000	1 0 0	..	54	17	22,088	85,453	75,120	17,125	650
Ourawera Gold-mining Company (Limited)	23/5/95	3,000	3,000	..	3,000	1 0 0	..	17	9	10,304	43,455	33,624	13,615	..
Pahia Sluicing Company (Limited)	6/9/07	2,000	1,200	800	40	50 0 0	..	16	4	286	1,441	2,005	..	1,002
Paracale Eldorado Gold-dredging Company (Ltd.)	5/7/10	2,000	300	..	2,000	0 3 0	50	21	..	..	194	..	..	..
Paracale Gold-dredging Company (Limited)	7/9/06	6,233	6,233	1,200	6,233	1 0 0	..	42	42	7,853	27,986	35,721	..	5,963
Paterson's Freehold Gold-mining Company (Ltd.)	15/7/99	12,000	8,000	4,000	12,000	1 0 0	..	32	17	15,096	60,387	54,694	13,200	870
Phoenix Water-race Company (Limited)	12/10/67	1,500	1,500	..	1,000	1 10 0	..	18	1	..	..	1,167	8,268	12
Quartz-reef Point Sluicing Company (Limited)	20/7/08	1,615	1,525	800	2,415	1 0 0	90	26	..	77	300	2,604	..	691
Rise-and-Shine Gold-dredging Company (Limited)	24/2/00	10,000	9,746	2,000	12,000	1 0 0	254	159	19	28,525	110,945	85,120	33,900	818
Rising Sun Gold-dredging Company (Limited)	16/2/01	8,000	5,500	12,000	8,000	1 0 0	..	85	10	13,205	51,062	36,836	13,800	205
Round Hill Mining Company (Limited)	30/7/02	28,245	6,753	21,492	5,649	5 0 0	..	180	38	34,054	136,125	135,621	6,496	300
Roxburgh Amalgamated Mining and Sluicing Company (Limited)	2/3/89	29,152	13,121	15,000	29,152	0 18 6	..	173	14	27,834	104,259	85,082	32,430	92
Sailor's Bend Dredging Company (Limited)	1/9/99	8,000	6,500	1,500	8,000	1 0 0	..	164	9	4,341	16,775	22,112	3,587	405
Sailor's Gully (Waikahuna) Gold-mining Company (Limited)	3/6/96	2,000	200	1,800	2,000	1 0 0	..	10	4	3,276	12,385	9,402	3,400	25
Sandy Point Gold-dredging Company (Limited)	20/2/03	8,000	8,000	..	8,000	1 0 0	..	44	11	9,948	38,795	41,297	7,200	2,007
Scandinavian Water-race Company (Limited)	10/12/07	3,000	2,700	9,750	9,757	1 0 0	..	22	14	3,001	11,452	12,048	..	5,562
Shotover Consolidated Mining Company (Limited)	13/7/06	3,158	815	2,343	11,000	20/ & 18/	..	63	..	564	2,162	5,513	..	9
Skippers Sluicing Company (Limited)	19/2/09	10,000	8,000	2,000	3,158	1 0 0	..	27	6	28	109	1,489	..	177
Success Gold-dredging Company (Limited)	25/5/10	1,200	1,200	..	10,000	1 0 0	..	124	9	29	111	9,219	..	1,175
Tallaburn Hydraulic Sluicing Company (Limited)	3/12/04	10,000	1,200	..	12	100 0 0	..	7	4	952	3,665	4,654	1,380	..
Teviot Molyneux Gold-mining Company (Limited)	24/12/09	10,000	11,500	10,000	10,000	..	..	6	34	..	..	5,163	..	5,063
Tinker's Gold-mining Company (Limited)	29/10/10	11,500	11,500	..	11,500	1 0 0	..	21	9	113	437	441	..	5
Undaunted Gold-mining Company (Limited)	1/3/98	15,000	15,000	..	1,500	10 0 0	..	36	8	10,414	40,790	25,989	13,500	152
United M. and E. Water-race Company (Regd.)	23/4/72	7,600	7,600	..	152	50 0 0	..	7	6	15,141	58,359	65,632	3,078	1,477
Vinegar Hill Hydraulic Sluicing Company (Limited)	23/9/00	6,000	6,000	..	6,000	1 0 0	..	13	4	..	10,535	9,975	1,050	600
Waikaka Gold-dredging Company (Limited)	20/10/03	3,500	1,750	1,750	3,500	1 0 0	..	45	9	8,809	34,836	24,750	13,475	495
Waikaka Syndicate (Limited)	20/12/01	7,000	3,000	4,000	7,000	1 0 0	..	22	16	15,119	60,436	42,625	20,300	..
Waikaka United Gold-dredging Company (Limited)	11/2/99	4,700	4,700	6,500	11,200	1 0 0	..	34	16	24,340	96,143	60,144	39,760	512
Waipori Consolidated Gold-dredges (No Liability)	22/3/99	2,500	2,275	225	2,500	1 0 0	..	7	..	4,989	19,306	19,009	2,813	26
Waipori Dredging Company (Limited)	22/2/02	1,380	1,380	..	1,700	1 0 0	..	22	..	605	2,330	4,204	2,104	25
Waikahuna Hydraulic Sluicing Company (Limited)	10/11/04	2,000	1,250	..	2,000	0 12 6	..	9	6	3,269	12,764	10,318	3,850	235
Totals	..	501,221	311,104	255,652	518,561	..	553	4,278	806	635,858	2,476,074	2,012,759	763,663	54,786
Grand totals	..	2,424,205	849,782	835,001	11,086,330	..	18,993	17,734	1,680	976,980	4,346,396	3,807,375	1,556,763	101,810

* No record.

Table 12—continued.
STATEMENT OF AFFAIRS OF MINING COMPANIES, as published in accordance with the Companies Act, 1908—continued.
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 or Silver produced since Registration.		Total Expenditure since Registration.	Total Amount of Dividends paid in Dominion.	Amount of Debts owing by Company.
										Quantity.	Value.			
OTAGO DISTRICT.														
Blue Spur and Gabriel's Gully Consolidated Gold Company (Limited)	1/2/88	£ 91,266	£ ..	£ 48,268	..	£ s. d. ..	£ ..	..	26	Oz. 50,679	£ 193,404	£ 132,045	£ ..	£ 2,118
	..	91,266	..	48,268	..	..	..	..	26	50,679	193,404	132,045	..	2,118
Totals														

ANNEXURE F.

EXAMINATIONS UNDER THE MINING ACT, 1908.

QUESTIONS ASKED AT THE 1910 EXAMINATION FOR FIRST-CLASS CERTIFICATES OF COMPETENCY AS MINE-MANAGERS.

SUBJECT A.—*The Laying-out and Construction of Shafts, Chambers, Main Drives, Adits, Uprises, and Stopes.*

1. A north-and-south lode underlies to the west 10° from the perpendicular; a shaft is to be sunk 20 ft. to the east of the outcrop to a depth of 1,000 ft. (a.) Give the necessary preliminary works. (b.) How would you keep the shaft plumb when sinking. (c.) Give the length of the crosscut from the bottom of the shaft to the lode. The shaft is 13 ft. 2 in. by 6 ft. 2 in., to be timbered with planking; give description and sizes of timbers in sides, ends, and partitions, also the number and sizes of compartments; also make a sketch showing how you fit the timbers without pegs or battens, and describe fully.

2. Give lengths, widths, and heights in the clear of chambers of timbers. In medium-hard rock, give distance apart of the sets (centre to centre), and description of caps and legs. Would you use sills; if so, where?

3. Where the ground is of a swelling nature and the lode is 10 ft. wide, give a sketch showing timbers in position, and figure sizes on sketch.

SUBJECT B.—*The Timbering of Shafts, Adits, Main Drives or Levels, Passes, Stopes, and generally the Systems of Timbering Mines, and filling up Old Workings.*

1. How many uprisers would you construct along a lode driven upon for 300 ft., and where would you place them? Give your reasons fully.

2. Give sizes of timbers in uprise, also number and sizes of compartments. Where would you place the ladderway in a three-compartment uprise, and why?

3. Where the lode in the stopes is 40 ft. in width, would you use the usual method of stoping, or would you resort to a special method used in bad ground? If the latter, give a sketch-plan, and also a section, showing the walls, and your system of taking out the lode, without risk to the miners, and explain fully.

