

In the country districts conditions are not quite so good. The number of samples taken was 951, of which fifteen were watered, eleven skimmed, and ten slightly below the standard.

Fifty-three whiskies were examined, and refilling detected in two cases. Sixty-eight samples of beer were analyzed, principally for salt content. In the early part of the year several were over the standard, but in the latter months none exceeded the limit of 50 grains per gallon. Foodstuffs in great variety were also analyzed, and on the whole complied well with the regulations.

Numerous samples of water from existing and proposed town supplies were examined for purity.

Other Departments.—The work done for the Post and Telegraph, Public Works, Railways, and other Departments consisted mainly of the analysis of stores. This is regarded as important, both to determine the relative quality of goods submitted on tender and to ensure that supplies are up to standard.

RESEARCH.

A Fuel Research Association was formed during the year, and one of the staff was seconded to the charge of the work, which is to be carried out at the Dominion Laboratory. A special retort has been installed for research on low-temperature carbonization.

In connection with an investigation of the incidence of goitre being carried out by the Health Department, a research on the iodine content of soil and water in the Wellington District was undertaken, and is now nearing completion. A very careful survey of the methods of analysis was required as a preliminary.

A research on moulding-sands for foundry use has enabled the desirable properties to be defined, and will greatly assist in the search for suitable sands in New Zealand.

Two minor investigations that were completed had reference to the plating of duralumin, and the manufacture of roofing-tiles respectively.

A considerable amount of work was done in adopting the nitrite process of curing meat for use in New Zealand meat-freezing works.

Some preliminary examinations were made of wool, wool-scouring liquors, and bacon.

The Dominion Analyst was frequently consulted during the year on numerous industrial matters.

BRANCH LABORATORIES.

Auckland.—The number of samples analyzed was as follows: Health Department—Milks, 1,603; other samples, 641; Police, 67; other Departments, 17: total, 2,328.

A few visits were made to factories and works to note processes, and a small amount of industrial work was done.

Christchurch.—The number of samples analyzed was: Health Department—Milks, 1,760; other samples, 227; Police, 35; other Departments, 37: total, 2,059.

The question of stream-pollution engaged considerable attention on the part of the Analyst. His services were also placed at the disposal of the special committee of the Christchurch City Council which dealt with the control of the city milk-supply.

Dunedin.—This branch was established early in the year, but did not get into full working-order for some months. The number of samples analyzed was: Health Department—Milk, 572; other samples, 117; Police, 3; other Departments, 109: total 801.

A considerable number of analyses were carried out for the Plunket Society to assist a research on variations in the composition of human milk.

Some careful determinations of the salinity of sea-water were made in connection with a fisheries investigation at Portobello.

GAS REGULATIONS.

The Board of Trade regulations for the control of the sale and supply of gas provided safeguards in regard to heating-value, purity, pressure, price, and measurement. Regular tests have been made by the Gas-examiners in Auckland, Wellington, and Christchurch during the year, and in Dunedin since August, 1927, when a Gas-examiner was appointed there. These tests show that the gas in each of the four cities has complied with the regulations in regard to pressure and purity, and has been kept well up to the declared calorific values, which are 450, 475, 470, and 500 British thermal units per cubic foot for Auckland, Wellington, Christchurch, and Dunedin respectively.

The Inspectors of Meters in Auckland and Wellington who were appointed in January, 1927, have continued their work during the year. They test and stamp all repaired meters and all new meters not bearing the British Board of Trade stamp before they are issued for use.

During the year the following gas undertakings have been added to the schedule of the Board of Trade (Gas) Regulations, 1924—the first thirteen in April, and the last one in June, 1928: Gas companies—Birkenhead and Northcote, Napier. Gas, coal, and coke companies—Timaru, Ashburton. City Corporations—Wanganui, Nelson. Municipal Corporations—Invercargill, Hamilton, Palmerston North, Dannevirke, Masterton, Lyttelton, Oamaru. Gas-lighting Board—Petone and Lower Hutt.

Prior to August, 1927, no provision was made in the scale of fees for meter-testing for the cost of travelling to gas companies at some distance from the Meter Inspector's headquarters. That necessitated keeping the fees fairly high to cover the cost of travelling, and resulted in the companies in the large centres bearing a considerable proportion of the cost of testing in the small centres. The referees considered that it would be fairer to all concerned to reduce the ordinary fees and to charge extra fees to cover travelling-expenses where such were incurred. A new scale of fees was therefore gazetted, and came into force on the 1st August. In this scale the fees have been considerably reduced as compared with those previously in force, and provision is made for charging an additional fee of 10s. per day when the gas company's testing-room is more than three but within ten miles of the headquarters of a Gas-examiner or an Inspector of Meters, or £1 5s. per day when the testing-room is more than ten miles from such headquarters.