

Fusain.—Samples of very fine coal, resembling in appearance the fusain separated by Dr. Marie Stopes from British coals, were collected by the Inspecting Engineer of Mines from mines in which there is a tendency to spontaneous ignition of the coal. The samples have proved to be different in composition from British fusain, and work on them is being continued as opportunity offers. Under present conditions, however, of limited staff and accommodation this problem, and others of considerable prospective value to the Dominion, cannot be investigated as fully as is desirable.

Explosives and Dangerous Goods.

The following amendment has been made to the regulations during the year: Amendment No. 10—Definition of "Gelignite": This is simply a machinery clause revoking amendment No. 6 made last year. Gelignite is now being made in Britain by the "cold-gelatinization" process, and the definition prescribed by Amendment No. 6 was not sufficiently wide to cover this explosive. The British Home Office list of authorized explosives now defines gelignite as an explosive containing potassium nitrate, and the definition as amended will be effective for the purposes of the Amendment No. 6.

Importation.—Licenses were issued for the importation of the following explosives during the year: Gelignite, 416,200 lb.; gelatine-dynamite, 35,300 lb.; blasting-gelatine, 45,350 lb.; A2 monobel, 238,600 lb.; quarry monobel, 3,750 lb.; ligdynite, 25,000 lb.; 60 per cent. gelatine (sodium-nitrate gelignite), 15,000 lb.; T.N.T., 70 lb.; blasting-powder (grain and pellets), 182,500 lb.; sporting-powder, 11,740 lb.; total, 973,510 lb.; detonators, 1,699,200; fireworks, 2,359.

Manufacture.—The only factories licensed for the manufacture of explosives were the fireworks-factory of Mr. H. F. Bickerton, at Wainoni Park, Christchurch, and the Colonial Ammunition Company's small-arms-ammunition factory at Mount Eden, Auckland.

Storage.—The total number of magazines licensed for the year was 299, being an increase of seventy-two on the previous year. This increase is accounted for by the fact that many of the magazines at mines and quarries which during the war were left under the control of the Inspectors of Mines have now been brought into compliance with the Act. The following are details of the licenses issued: 142 for quantities up to 300 lb.; 98 for quantities between 300 lb. and 2,000 lb.; 42 for quantities between 2,000 lb. and 10,000 lb.; 17 for quantities over 10,000 lb. There are still three Government magazines available for public use—at Wellington, Greymouth, and Dunedin. The new magazine at Greymouth, situated on Marsden Road, was brought into use during the year. In view of the financial stringency, no action was taken regarding the proposed magazines at Auckland and Bluff. In addition to the Government magazines, the local authorities at Paeroa and New Plymouth maintain magazines for public use.

During the year 621 licenses were issued in respect of premises on which the sale of explosives was licensed. This is a decrease of nineteen on the previous year.

No accidents in connection with the storage or transport of explosives have come under the notice of the Department during the year.

The following explosives have been condemned and destroyed during the year—all on account of moisture-absorption: 50 per cent. gelignite, 65 lb.; Viking powder, 50 lb.

Inspection and testing.—Owing to the amount of work involved in organizing the administration of the Explosive and Dangerous Goods Amendment Act, 1920, it has not been possible to make a very complete inspection of private magazines. Most of the large magazines have been inspected during the year, and also the majority of the premises licensed for the sale of explosives. As in past years, shipments of explosives arriving in New Zealand have been physically examined and tested for stability, and occasional tests made on explosives stored in Government and private magazines. The usual silvered-vessel tests have also been made on military explosives for the Defence Department.

During the year a considerable improvement has been made in the explosives-testing station at Shelly Bay. A ballistic mortar has been erected, and the old explosion-pit, which had become badly silted up, has been replaced by a new concrete structure. One of the buildings previously used as a magazine at Dunedin has been re-erected at Shelly Bay for use in the preparation of samples for test.

Local Authority Administration.—As stated in my last report, the Act provides for administration by such local authorities as are declared to be licensing authorities, and all the Borough Councils and Town Boards have been given the opportunity to become licensing authorities. Of the 116 boroughs in New Zealand, 107 have undertaken the administration of the Act, five have the matter at present under consideration, and in only four boroughs has the local authority definitely declined to act. In the town districts the Department is administering the Act in twenty-four of the smaller districts, in three cases the matter is still under discussion, and the remaining thirty-eight Town Boards have agreed to administer the Act.

Licenses.—186 licenses to store dangerous goods were issued during the year, the total revenue obtained being £129. The regulations under the Act provide that licenses issued by any local authority under by-laws previously existing should be deemed to be licenses under the Act. Pending a decision by the local authority regarding the administration of the Act, no licenses were issued within the districts of boroughs or Town Boards. The Act provides that licensing authorities shall pay into the Public Account a proportion of the fees received for licenses. This proportion amounts, on the average, to between one-fourth and one-fifth of the total revenue.

Inspection.—In all, 145 towns have been inspected, and every effort is being made to make the inspection reasonably complete. This will ensure that the Act and regulations are administered in a uniform way; but it is anticipated that it will be several years before a complete inspection can be made of all the premises on which dangerous goods are stored. The Department is receiving the active co-operation of local-authority officers, and it is satisfactory to record that second-inspection visits which have been made in a number of towns show a very considerable advance in the methods of storage.