4. The diameter of a cap-piece of kauri is 20 in., with 8 ft. between the supports: give the breaking-strain in pounds, and give the diameter of legs of the same material to equal the cap.

SUBJECT C.—*Ventilation of Mines and Composition of Gases.*

1. A mine "damp" is composed by volume of 5.25 per cent. of CO_2 and 94.75 per cent. of N: what damp is this, and where would it lodge in a dead end?

2. What do you consider the lowest percentage (by volume) of oxygen which should be present in the inhabited portion of a mine, the air in the said mine being vitiated by 1 per cent. of CO_2 ? How is an inadequate percentage of oxygen under the above conditions readily ascertained?

3. Find the efficiency or useful effect of a fan which passes 100,000 cubic feet of air per minute with a W.G. of 3 in. It is driven by an engine the cylinder of which is 14 in. diameter, stroke 2.5 ft., revolutions per minute 60, effective steam-pressure 60 lb. per square inch.

SUBJECT D.—*Tapping Water in Mines, and Mode of constructing Dams in Underground Workings to keep the Water back.*

1. Describe fully how you would construct a dam of timber balks in a crosscut 7 ft. by 6 ft. The country rock is solid, and the dam must resist a pressure of 200 ft. of water: what would be the pressure in pounds on the centre of the dam?

2. If you were approaching old workings where the water was standing 160 ft. above the level of the drive, what precautions would you adopt? Explain fully.

3. If you had to dam back water in a drive to a height of 4 ft., state fully the description of dam you would construct.

4. In sinking a shaft you encounter a strong feeder of water at a depth of 100 ft.: state how you would deal with this water, and give your reasons fully.

SUBJECT E.—*Blasting, and the Use of Explosives.*

1. What are the relative strengths of the following explosives, taking gunpowder as 1—viz., gelignite, gelatine, dynamite, and blasting-gelatine?
2. Describe fully how fulminate of mercury is made, and how it is stored in bulk.
3. A hole in very wet ground is charged with blasting-gelatine: what tamping would you use, and what precautions would you take?
4. Give the weight of charge of fulminate in Nobel's detonators Nos. 3 and 8.
5. In sinking a shaft where a pump is being used, is it necessary to make any provision for its protection before firing the holes? Explain fully.

SUBJECT F.—*A Knowledge of Arithmetic and the Method of keeping Mining Accounts.*

1. What difference in tonnage per acre would you expect to obtain from two horizontal seams of mineral, each 3·8 ft. thick, but having a different specific gravity—viz., 1·20 and 1·45 respectively?
2. Which is the better investment, and by how much per cent.: £10 shares which cost £24 each and pay 15 per cent. annual dividends, or £1 shares costing 17s. each and paying 5 per cent. annual dividends?
3. Taking miners' average earnings at 10s. per day, what will be the average wage after an advance of 10 per cent. is given, and after a second advance of 15 per cent.? Should a reduction of 25 per cent. come afterwards, what then will their average earnings be?

SUBJECT G.—*Practical Elementary Electricity.*

1. Explain the difference between direct and three-phase alternating current with respect to (a) generation, (b) transmission. State the advantages applicable to lighting or power at a mine which are claimed for each system respectively.
2. Name at least three causes of sparking at the brushes of a dynamo, and suggest a remedy for each.
3. A three-phase alternator is rated by the manufacturers as being capable of an output of 625 K.V.A. at 2,000 volts; power factor, 0·8: what does this represent in kilowatts, also in horse-power?
4. What is the usual result of an interrupted current on a continuous-current armature coil?

SUBJECT I.—*Pumping Appliances and the Drainage of Mines.*

1. The sump in a mine is 80 ft. long, 9 ft. wide, and 6 ft. deep; the shaft is 600 ft. deep: if the sump is full of water, how many horse-power will be required to empty it in three hours, allowing 12 per cent. for the resistance of the pump and pipe?
2. State the diameters of the cylinders of a compound condensing Cornish engine of 900 I.H.P. on full load, the initial pressure of steam being 150 lb. per square inch, and the mean pressure throughout the small cylinder 127 lb., the piston-speed in the high- and low-pressure cylinders being respectively 45 ft. and 90 ft. per minute, the steam being cut off at half-stroke in the high-pressure cylinder.
3. The air-cylinder of a compressor is 36 in. diameter and 6 ft. stroke, double-acting, and working at 30 strokes per minute; the air is compressed to 60 lb. per square inch above the atmosphere: how many cubic feet of air should be delivered per hour, assuming the atmospheric pressure at 15 lb. per square inch?

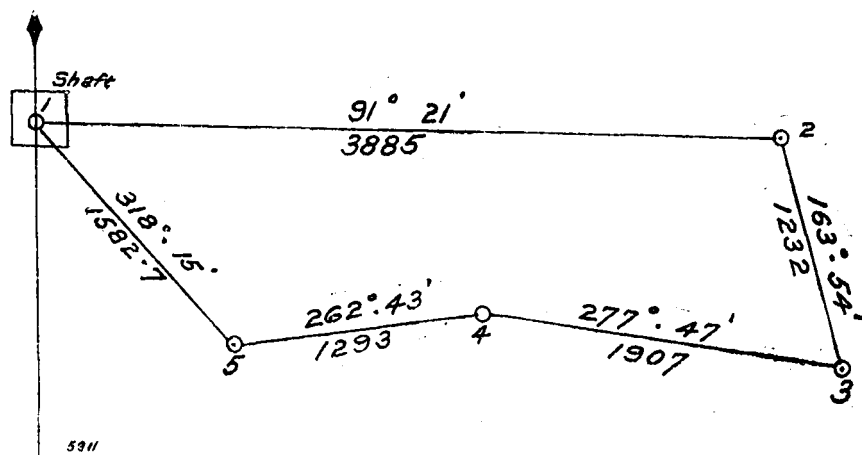
SUBJECT J.—*The Haulage in Shafts and on Underground Planes, also the Strength of Haulage Ropes and Chains.*

1. (a.) What is meant by a "plough"-steel wire rope? (b.) Of how many strands and wires is an ordinary rope composed, and how does the flexibility of a rope increase? (c.) What should be the ultimate tensile strength per square inch of plough-steel wire? (d.) What should be the factor of safety for haulage and winding ropes respectively?
2. Explain the working of the winding-engine; carefully illustrate its chief parts, especially the valve; and give the name of the chief parts.
3. Describe and illustrate by sketch some method of loading a skip in a shaft. State what quantity of ore could be hoisted in eight hours from a depth of 1,000 ft. by the method you describe.

SUBJECT K.—*The Effect that Faults, Slides, and Mullock-bars have on Lodes, and how to ascertain the Direction of Slides and Heavals.*

1. Give four diagrams to illustrate the effect that is exercised on mineral lodes by faults, mullock-bars, and slides, and describe instances from your own observations.
2. Give the best rule known to you for picking up lost lodes.
3. You are driving a level on a lode which tapers off until both walls meet, leaving no sign of the lode: what steps would you now take to pick up the lode again? Give your reasons fully for the course you adopt.

SUBJECT L.—*A Knowledge of Underground Surveying, and of making Plans of the Underground Workings, showing the Dip or Inclination and Strike of the Reefs or Lodes.*



[All the distances on sketch are given in links.]

1. The figure 1 2 3 4 5 represents the underground workings in a mine. Compute the meridian and perpendicular distances of this traverse. Make 1 origin, and on the accompanying form tabulate the total distances on meridian and perpendicular of each station from that origin; show the errors in the traverse, if any; and correctly fill in the other columns of the traverse-form, except the narrow ones headed *Cor*, which in the present instance may be left out.

2. Compute the area (in acres, &c.) of the above figure.

3. From station 2 the vertical angles, corrected for height of instrument and signals, were found to be—Elevation $3^{\circ} 25'$ to 1, and depression $9^{\circ} 38'$ to 3: show, in feet, the difference of level between stations 1 and 3.

4. Explain the advantages of plotting your surveys by co-ordinates, and methods of check, which may be applied at any point.

5. What is meant by the term “dip of the magnetic needle”? Is this dip the same everywhere? Is there any place on the surface of this globe where there is no dip; if so, where is it? What position would the needle assume at the Magnetic Poles?

SUBJECT M.—*A Knowledge of the Different Rocks where Gold, Silver, Tin, Copper, Zinc, Lead, and Antimony are found, and the Formation of Lodes and Leads.*

[Candidates need not answer more than three questions.]

