

REPORTS FROM BRANCH DEPARTMENTS.

DOMINION LABORATORY.

REPORT OF THE DIRECTOR.

THE work during the year has consisted almost entirely of chemical analyses and examinations carried out on behalf of Government Departments. The number of samples received from the various Departments was as follows: Customs, 461; Justice (Police), 42; Geological Survey, 147; Main Highways Board, 228; Mines (including prospectors' samples), 303; Post and Telegraph, 114; Health, 3,621; Public Works, 31; public bodies, 28; Railways, 79; Stores Control Board, 66; other Departments, 120; miscellaneous, 215; total, 5,455. Health includes—Milks of Wellington City supply, 1,716; milks from country districts, 870; human milks (Plunket Society), 308; soils and waters for goitre research, 231; foodstuffs, waters, &c., 496. Miscellaneous includes—Samples for leather research, 57; packing-industry research, 47; other, 111.

The total number of samples examined shows an increase of 369 compared with the previous year.

Customs.—The number of samples submitted by the Customs Department (461) was much greater than that for the previous year (334 samples). Most of these samples were examined in order to determine their classification for tariff purposes, but some to ascertain whether they complied with the regulations under the Sale of Food and Drugs Act. The latter included a number of flours which were examined for artificial bleaching. The result of this action has been that imported flour is now free from chemical bleaching.

Justice.—The Superintendent of Police submitted a much larger number of samples than in previous years. These comprised medicines, rat-poison, "Meta" fuel tablets, and exhibits relating to cases of suspected poisoning. The medicines consisted of acetylsalicylic acid, chloral, bromide, ergot, bismuth carbonate, and tincture of nux-vomica. Poisons found in the exhibits were strychnine, chloral hydrate, barium carbonate, potassium oxalate, oxalic acid, and powdered glass. In view of possible grave danger to children, the desirability of a clear indication as to the poisonous properties of "Meta" fuel tablets was brought under the notice of the Director-General of Health.

Geological Survey.—The samples submitted included clay, bentonite, diatomite, glauconitic shell-rock, graphite, gas-samples, incrusting salts, mineral waters, pumice, rocks for superior analyses, schist silt, sinter, water, and ores for gold and silver assay. The results of these investigations will be published in bulletins of the Geological Survey.

Main Highways Board.—The number of samples dealt with during the year shows a large increase over the previous year's figures. The use of hot trichlor-ethylene as a solvent to replace chloroform in the extraction of bituminous concretes has effected an economy in costs and time, while improved methods of solvent-recovery, storage, and circulation have also contributed to this end. The samples examined consisted chiefly of sheet asphalt, bitumen, bituminous concrete, bituminous emulsion, "Distar" spray emulsion, road-oil and pumice, road asphaltic oil, pavement, tar, and Australian redistilled tar.

Mines.—The samples examined included coals, lignite, oil-shale, fireclay, clays, limestone, mica, antimony, copper and mercury ores, samples for tin, sand for rare earths, mine-airs, and numerous assays for gold, silver, and other metals.

Post and Telegraph Department.—The samples examined included alloy wire, aviation spirit, beeswax, bronze wire, carbon tetrachloride, resin-core solder, fire-extinguisher, gold wire, greases, green dye, jointer's metal, "Joy" cleanser, kerosene, scrap lead, lead sheathing for telephone-cables, lineman's solder, motor-spirits, oils, steel piping, rectified spirits, shellac, sealing-wax, soap, soldering-fluid, sulphuric acid, and zinc rods.

Health.—As in the previous years, a very great variety of substances, principally foodstuffs, were examined. They include air from bitumen plant, aspirin, butter, bacon, brandy, beer, ginger-beer, hop-beer, wholemeal bread, bath-enamel, brine and pickle from bacon-factory, cream, cheese, cocoa, corned beef and pork, deposit of scum on Petone Beach, smoked fish, gin, ice-cream, lemon-squash and orange-squash, metal lid for confectionery-container, mince-meat, nitrous oxide, oranges, peanut-cheese, pepper, pickled pork, rum, radox bath-salts, sausages, sugar of milk, schnapps, soap, soda-water, tin piping, water, whisky, &c.

The foodstuffs, on the whole, complied well with the regulations.

Of the butters, five samples contained excessive amounts of water, and two contained boric acid, which is now prohibited.

Of the beers, one contained an excessive amount of sodium chloride (common salt).

A large number of sausages, corned meats, &c., were examined for boric acid, in all cases with negative results.

Of the fifty-five ice-creams examined, five were deficient in milk-fat.

A considerable number of soda-waters were examined for traces of lead. It was found that in many cases lead was present. The makers were notified by the Department of Health, and took steps to ensure the purity of their products.

Several samples of imported sugar of milk were examined, as well as some of New Zealand manufacture. It was found that with the exception of one imported sample they were all of good quality and that the New Zealand product compared well with the imported sugar of milk.

A number of transparent toilet soaps were examined, and it was found that, with one exception, these soaps are low in actual soap content.

Of the liquors submitted, refilling was proved in five cases while three had been diluted with water.