

RESEARCH.

An investigation in the recovery of kauri-gum from swamp peat has yielded highly promising results.

Some work has been done on the recovery of mercury from its ores.

Owing to shortage of staff and abnormal conditions caused by the war an interesting research on the inflammability of New Zealand coaldusts, begun some years ago, was temporarily discontinued.

REPORT ON THE ADMINISTRATION OF THE EXPLOSIVE AND DANGEROUS GOODS ACT, 1908, FROM THE 30TH JUNE, 1916, TO THE 30TH JUNE, 1917.

Legislation.—There has been no fresh legislation during the period.

Authorization of New Explosives.—The following new explosives were authorized for importation into, and for manufacture, storage, and sale in, New Zealand during the year: Atlas Miner's Friend No. 1; Atlas Miner's Friend No. 7; Monogram Gelignite, 42 per cent.

Manufacture.—The undermentioned factories were licensed for the manufacture of explosives:—

- (1.) Sabulite (N.Z.) Limited, at Waikumete, for the manufacture of sabulite.
- (2.) H. F. Bickerton, at Wainoni Park, Christchurch, for the manufacture of fireworks.
- (3.) Colonial Ammunition Company, at Mount Eden, Auckland, for the manufacture of small-arms ammunition.

Importation.—The following explosives were imported during the year:—

	lb.
Gelignite	726,500
Gelatine dynamite	2,000
Quarry monobel	34,000
Viking powder	70,000
Blasting-powder (grain)	107,000
„ (pellets)	137,500
„ (sporting)	600
	1,077,600
Detonators	2,057,000
Fireworks (packages)	1,760

Storage.—Licenses for fifty-seven private magazines were issued during the year for quantities of explosives ranging from 2,000 lb. to 20 tons; forty-eight licenses were issued in respect to magazines storing from 300 lb. to 200 lb.; and thirty-nine licenses were issued for storage up to 300 lb.

Government magazines remain the same as last year—viz., three, at Wellington, Greymouth, and Dunedin. The new magazines at Dunedin are now completed, and that at Greymouth well under way.

Packing and Conveyance.—A consignment of gelignite was imported into New Zealand without the inner packages or cartons being paraffin-sealed. The consignees were notified that this must be remedied in all future shipments of gelatinous explosives containing sodium nitrate.

The number of licenses to carry explosives issued during the year was 339, being an increase of seventy-six for the year.

Condemned Explosives.—The following explosives have been condemned during the year: 9th February—158 lb. gelignite and 36 lb. carbonite at Okahukura, condemned on account of exudation of nitro-glycerine (destroyed by burning). 2nd and 3rd May—393 cases of blasting-powder at Wellington, condemned on account of absorption of moisture (destroyed by sinking in deep water outside harbour limits).

Licensed Premises.—672 licenses were issued during the year in respect of premises licensed to sell explosives and to keep explosives for sale in quantities not exceeding 100 lb. This is an increase of thirty-seven on the number issued during the preceding year.

Accidents.—No accident by fire or explosion occurred during the year in the manufacture, storage, or transport of explosives.

Legal Proceedings.—As in previous years, various irregularities came under the notice of the Department during the year in connection with the importation, storage, sale, and conveyance of explosives. In each of these cases a warning was deemed to be sufficient.

Inspection and Testing.—Inspections have been made during the year of public magazines, licensed factories, licensed magazines, licensed premises, and conveyances. Explosives in public and licensed magazines liable to become dangerous by deterioration have been examined as to their condition, and the destruction of condemned explosives has been carried out under the supervision of Inspectors. About one hundred and twenty samples of commercial explosives and one hundred samples of cordite for the Defence authorities have been tested for stability by the heat and other tests.

General.—Owing to shortage of staff due to the war inspection and other branches of the work have had to be considerably curtailed.

J. S. MACLAURIN,

Dominion Analyst and Chief Inspector of Explosives.

The Under-Secretary, Department of Internal Affairs, Wellington.