1. Describe in general terms how commercially-valuable auriferous alluvial deposits have been formed. Exemplify your remarks by reference to some district in New Zealand.

2. State the chief localities in New Zealand where ores of copper and of antimony have been found. Give the mode of occurrence (whether in lodes or otherwise), and mention the nature of the enclosing rock in as many cases as you can.

3. What do you understand by the term “secondary enrichment”? In what ways may secondary enrichment of auriferous quartz veins take place?

4. So far as your time permits, describe from a mining man's point of view the geology of any district containing auriferous quartz veins in New Zealand or elsewhere with which you are acquainted. Describe also the nature of the rocks that enclose the veins; the mode of origin, strike, dip, width, and extent of the veins; the distribution of values in the veins; the minerals associated with the gold, &c.

QUESTIONS ASKED AT THE 1910 EXAMINATION FOR BATTERY-SUPERINTENDENTS' CERTIFICATES.

SUBJECT A.—*The Different Modes of reducing and pulverizing Ores.*

1. Describe the different appliances for reducing and pulverizing ores in use in New Zealand, stating (a) capacity of the different machines or appliances, (b) horse-power required to work them, (c) how they are erected; and give your opinion on the most economical method of pulverizing ore to get the best extraction of the gold-contents by using KCN solutions. Give reasons fully.

2. If a battery of stamps is driven so as to have 110 drops per minute, show by demonstration the highest drop that can be given so that the tappets will not fall on the cams.

3. Show by sketch how you would erect a crushing-battery of stamps, with the relative positions of rock-breakers, ore-feeders, amalgamating-tables, ore-concentrators, tube mills, and all appliances for treating pulverized ore, also of extracting its gold and silver contents. Give the distances in figures on the sketch.

4. If you were using electricity as a motive power to drive machinery, how would you ascertain the horse-power of the dynamo. What is meant by—watts, kilowatts, volts, amperes, coulombs, ohms, and joules? Explain fully.

SUBJECT B.—*Amalgamation Machines.*

1. What is meant by amalgamating-machines? Describe fully the different amalgamating-appliances in New Zealand, giving (a) their action, (b) their capacity, (c) quantity of quicksilver used in each, (d) whether the discharge is continuous or not.
2. How are amalgamating-tables constructed? State fully in detail (a) their construction, (b) their dimensions for a battery of five heads of stamps, (c) their angle of inclination, (d) how they are coated with mercury and kept bright, (e) how gold and silver is removed from the tables, also how the whole of the gold and silver contents can be removed at a final clean up.

SUBJECT C.—*The Use of Quicksilver, and Methods of using it in connection with the Extraction of Gold and Silver from Ores.*

1. In treating pulverized auriferous ore by amalgamation which also contains zinc, antimony, bismuth, and molybdenum, what effect, if any, would those metals have on the quicksilver, and how would they be removed?
2. When quicksilver becomes impure, what steps would you take to cleanse it and get it back into a pure condition? Explain fully.

SUBJECT D.—*Cyanide, Chlorination, and other Chemical Processes of recovering Gold and Silver from Ores.*

1. In subjecting auriferous ores to treatment with KCN solutions, how would you prepare the solution, and how would you ascertain the best strength of solution to use?
2. In making up 50 tons of a sump solution containing 0.012 per cent. of KCN to a strength of 0.3 per cent., what quantity of a solution containing 16 per cent. of KCN would be required?
3. In using crude cyanide of potassium containing 72 per cent. KCN, what quantity would be required to make up 50 tons of a sump solution containing 0.009 per cent. of KCN to a solution of 0.25 per cent. KCN?
4. Describe fully the system of treating auriferous and argentiferous ore with KCN solution from the time the pulverized ore is put into vats or towers until the bullion is extracted.
5. If you were using a circular vat and filled it to a depth of 5 ft. with dry pulverized ore, how many tons of ore would the vat contain, and what quantity of solution would you use on the ore before commencing to allow the solutions to filter through?
6. How do you ascertain when the bullion-contents in the ore are sufficiently dissolved in the vats or towers before you allow the solutions to filter through?
7. In using zinc for the extraction of the bullion from KCN solutions, how is the zinc prepared for use, and how is the bullion collected and made in a fit state for market?
8. Explain fully the difference between cyanidation and chlorination of pulverized ores, and method of collecting the bullion.
9. If any of the workmen showed symptoms of cyanide-poisoning, what steps would you take to relieve the sufferer?

SUBJECT E.—*Sampling and Testing of Ores.*

1. Describe clearly the methods you would adopt in sampling for assay (a) the stone as it comes from the mine, (b) a heap of tailings.
2. Describe the fire assay of a sample of iron-pyrites for gold and silver.
3. How would you determine the mercury in a piece of cinnabar?
4. How would you identify arsenic, cadmium, mercury, nickel, bismuth, and lead when occurring singly in rocks?
5. Describe how you would prove the presence of the following elements in a sulphide ore: Antimony, silver, copper, zinc.

SUBJECT F.—*A Knowledge of Arithmetic and the Method of keeping Battery Accounts.*

1. A circular vat with the staves having a splay outwards of $1\frac{1}{2}$ in. to every foot in height was lined with lead on the bottom and sides to a height of 5 ft.; there was 500 superficial feet of lining: show by calculation the diameter of the vat at the top of the lining.
2. A Pelton water-wheel is placed under a head of 175 ft. and gives an effective 75-horse power; the loss on the wheel is 20 per cent. of the power of the water: required the quantity of water used, in cubic feet, and the diameter of a single nozzle to discharge that quantity.
3. How many ounces of gold, troy weight, is there in a pyramidal cone 8 ft. high and 4 ft. in diameter at the base, taking the specific gravity of gold to be 19?
4. There were thirty men employed in a crushing-battery, in four divisions, A, B, C, and D. Four men in A division got $\frac{1}{3}$ of the total amount, ten men in B division got each $\frac{7}{8}$ of the money that each man got in A division, fourteen men in C division got each $\frac{1}{2}$ of the money that each man got in B division, and each man in D division got £1 17s. 6d., being $\frac{7}{8}$ of the money that each man in B division received. How much did each man receive in A, B, and C divisions?
5. The value of bullion from a mine during a period of six months was £194,000; for every ounce of gold there was in the bullion there was 9 oz. 15 dwt. of silver: how many ounces of gold and silver were there in the bullion, taking the value of gold to be £4 3s. per ounce and silver 2s. 6d. per ounce?

LIST OF MINE - MANAGERS, BATTERY SUPERINTENDENTS, AND DREDGE-MASTERS WHO HAVE OBTAINED CERTIFICATES UNDER THE MINING ACTS.

FIRST-CLASS MINE-MANAGERS' CERTIFICATES.

Certificates of Service issued under the Mining Act, 1886, without Examination.

