

where tin piping was used lead was found to come from the solder. Nine samples of the spirits were not true to label, and six contained added water, in one case to the extent of 40 per cent. Refilling was also found in seven samples of beer.

Sea-water: The results of a number of analyses of samples of water from various baths showed that in some cases considerable contamination of the water had taken place, especially in the salt-water tepid baths.

Milks: The number of samples taken was again slightly less than in the previous year. The results show no improvement on previous years, and indicate that a more thorough system of inspection is desirable. The chief deficiency is, as in previous years, the low fat content of milk supplied to Auckland City. Boric acid was found in several samples, and the addition was traced to one farmer.

Christchurch.—The number of samples analysed was—Milk, foodstuffs, drugs, &c., 1,891; water, 29; pathological and other exhibits, 25; miscellaneous, 22: total, 1,967. The miscellaneous samples were from the Customs, Post and Telegraph, Public Works, and Mental Hospitals Departments.

Board of Trade (Gas) Regulations: Under these regulations 144 tests of the Christchurch gas-supply were made. The Inspector of Gas-meters, who was appointed in July, 1928, examined 1,786 meters during 1928.

Dunedin.—The number of samples analysed was—Health Department, 1,369; Scientific and Industrial Research, 14; Agriculture, 7; Post and Telegraph, 23; Public Works, 8; Justice (Police), 7; Marine Fisheries Investigation Station, 71; Plunket Society, 28; University Medical School, 1; miscellaneous, 2: total, 1,530.

Milks: The number of samples taken was much more satisfactory than in the previous year, especially as regards those from Dunedin City, but could with advantage be considerably increased. The general standard of milk supplied shows a very decided improvement compared with that of last year. Three samples taken on two separate occasions from the same vendor in Invercargill contained formalin.

Health Department: Of the 1,006 milks examined, forty were deficient in fat, two were watered, and fifty-nine slightly below standard.

Five samples of brandy and four of whisky were not true to label.

Eleven samples of butter contained more than the maximum permitted amount of water, and four samples contained boric acid.

A certain brand of cod-liver oil tablets contained no cod-liver oil and no vitamin A.

The coffee and coffee and chicory essences examined contained only about one-fifth of the required amount of coffee.

Three samples of cream were deficient in fat, and one contained formalin.

Of the soda-water examined a very large proportion was contaminated with lead.

A number of analyses of whey and whey-products were made in connection with the experimental manufacture of whey-paste for pig-feeding.

Department of Agriculture: A cave deposit from Central Otago proved to be an exceptionally rich guano, containing nearly 25 per cent. of nitrogen and 4.5 per cent. of phosphoric anhydride.

Marine Fisheries Investigations Station: The salinity determinations instituted last year are being continued.

Gas-testing: Regular tests of calorific value, purity from sulphuretted hydrogen, and pressure were made on the gas supplied by the Dunedin City Corporation.

METEOROLOGICAL OFFICE.

REPORT BY THE DIRECTOR.

FORECASTING.

EARLY in the year arrangements were made whereby additional weather reports were received from Australia. Many more reports are now being received also from ships at sea, the improved service provided by the Meteorological Office having made mariners much more willing to co-operate in this manner. Visits to vessels in port have stimulated interest in the work of the Branch, and the personal contact thus gained has been of great value. The additional information received has not only enabled the forecast to be improved on particular days, but permits of a much better understanding of the weather-changes of the region being gained. Forecasts, therefore, are based on a fuller knowledge of the meteorological processes involved.

During the latter part of 1928 the provision of additional funds for telegraphic purposes made it possible to issue much more complete reports and forecasts in the evening than had been possible previously. The evening report now includes a synopsis of the general situation and a forecast of conditions in the eastern Tasman Sea as well as those in New Zealand. A welcome addition, also, is that of reports of actual observations from sixteen well-distributed stations. Included in the latter are Norfolk Island, Chatham Island, Sydney, and Hobart. These reports would enable any one with an elementary knowledge of meteorology to draw weather charts, and an increasing number of ships' officers are doing so. For most people, however, the drawing of satisfactory charts will be a difficult matter until the publication of official ones in the daily press or elsewhere familiarizes them with the normal run of pressure-changes.