III. REPORT OF DOMINION ANALYST AND CHIEF INSPECTOR OF EXPLOSIVES.

Dominion Laboratory, Wellington, August, 1918.

THE character of the analytical work is very similar to that of the previous year, but the number of samples received increased by 680, and reached a total of 3,874.

The following table shows the principal Departments, in alphabetical order, for which work was undertaken, and the number of samples examined for each :—

Customs	165
Defence Forces	102
Explosives Branch	121
Munitions Supplies Department	92
Justice (Police)	50
Military camps and medical service supplies	140
Mines—	
Geological Survey	93
Head Office	35
Inspectors	97
Prospectors	159
Post Office	25
Public Health—	
Auckland District	13
Christchurch District	24
Dunedin District	20
Wellington District	2,552
Public Works	13
Railways	27
Other Departments	28
Total Government Departments	3,756
Public bodies and Crown Commissioners	47
Research (Dominion Laboratory)	21
Miscellaneous samples	50
Total samples analysed	3,874

WAR.

It will be seen that the war has been directly responsible for a considerable amount of work. Foodstuffs from the military camps, and medical service supplies, have been periodically examined, and found on the whole satisfactory. Twenty-two winchesters of tincture of opium were prepared from opium seized by Comptroller of Customs and forwarded to the medical stores. Forty-eight samples of leather, and coals representing ten shipments, were analysed for the Military Supplies Purchase Board. Eighty-two consignments of scheelite were assayed for tungstic acid prior to shipment on behalf of the Imperial Government. An extended investigation of a confidential nature was carried out at the request of the Hon. Minister of Defence.

CUSTOMS.

The samples submitted by this Department were of the usual miscellaneous character, and call for no special comment.

JUSTICE.

The work for the Police Department has been almost entirely confined to liquors. Six whiskies were under the required strength, and three brandies were slightly deficient. Two samples of hop-beer contained more than the permitted amounts of proof spirit. Some Chinese liquors seized by the police were strongly alcoholic.

There were only three medico-legal cases, in two of which no evidence of poisoning was found, while in the third death was shown to be due to carbon monoxide, through inhalation of coal-gas.

MINES.

The Geological Survey forwarded twenty-three coals (including three from Fiji), fifty-three limestones, two rocks for complete analysis, two for phosphate, and a few for various metals.

At the request of the Director several clays were examined for clarifying-powder, in order to find a substitute for fullers' earth imported and used in the clarifying oils. The best of the clays were submitted to the New Zealand Glue Company, Woolston, who reported very favourably on some of them.

A series of samples collected by the Inspecting Engineer of Mines from the New Zealand Iron-ore Smelting and Manufacturing Company, New Plymouth, were interesting, though the iron produced was deficient in silicon and rather hard for good pig.

Numerous analyses of mine-airs were made for the Inspector of Mines.

The most promising of the prospectors' samples came from an antimony lode at Langdon's Creek, Reefton. In addition to sulphide of antimony it contained highly payable amounts of gold.

The occurrence of wolfram, though only in a small "pocket," is noted at Waipori.

POST OFFICE.

Samples analysed for the Post Office comprised beeswax, copper-clad steel, mercury, paraffin-wax, sulphuric acid, zinc.