Adams, H. H., Waiorongomai.	*Greenish, J., Reefton.	*Nasmyth, T., Reefton.
*Anderson, P., Thames.	*Greenville, W., Ohinemuri.	Newman, W., Naseby.
*Andrews, R., Coromandel.	*Hall, J. P.	*Northey, J., Thames.
Andrews, T., Thames.	*Hansen, P. C., Thames.	*O'Sullivan, D. E., Thames.
Barclay, T. H., Thames.	*Harris, J., Owen's Reefs.	Polton, A., Karangahake.
Bennett, J., Alexandra.	Harrison, R. H., Coromandel.	Porter, J., Waipori.
*Benney, J., Coromandel.	*Hicks, T. B., Thames.	*Purvis, G., Ross.
Black, T., Waiomio.	*Hilton, G. P., Bendigo.	Quinn, E., Te Aroha.
*Bollersley, N., Boatman's.	*Hodge, F., Coromandel.	*Radford, T., Thames.
*Bradbury, M., Reefton.	Hollis, W., Thames.	Ralph, J. G., Thames.
Bray, John, Lyell.	Hunter, R., Thames.	*Ranger, J., Reefton.
Burch, W. H., Thames.	James, F., Thames.	Rasmussen, C. L., Mokihinui.
Byrne, J. F., Stafford.	Jamieson, A., Coromandel.	Rasmussen, C. P., Mokihinui.
Cameron, A., Macetown.	Jenkins, M., Wakatipu.	Reid, P., Coromandel.
*Cameron, E., Te Aroha.	Johnstone, H., Bluespur.	Resta, L., Macetown.
Chapman, J. A., Dunedin.	*Julian, J., Boatman's.	*Roberts, E., Ross.
*Clarke, G. S., Thames.	Kelly, J., Lyell.	Rooney, F., Reefton.
*Comer, R., Thames.	Kerr, J., Thames.	Scott, T., Waiorongomai.
Conradson, M., Lyell.	*Lawn, E., Black's Point.	*Searight, A., Reefton.
*Corin, W., Thames.	*Lawn, H., Boatman's.	*Senior, J., Thames.
*Cornes, C. A., Karangahake.	*Lawn, J., Reefton.	Smith, J. E., Thames.
*Coutts, J., Thames.	*Littlejohn, W., Karangahake.	Stone, F., Karangahake.
Crawford, T. H., Thames.	*Lowe, E. W., Thames.	*Steedman, J. B., Thames.
*Crowley, C., Reefton.	*Malfroy, J. M. C., Ross.	Sturm, A., Waipori.
*Cummings, W., Reefton.	*Martin, W. G., Thames.	Taylor N., Thames.
Davis, J. E., Queenstown.	*McCallum, J., Reefton.	Todd, C., Heriot.
*Davey, C., Ross.	McCullough, R., Thames.	Treloer, J. S., Reefton.
*Donald, J., Cromwell.	McGruer, G. N., Karangahake.	Tripp, R. S., Arrowtown.
*Dryden, S., Thames.	*McIlhaney, J., Thames.	Vivian, J. G., Thames.
*Dunlop, T. A., Thames.	McIntosh, D., Bluespur.	*Vivian, S., Reefton.
Edwards, J., Skipper's.	McKay, J., Ross.	*Waite, C. D., Thames.
Elliott, J., Macetown.	McKenney, J., Reefton.	*Waite, E., Thames.
*Evans, F., Skipper's.	*McKenzie, W., Thames.	Walker, J. W., Thames.
Evans, J. H., Skipper's.	*McLeod, G., Coromandel.	Watson, T., Reefton.
*Fitzmaurice, R., Reefton.	*McLiver, F., Thames.	*Wearne, J. E., Endeavour Inlet.
Frewen, J. B., Queenstown.	*McLiver, H., Thames.	Wearne, T., Endeavour Inlet.
Gavin, T., Te Aroha.	McMaster, J., Reefton.	*Wilcox, J., Thames.
*Gilbert, J., Reefton.	Moore, H. W., Thames.	Williams, J., Skipper's.
Gilmour, T., Thames.	*Moore, J. H., Thames.	Wright, G., Boatman's.
*Giles, G. F., West Wanganui.	*Morgan, R., Otago.	Wylie, W., Ross.
Glass, W. M., Naseby.	Morrisby, A. A., Glenorchy.	Young, G., Skipper's.
*Goldsworthy, J., Waiorongomai.		

Issued after Examination under the Mining Act, 1886, and Amendment Acts.

Adams, B., Thames.	Crawford, J. J., Thames.	Hosking, G. F., Auckland.
Baker, W., Thames.	*Cummings, W., Reefton.	Kruizenza, W., Reefton.
Black, G., Reefton.	Donaldson, W., Otago.	*Lawn, T., Reefton.
*Caples, P. Q., Reefton.	Fleming, M., Thames.	Logan, H. F., Wellington.
*Carter, J., Thames.	Gardner, W. P., Reefton.	Mangan, T., Thames.
*Casley, G., Reefton.	Harris, W., Thames.	Mouat, W. G., Dunedin.
Cochrane, D. L., Reefton.	Horn, G. W., Thames.	*Truscott, G., Thames.
Colebrook, J. D., Coromandel.	Horne, W., Coromandel.	Watkins, W. E., Reefton.
Coombe, J., Reefton.	Hornick, M., Thames.	*Wilkie, J., Reefton.

Issued on Production of Certificate from a Recognized Authority outside the Dominion under the Mining Acts 1886, 1891, 1898, 1905, and 1908.

Argall, W. H., Coromandel.	Dodd, William, Milton.	Hall, E. K., Reefton.
Beckwith, L. H., Wellington.	Evans, A. W., Reefton.	McKenna, Thomas, Dunedin.
Brook, R. H. T., Reefton.	Griffiths, A. P., Auckland.	Molineaux, H. S., Gore.
Cock, W., Waiomio.	Griffiths, H. P., Auckland.	Rich, F. A., Auckland.
Datson, J., Manaia.	Hailey, R. C., Dunedin.	Williams, W. H., Auckland.

Issued after Examination under The Mining Act, 1891.

Agnew, J. A., Thames.	*Hughes, D., Thames.	*Prince, F. H., Reefton.
Annear, William, Reefton.	*James, T., Thames.	Robertson, D. B., Stafford.
Arcott, R., Waihi.	Keam, P. E., Thames.	Ross, Richard, Thames.
Bennett, E. P., Thames.	Lane, J., Reefton.	Russell, Murray, Dunedin.
Boydell, H. C., Coromandel.	Lawn, C. H., Caplestone.	Shepherd, H. F., Thames.
Bradley, R. J. H., Te Puke.	Linck, F. W., Thames.	Stanford, W. J., Macetown.
Bray, E., Reef on.	*Marshall, F., Reefton.	Steedman, J. G., Thames.
*Bruce, Malcolm, Thames.	Morrison, R., Thames.	Sutherland, Benjamin, Reefton.
Carroll, J., Lyell.	McDermott, J., Thames.	Tierney, R., Thames.
Cartwright, E., Thames.	McDermott, G., Thames.	Vialoux, F., Coromandel.
Crabb, J., Reefton.	McDermott, W., Thames.	Warne, George, Thames.
*Dobson, J. A., Auckland.	McGregor, W. T., Thames.	Waters, D. B., Skipper's.
Evans, H. A., Wellington.	McKenzie, H. J., Coromandel.	Watt, J., Thames.
*Fahey, P., Reefton.	McPeake, J., Thames.	White, G. H., Thames.
*Flannigan, Francis, Reefton.	O'Keeffe, M. D., Thames.	Whitley, A., Thames.
Gilmour, J. L., Thames.	Paul, Matthew, Thames.	Williams, C., Caplestone.
Hodge, J. H., Thames.	Paltridge, Henry, Thames.	

* Deceased since issue of certificate.

FIRST-CLASS MINE-MANAGERS' CERTIFICATES—continued.

Issued after Examination under the Mining Acts, 1898, 1905, and 1908.

Allen, Henry, Waihi.	George, M. T., Waihi.	Morrison, William, Waihi.
Autridge, L. E., Thames.	Goldsworthy, C., Karangahake.	Moye, Michael, Reefton.
Baker, S. G., Thames.	Goldsworthy, W., Coromandel.	Oats, John, Black's Point, Reefton.
Barker, B., Thames.	Gordon, J. A., Thames.	O'Sullivan, J. W., Thames.
Barrance, K. M., Karangahake.	Grayden, P., Thames.	*Rabe, John, Thames.
Ball, O., Waihi.	Greening, W., Karangahake.	Rimmer, J. C., Helensville.
Benzie, Boyd, Waihi.	Hitchcock, W. E., Barewood.	Rodden, John, Reefton.
Bishop, Thomas Otto, Skippers, Otago.	Hooker, John, Coromandel.	Saunders, W. H., Reefton.
Blenkhorn, C., Coromandel.	Irwin, Samuel, Waihi.	Sheehan, D., Karangahake.
Bolitho, Joseph, Reefton.	Jackson, G. T., Waihi.	Smith, Walter, Karangahake.
Bower, J. W., Coromandel.	Johnson, J. H., Coromandel.	Spearing, J. R., Waihi.
Broad, R., Waihi.	Katz, C. A., Waihi.	Stewart, F., Waihi.
Buddle, Frank, Coromandel.	Langdon, H., Waihi.	Stewart, R. A., Reefton.
Bull, C. W., Waihi.	Langford, G. S., Waihi.	Thomson, Thomas, Waihi.
Caisley, John, Karangahake.	Lautour, H. A. de, Waihi.	Thorne, G. M., Waihi.
Carroll, A. M., Reefton.	Lawn, Nicholas, Reefton.	Tucker, E. S., Coromandel.
Carroll, John, Kuaotunu.	Lewis, Ralph Reginald, Waihi.	Turner, G. W. E., Reefton.
Carter, R. P., Waihi.	Mackie, Portland George A., Waihi.	Turnbull, E. V., Coromandel.
Clouston, R. E., Kaitangata.	McConachie, W., jun., Waihi.	Turner, C. E., Murchison.
Cooper, J. H., Thames.	McDonald, R. M., Table Hill.	Ulrich, G. A. C., Waihi.
Cooper, Thornhill, Waihi.	MacDuff, R. B., Thames.	Watson, J. L., Thames.
Cordes, F. M., Karangahake.	McGruer, A., Karangahake.	Webber, J. H. A., Reefton.
Cornes, J. G., Waihi.	MacLaren, J. A. J., Coromandel.	Weir, Thomas, Waihi.
*Daley, John William, Waihi.	McMahon, J. H., Reefton.	*Whyte, N. McG. H., Waihi.
Docherty, W. H., Coromandel.	McMahon, T., Reefton.	Williams, C., Thames.
Dutton, W. S., Waihi.	Mitchell, William J., Barewood.	Wilson, Allan, Thames.
Ellery, John, Reefton.	Moore, L. O., Waihi.	Wood, P. H., Reefton.
Fry, S., Waimangaroa.	Morgan, William, Waihi.	Wotherspoon, James, Waihi.
Evered, N. J., Waihi.		

Issued under Section 313 of the Mining Act, 1891.

*Edwards, George, Westport.	Rickard, John, Thames.	Trelease, J. H., Thames.
Hornbrooke, H. P., Coromandel.	Snow, Thomas, Huntly.	Williams, John, Kuaotunu.
Martin, James, Reefton.	Thomas, James, Thames.	White, John S., Karangahake.

Certificates of Competency granted to Holders of Provisional Warrants under Section 32 of the Mining Act Amendment Act, 1896.

Alexander, Thomas, Deep Creek.	Harvey, A. G., Coromandel.	Moorecraft, Walter, Coromandel.
Argall, A. E., Coromandel.	*Howard, Samuel, Karangahake.	Morgan, William, Owharoa.
Battens, H., Coromandel.	James, Robert, Thames.	Moyie, Thomas, Thames.
*Begley, Thomas, Reefton.	Jamieson, John, Reefton.	Patton, William, Macetown.
Bennett, Charles Henry, Kuaotunu.	Johns, Thomas, Waihi.	Pearce, Francis, Reefton.
Bunney, Joseph, Waihi.	Kennerley, W. H., Thames.	Potter, William H., Thames.
Campbell, Alexander, Cullensville.	Langford, James, Coromandel.	*Rabe, Henry, Karaka.
Carlyon, Samuel, Coromandel.	McCombie, John, Karangahake.	Railstone, Charles, Waipori.
Cornes, C. A., jun., Karangahake.	MacDonald, H., Coromandel.	Somervell, John, Thames.
Dalby, Edward Arthur, Coromandel.	McEnteer, James, Tararu.	*Stackpole, Robert, jun., Karangahake.
Draffin, Samuel, Waitekauri.	McFarlane, Charles M., Tokatea.	Thomas, Archelaus, Tapu, Thames.
Farmer, C. S., Waitekauri.	McLean, Benjamin J., Waitekauri.	Turnbull, Thomas A., Whangamata.
*Goldsworthy, Thomas, Tokatea.	McLean, Charles, Thames.	*Willets, Henry, Thames.
Goldsworthy, William, Karangahake.	McLean, James, Tararu, Thames.	*Wilson, James R. S., Kuaotunu.
Govan, Joseph, Thames.	Meehan, James, Westport.	

Issued to Inspectors of Mines by virtue of Office under the Mining Acts, 1886, 1891, and 1898.

Binns, G. J., Dunedin.	*Gow, J., Dunedin.	McLaren, J. M., Thames.
Cochrane, N. D., Westport.	Green, E. R., Dunedin.	Tennent, R., Westport.
Gordon, H. A., Wellington.	Hayes, J., Dunedin.	*Wilson, G., Thames.

SECOND-CLASS MINE-MANAGERS' CERTIFICATES.

Certificates of Service issued under the Mining Act, 1891.

Adams, W. J., Thames.	Corbett, T., Paeroa.	Harvey, William, Reefton.
Agnew, J. A., Coromandel.	*Cowan, Hugh, Kuaotunu.	Hetherington, William, Thames.
*Allen, Richard, Reefton.	Crabb, Thomas, Reefton.	*Hicks, W., Thames.
Argall, A. E., Coromandel.	Daniel, P. F., Greymouth.	Hill, Alexander Grey, Waikakaho.
Beard, W. T., Reefton.	Dobson, John Allen, Kuaotunu.	Hollis, Frederick J., Waihi.
*Begley, Thomas, Reefton.	Edwards, George, Westport.	Hore, John, Wellington.
Bennett, C. H., Coromandel.	Ellery, John, Reefton.	Hornibrooke, H. P., Kuaotunu.
Blair, Thomas, Kuaotunu.	Flannigan, Francis, Reefton.	Jamieson, John, Reefton.
Bolitho, James, Reefton.	Foster, Thomas, Wellington.	Jobe, James, Thames.
Bone, William, Reefton.	*Gale, C. W., Coromandel.	Johns, Thomas, Thames.
*Borlase, J. H., Caplestone.	Gemmings, Charles, Thames.	Johnstone, William, Collingwood.
*Bowler, John, Thames.	Gill, George, Thames.	Kendall, Henry, Thames.
Bray, Edwin, Reefton.	Glasgow, T. M., Thames.	Kerr, George, Kamo.
Bremner, John, Coromandel.	Goldsworthy, Henry, Thames.	Kirker, Thomas, Thames.
Brokenshire, James, Thames.	Goldsworthy, William, Mauku, Auckland.	Laughlin, David, Thames.
Brown, John, Macrae's.		Law, John, Thames.
Brownlee, Thomas James, Thames.	Govan, Joseph, Thames.	*Lough, H., Thames.
Bunny, Joseph, Thames.	Gribble, James, Norsewood.	Loughlin, S., Thames.
Byrne, John, Karangahake.	*Griffin, Patrick, Thames.	Mackay, William, Nenthorn.
Caird, Alexander McNeil, Reefton.	Grimmond, Joseph, Ross.	Martin, David, Black's Point.
*Campbell, J., Kuaotunu.	Guthrie, John, Wellington.	Martin, James, Reefton.
*Climo, Noah, Coromandel.	*Guy, Robert, Kuaotunu.	Mayn, John, Coromandel.
Comer, W. W., Thames.	Hardman, James Edward, Thames.	McCombie, John, Karangahake.
Comer, George, Thames.	*Harris, R., Thames.	*McCormick, Charles, Coromandel.

* Deceased since issue of certificate.

SECOND-CLASS MINE-MANAGERS' CERTIFICATES—continued.

Certificates of Service issued under the Mining Act, 1891—continued.

*McEwen, James, Reefton.	Page, John, Lyell.	Shaw, James, Karangahake.
*McLean, James, Thames.	Parkiss, Joseph W., Reefton.	Sligo, Alexander, Nenthorn.
McLean, Alexander, Coromandel.	Peebles, Alexander, Kuaotunu.	Thomas, James, Thames.
McLean, Charles, Thames.	Pettigrew, Robert, Sydney.	Thomas, A., Thames.
McNeill, Daniel, Thames.	*Phillips, W. H., Thames.	Thomson, John, Dunedin.
McNeill, George, Upper Kuaotunu.	*Pollock, John, Thames.	Tregellas, James, Reefton.
McLoghry, Archibald, Karangahake.	Potts, W. H., Thames.	*Tregoweth, William, Thames.
*McQuillan, John, Reefton.	Primrose, J., Kuaotunu.	*Wells, Charles Lewis, Thames.
Meagher, John, Karangahake.	*Rabe, Henry, Thames.	*Willets, Henry, Thames.
*Mills, George, Thames.	*Radford, Thomas, Thames.	Williams, James, Thames.
*Milne, John, Thames.	Reid, Thomas Groat, Thames.	Williams, John, Thames.
Morgan, William, Upper Thames.	Rickard, John, Thames.	*Wilson, James R. S., Kuaotunu.
*Moorecroft, Thomas, Thames.	Richards, A. H., Kuaotunu.	Wilson, J. G., Thames.
Moyle, Thomas, Thames.	*Rogers, Charles Henry, Reefton.	Whisker, Charles, Thames.
*Naysmith, James, Reefton.	Rogers, William Henry, Kumara.	White, John S., Karangahake.
Newdick, Alfred, Thames.	*Ross, J., Thames.	Woodcock, James, Thames.
*Notman, Alexander, Reefton.	*Rowe, James, Thames.	Worth, Robert, Waihi.
O'Keefe, M. W. D., Thames.		

Issued after Examination under the Mining Acts, 1891 and 1898.

Benney, J., jun., Paeroa.	Draffin, S., Waitekauri.	Mathewson, A., Hyde.
Bennie, Boyd, Coromandel.	Dunkin, T., Coromandel.	McNeil, A. H., Coromandel.
*Cahill, T. M., Upper Kuaotunu.	Evans, H. A., Skipper's.	White, F. H., Kuaotunu.
Carroll, John, Upper Kuaotunu.	*Gatland, V. Y., Coromandel.	White, G. H., Thames.
Christie, William, Waitekauri.		

Issued under Section 313 of the Mining Act, 1891.

Connon, William, Thames.	Edwards, E., Coromandel.	McCormick, W. J., Waitekauri.
Coran, Henry, Thames.	Kelso, Archibald, Coromandel.	

Certificates of Competency granted to Holders of Provisional Warrants under Section 32 of the Mining Act Amendment Act, 1896.

Allen, W. J., Coromandel.	Gardner, James, Waimangaroa.	Martin, William, Tararu, Thames.
Barney, Montague T., Waitekauri.	Howe, Albion S., Waitekauri.	Murphy, Joseph, Coromandel.
Brownlee, Henry, Thames.	Johnson, Frank H., Collingwood.	O'Brien, John, Westport.
Collins, Charles, Waitekauri.	Kirwan, William, Reefton.	Prescott, Arthur J., Coromandel.
Curtis, Charles, Taylorville.	*McDonald, John, Taerua.	*Radford, Samuel, Waihi.
Davis, James, Coromandel.	McInnes, John, Puriri.	Ruffin, Richard, Manaia, Coromandel.

Certificates of Service issued under the Mining Amendment Act, 1910.

Adams, Albert Augustine, Thames.	Hansen, Charles Hans, Puketui.	Reid, George, Glenorchy.
Brabyn, John, Clarendon.	Hayes, James, Thames.	Reynolds, Edmond Francis, Coromandel.
Butcher, F. J., Waitekauri.	Hill, Harrold Alexander, Thames.	Sheehan, James, Thames.
Donaldson, George, Macrae's Flat.	Hyde, Henry John, Karangahake.	Williams, John Paul, Puriri.
Gillan, Thomas, Thames.	Inglis, Robert, Kuaotunu.	
Grace, Pierce, Waitekauri.	Kell, Arthur, Karangahake.	

BATTERY SUPERINTENDENTS' CERTIFICATES.

Issued under the Mining Act 1891 Amendment Act, 1894, without undergoing Examination.

Adams, H. H., Waihi.	Hope, John S., Waitekauri.	Napier, James, Karangahake.
Aitken, R. M., Reefton.	Hutchison, William, Karangahake.	Noble, James R., Karangahake.
Banks, Edwin Gripper, Waihi.	Margetts, Frederick Ernest, Kuaotunu.	Park, James, Thames.
Barry, Hubert Percy, Waihi.	McKenna, T. N., Tararu.	Shepherd, Henry Franklin, Waihi.
Goldsworthy, Henry, Kuaotunu.	McLellan, William, Waitekauri.	Sims, C. F., Tararu.
Goldsworthy, John, Kuaotunu.	*Mellott, Richard Sheridan, Waitekauri.	Walker, James A., Kuaotunu.
Greenway, H. Howard, Auckland.		Wilson, Arthur E., Waihi.
Heard, G. St. Clair, Waihi.		Wilson, James Kitchener, Auckland.

Issued after Examination under the Mining Act 1891 Amendment Act, 1894.

Adams, A. A., Thames.	Doveton, G. D., Thames.	McMicken, S. D., Thames.
Allen, F. B., Thames.	Fleming, G. C. S., Thames.	Morgan, P. G., Thames.
Allom, H. O., Thames.	Fuller, J. P., Kuaotunu.	Morrin, W. S., Thames.
Ansley, Comyn, Paeroa.	Gray, J. W., Waihi.	Noakes, H. L., Waihi.
Ansley, Walter, Thames.	Hayward, F. W., Komata.	Raithby, R. W., Reefton.
Banks, J. H., Waihi.	Horn, G. W., Kuaotunu.	Robinson, J. R., Waitekauri.
Bowers, W., Thames.	Jackson, J. H., Paeroa.	Stafford, B. H., Waihi.
Brown, A. E., Thames.	Jones, Achison, Waihi.	Taylor, C. H., Tararu.
*Carter, Samuel, Thames.	Kidd, F. D., Thames.	Thorpe, A. H., Thames.
Clarke, J. L., Thames.	Laurie, D. B., Karangahake.	Vercos, R. B., Thames.
Clarke, R., Waitekauri.	Lee, J. W., Reefton.	Wingate, H. M., Maratoto.
Clarke, W. J., Waihi.	Macdonald, W., Waihi.	Winslow, G., Thames.
Day, A. T., Thames.	McKenzie, H. J., Thames.	Williams, A. G. R., Thames.
Dixon, Clement, Waihi.		

Issued after Examination under the Mining Acts, 1898, 1905, and 1908.

Adams, J. H., Coromandel.	Banks, E. J., Thames.	Brown, F. M., Karangahake.
Adams, Richard W., Tararu, Thames.	Barrance, K. McK., Karangahake.	Brown, J. E., Komata.
Adams, J. H., Thames.	Barrett, J. J., Karangahake.	Burns, William, Waiomio.
Airey, Hubert, Karangahake.	Barron, William E., Waikino.	Bush, E. F., Parawai.
Aitken, Alexander Hugh, Waihi.	Baskett, E. G., Karangahake.	Bush, George Arthur, Karangahake.
Allen, D. V., Thames.	Bell, L. M., Waihi.	Bush, H. R., Thames.
Allen, H. E., Wellington.	Bidlake, A. E., Waiomo.	Campbell, Colin, Thames.
Anderson, David, Waihi.	Bird, A. W., Thames.	Carpenter, W. E., Karangahake.
Andrews, T. T., Waihi.	Bishop, T. O., Reefton.	Carless, Noel, Waihi.
Auld, J. B., Crushington.	Blackadder, William, Crushington.	Carter, S., Waihi.
Baker, W. H., Thames.	Bradley, R. J. H., Karangahake.	Carroll, John, Kuaotunu.
Banks, C. A., Waihi.	Browne, E., Waitekauri.	Chappell, G. A., Karangahake.

* Deceased since issue of certificate.

BATTERY SUPERINTENDENTS' CERTIFICATES—continued.

Issued after Examination under the Mining Acts, 1898, 1905, and 1908—continued.

Clark, John L., Waihi.	Hay, Adam, Karangahake.	Pond, H. C., Auckland.
Clarke, Thomas, Waihi.	Hazard, T. R. C., Waitekauri.	Porteous, J., Crushington.
Oote, J. M., Thames.	Hitchcock, W. E., Barewood.	Quick, J. N., Thames.
Corbett, G. L., Waitekauri.	Hogg, B., Karangahake.	Reid, J. E., Great Barrier.
Couper, J., Thames.	Hogg, T. R., Karangahake.	Reynolds, E. A., Auckland.
Cowles, R. K., Crushington.	Horn, G. W., Kuaotunu.	Roberts, H. C., Waihi.
Crompton, H., Maratoto.	Gillooly, T., Roxburgh.	Rodden, William, Lyell.
Croucher, Herbert, Waihi.	Gillstrom, Carl A., Berlin's.	Rosewarne, R. H., Thames.
Dawson, B., Ellerslie.	Hutchison, R. M., Karangahake.	Royse, W. G., Reefton.
Donnelly, Thomas, Waihi.	Johnson, Edward, Waihi.	Sanford, A. G., Waihi.
Donovan, Willie, Waikino.	Jones, R. D., Karangahake.	Shaw, D. S., Waikino.
Draffin, Eugene, Kuaotunu.	Kidd, R. B., Waitekauri.	Shaw, L. J., Waikino.
Eaton - Turner, Geoffrey William, Waihi.	Kingsford, A., Karangahake.	Stephens, H., Dunedin.
Ellis, L. L., Waitekauri.	Langford, G. S., Waikino.	Sutherland, J. A., Reefton.
Empson, J. B., Karangahake.	Launder, G. H., Waitekauri.	Thomson, G. W., Bendigo.
Evans, G. C., Waihi.	Lawless, L. J., Paeroa.	Thurlow, J. R., Coromandel.
Evans, J., Waihi.	Littlejohn, W. D., Karangahake.	Tomlinson, A., Karangahake.
Evans, W. B., Reefton.	Lovelock, J. E., Crushington.	Tomlinson, David Mitchell, Barewood.
Ewen, H. F., Auckland.	Mackay, John, Crushington.	Tomlinson, W. F., Dunedin.
Fletcher, H. T., Katikati.	Maltman, A., Reefton.	Turnbull, E. V., Waihi.
Fraser, J. M., Reefton.	Mann, C., Westport.	Ulrich, G. A. C., Komata.
Fry, Sidney, Westport.	Matheson, A. M., Barewood.	Ulrich, Herstatt, Whangapoua.
Fuller, John P., Kuaotunu.	Maxwell, W. L., Waihi.	Walker, Alfred James Dickson, Waihi.
Fyfe, A., Dunedin.	McDonnell, P. H., Waihi.	Waters, D. B., Waihi.
Gardner, E. A., Reefton.	McEwin, J. A., Reefton.	Watson, A. B., Waitekauri.
Gibson, William, Waihi.	McKinlay, John, Waihi.	Watson, A. P., Crushington.
Gilpin, J., Waihi.	McNeil, A. R., Karangahake.	Watson, J. R., Reefton.
Gow, E. A., Crushington.	McPadden, J., Coromandel.	Watson, J. P., Reefton.
Grayden, J., Waitekauri.	Melrose, P., Waihi.	Watson, W. A., Crushington.
Grayden, Peter, Thames.	Montgomery, A. E., Opitonui.	White, A. S. H., Karangahake.
Grumitt, P. H., Thames.	Morgan, Robert James, Waihi.	Williams, A. C., Waihi.
Gwilliam, Benjamin, Karangahake.	Motherwell, William, Waihi.	Williams, James, Reefton.
Halliwell, L. V., Karangahake.	Moyle, W. T., Upper Tairua.	Williams, William Eustace, Waihi.
Hargraves, E. P., Waihi.	Orbell, G. S., Waikouaiti.	Wilson, A. P., Crushington.
	Paltridge, F., Thames.	

DREDGEMASTERS' CERTIFICATES.

Issued without Examination under the Mining Act, 1898, and Amendment Acts, 1901 and 1902.

Allen, Charles, Alexandra.	Herbert, J., Beaumont.	Nicholson, W. E., Alexandra.
Anderson, L. C., Alexandra.	Hewitt, James, Clyde.	O'Leary, D., Waiatu.
Andrews, Ralph, Canvastown.	Hogg, Thomas, Cromwell.	Olsen, Charles, Roxburgh.
Baker, J. R., Alexandra.	Hoskins, Thomas, Maori Point.	Parsons, J. D., jun., Clyde.
Ballantyne, D., Miller's Flat.	Hoy, Samuel, Alexandra.	Peroy, John, Clyde.
Barnes, T. J., Beaumont.	Inwood, W. J., Rocklands Beach.	Perkins, A. C., Dunedin.
Barry, Thomas, Clyde.	Johnston, E. A., Alexandra.	Pettigrew, George, Nelson Creek.
Bradley, Neil, Alexandra.	Johnstone, Alexander, Cromwell.	Poulter, G. W., Alexandra.
Bennett, George, Gore.	Keen, Thomas, Clyde.	Pringle, John, Miller's Flat.
Bennett, James, Kumara.	Kennedy, Angus, Alexandra.	Ray, J. C., Totara Flat.
Blue, G. P., Alexandra.	Kitto, Edward T., Miller's Flat.	Reeder, Philip, Bald Hill Flat.
Brand, Peter, Waikaka.	Kitto, Francis, Lowburn.	Rennie, Andrew, Roxburgh.
Brennan, Philip, Palmerston S.	Kitto, John F., Miller's Flat.	Ross, Alexander, Cromwell.
Bremner, A. P., Lower Shotover.	Kitto, W. H., Cromwell.	Ross, Robert, Alexandra.
Brice, William H., Cromwell.	Kloogh, N. P., Lowburn Ferry.	Richmond, J., Gibbston.
Bringans, D., Alexandra.	Lawson, Edward, Dunedin.	Ritchie, J. S., Waitiri.
Brown, T. G., Abaura.	Ledingham, J., Bannockburn.	Sanders, H. P., Clyde.
Bunting, James, Murchison.	* Lee, George, Collingwood.	Sanders, John, Cromwell.
Busbridge, P., Gore.	Lidicoat, R. H., Fern Flat.	Sanders, Thomas, Alexandra.
Butler, Ewen, Roxburgh.	Louden, Alexander, Clyde.	Schaumann, H., Alexandra.
Butler, M. J., Kanieri.	Luke, S. J., Alexandra.	Scott, M. G., Alexandra.
Cameron, Samuel, Alexandra.	Magnus, A., Roxburgh.	Scott, Robert, Caplestone.
Clarke, Edward, Port Chalmers.	Magnus, Olaf, Box 130A, Christchurch.	Shore, T. M., Queenstown.
Compton, Albert, Dobson.	Mailor, John, Stillwater.	Shore, William, Gore.
Cormack, W., Greymouth.	Maitland, A. E., Miller's Flat.	Simonsen, Charles, Alexandra.
Cornish, J. T., Miller's Flat.	Maxwell, John, Dunedin.	Skilton, A. G., Old Diggings.
Coutts, Henry, Miller's Flat.	McClure, F. C., Rongahere.	Stigo, N. K., Ahaura.
Cowan, Alexander, Stillwater.	McConnell, J., Cromwell.	Smeaton, S. H., Inangahua Junction.
Cowan, James, Nelson Creek.	McCormack, D., Kanieri.	Smith, Alfred, Inangahua Junction.
* Crookston, W. L., Three-channel Flat.	McDonald, E. A., Waitiri.	Steel, Archibald, Kawarau Gorge.
Crowley, J. B., Edendale.	McDonald, J., Sofia.	Steel, Thomas, Dunedin.
* Cumming, J. C., Beaumont.	McDonald, John, Cromwell.	Templeton, Ivie, Rongahere.
Cunningham, George, Kanieri.	McGeorge, J., Dunedin.	* Thompson, J., Alexandra.
Curtis, Charles, Stillwater.	McGeorge, Alexander, Dunedin.	Thompson, T., Miller's Flat.
Cutten, W. H., Dunedin.	McGregor, D., Kanieri.	Tough, John, Miller's Flat.
Deniston, R. A., Cromwell.	McGregor, G. R., Alexandra.	Troy, G. C., Cromwell.
Dewar, John, Alexandra.	McIntosh, D. J., Lowburn Ferry.	Turnbull, W. D., Canvastown.
Donaldson, J. G. A., Greenstone.	* McLay, George, Cromwell.	Tyson, John, Rongahere.
Edmonds, A. R., Nelson Creek.	McLean, D., Waitiri.	Von Haast, J. H., Clyde.
Faithful, William, Greymouth.	* McMath, D. C., Ross.	Wallace, John A., Miller's Flat.
Fooby, J. M., Alexandra.	McMath, Thomas, Alexandra.	Watt, John, Cromwell.
Gibb, William, Croydon Siding.	* McVicar, Peter, Roxburgh.	Weaver, Charles, Alexandra.
Gibson, A., Island Block.	Mills, Edward, Murchison.	Williamson, R., Miller's Flat.
Goodger, G. W., Waenga.	Mitchell, D. A., Dunedin.	Williamson, Walter, Miller's Flat.
Graham, J. M., Gore.	Morel, C. G., Inangahua Junction.	Wilson, S. W., Waikaka Valley.
Grogan, William A., Miller's Flat.	Morris, G. S., Cromwell.	Wood, R. M., Cromwell.
* Hansen, William, Alexandra.	Murray, D., Clyde.	Woodhouse, W. S., Roxburgh.
Hay, James, Dunedin.	Murray, Madget, Cromwell.	Young, Andrew, jun., Roxburgh.
Hedley, A., Cromwell.	Neilson, S., Miller's Flat.	

* Deceased since issue of certificate.

DREDGEMASTERS' CERTIFICATES—continued.

Issued after Examination under the Mining Acts, 1898, 1901, 1902, 1905, and 1908.

Anderson, Andrew, Alexandra South.	Holden, Charles, jun., Cromwell.	Nicholson, Charles S. G., Mataura.
Anderson, Bertram, Maori Point.	Holden, John, Cromwell.	Noble, William, Alexandra.
Anderson, G. B., Roxburgh.	Hepburn, D. O., Alexandra.	Olsen, Hans, Alexandra.
Baird, William G., Clyde.	Hughes, John L., Miller's Flat.	Omond, Thomas, Nevis.
Bardsley, John James, Cromwell.	Johnston, John, Maori Gully.	Orkney, H. E., Cromwell.
Bishop, Hugh Arthur, Collingwood.	Johnston, Louis, Beaumont.	Orr, H. T., Cromwell.
Blair, G., Abbotsford.	Jones, David Rowland, Island Block.	Orr, William W., Cromwell.
Borthwick, Robert, Alexandra.	Jones, T. R., Miller's Flat.	Parker, P. R., Roxburgh.
Bourke, John, Clyde.	Junker, Frank J., Berlin's.	Paterson, J. B., Miller's Flat.
Brent, C. D., Cromwell.	Kane, William, Clyde.	Patterson, J., Clyde.
Briggans, Thomas, Alexandra.	Kean, F. F., Waikaka.	Plumb, E. H., Maori Point.
Briggans, William, Alexandra.	Kellett, C. H., Dunedin.	Poppelwell, William, Alexandra.
Broderick, T., Lyell.	Kennedy, A., Ophir.	Rait, Hume, Albertown.
Bruce, J. A., Kawareau Gorge.	Kitto, Henry, Alexandra South.	Ray, J. F., Bannockburn.
Burley, J. P., Westport.	Kitto, John, Clyde.	Ray, Robert Marshall, Bannockburn.
Burnside, Walter, Alexandra.	Linney, William, Island Block.	Reiderer, Edward, Cromwell.
Burton, A. P., Miller's Flat.	Livingstone, D., Alexandra.	Reynolds, T., Greymouth.
Callaghan, E., Three-channel Flat.	Lloyd, Arthur, Inangahua Junction.	Ritchie, William John, Cromwell.
Campbell, G. W. T., Alexandra.	Lloyd, Hubert, Lyell.	Roberts, G., Three-channel Flat.
Carnegy, A., Three-channel Flat.	MacDonald, C. J., Cromwell.	Robertson, D. J., Alexandra.
Carr, W., Alexandra.	MacGinnis, J. A., Cromwell.	Robertson, W. R., Alexandra.
Carter, W. W., Sandy Point.	MacGinnis, M. P., Alexandra.	Rooney, J. B., Roxburgh.
Chapman, Robert, Maori Point.	MacLaren, John, Alexandra.	Rumble, Charles, Ngahere.
Clark, D., Callaghan's Creek.	Marklund, C. O., Lowburn Ferry.	Rumble, Joseph, Miller's Flat.
Clarke, R. S. B., Alexandra S.	Mathews, James Halbert, Miller's Flat.	Sanders, W. J., Ahaura.
Coup, George, Albertown.	Matthews, A. A., Three-channel Flat.	Saunders, C. E., Cromwell.
Cox, R. D., Alexandra.	Mayne, W. C., Nelson Creek.	Sawle, J., Cromwell.
Craig, D. A., Shag Point.	McDonald, C. J., Waitere.	Sawyer, J. F., Alexandra.
Croawell, James, Three-channel Flat.	McDonald, G., Alexandra.	Sherwood, T. W., Greymouth.
Curno, C. B., Alexandra.	McCallum, W. S., Alexandra.	Simpson, Edward Robert, Cromwell.
Dalton, J. R., Three-channel Flat.	McGregor, Dougald S., Alexandra.	Spooner, A. E., Alexandra.
Donaldson, John, Lawrence.	McKenzie, John, Roxburgh.	Steele, Thomas, Alexandra.
Downie, Henry, Totara Flat.	McKinnon, John, Alexandra.	Steele, W. H., Miller's Flat.
Eaton, Edgar W., Alexandra.	McLean, John, Roxburgh.	Taylor, Alexander, Alexandra.
Elder, D. D., Roxburgh.	Melvin, J. R., Roxburgh.	Taylor, J. T., Dunedin.
Fache, S. C., Gore.	Merchant, Isaiah, Clyde.	Theyers, C., Alexandra.
Faithful, Alfred, Bannockburn.	Milne, John A., Roxburgh.	Theyers, J. W., Alexandra.
Farmer, Nathan O., Miller's Flat.	Moffitt, R. W., Miller's Flat.	Vickerman, E. M., Cromwell.
Farquharson, George, Alexandra.	Mollison, William, Stillwater.	Walker, J. J., Alexandra South.
Findley, David, Dunedin.	Moncrieff, Henry, Miller's Flat.	Wasserbrenner, M., Alexandra.
Fisher, Hurtle, Miller's Flat.	Monson, C. H., Miller's Flat.	Wathen, James, Miller's Flat.
Filippi, S. de, Westport.	Morel, A. E., Nobles.	Watson, E. H., Collingwood.
Forno, D., Inangahua Junction.	Morel, L. H., Inangahua Junction.	Weaver, P., Alexandra.
Fraser, W. J., Roxburgh.	Morgan, Harold, Roxburgh.	Weir, R., Gore.
French, T. E. K., Three-channel Flat.	Morgan, John, Alexandra.	Weir, T. R., Cromwell.
Gibson, William H., Cromwell.	Morris, V., Cromwell.	Weir, W., Nevis.
Graham, Thomas Arthur, Gore.	Mouat, W. G., Greymouth.	Wescombe, Alfred L., Island Block.
Gunion, R. A., Alexandra.	Munro, C. T., Waitiri.	Westcott, P. A., Miller's Flat.
Gunn, W. E., Beaumont.	Munro, Hugh, Alexandra South.	Williams, Frederick, Alexandra.
Guy, Donald, Cobden.	Munro, R. F., Ross.	Wilson, George, Marsden.
Guyton, James, Dunedin.	Murray, H. B., Cromwell.	Wilson, Stephen L., Inangahua Junction.
Hanning, C. J., Clyde.	Murray, Robert John, Canvastown.	Wood, W. W., Cromwell.
Hansen, H. C., Three-channel Flat.	Nelson, Edgar, Brunnerton.	Woodhouse, F., Bannockburn.
Harden, J., Stafford.	Nelson, George L., Brunnerton.	Woodhouse, G. G., Waitiri.
Harliwick, Matthew, Roxburgh.	Newick, Albion Edgar Charles, Bannockburn.	Wyde, G. R., Inangahua Junction.
Hewetson, Sydney, Nelson Creek.		
Hogg, J., Nevis.		

ANNEXURE G.

The SECRETARY, Thames Deep Levels Mining Board, to the Hon. MINISTER OF MINES, Wellington.
SIR,—

Thames Deep Levels Mining Board, Auckland, 31st March, 1911.

In compliance with your favour of 13th April last, I beg to report as follows :—

Operations were commenced on 11th April, 1910, to open out a chamber at a depth of 1,000 ft. at the bottom of the Queen of Beauty shaft, on completion of which the main crosscut was commenced by wages men as a preliminary step to put the works in thorough going order preparatory to letting the work on contract. Tenders were then invited for the works as a whole, the tenderers to supply and instal all machinery and plant, and carry out the operations to completion ; but the tender received was considered excessive, and declined.

In July of last year tenders were invited for labour and explosives only for driving 100 ft., and one was accepted at £2 17s. 6d. per foot, but owing to deficient ventilation the contractor abandoned the work.

The operations were then suspended, and the installing of an efficient ventilation plant taken in hand. Considerable delay occurred owing to some of the material having to be obtained from England.

On completion of same tenders were invited for driving 500 ft., the contractors to find labour and explosives, &c., the Board to provide all plant, machinery, and timber, and the work was let at £1 19s. per foot, and up to date the contractor has driven 310 ft. The total distance driven from the shaft to date is 437 ft.

I have, &c.,

J. B. SHEATH, Secretary.

The Hon. the Minister of Mines, Wellington.

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