

The items purchased during the year under review were—For Board : Power grader, 1 ; tractors, 7 ; motor-cars, 2 ; electric motor, 1 ; motor-lorries, 8 ; barge, 1 ; steam boiler, 1 ; bitumen boiler, 1 ; machine sprayer, 1 ; crusher, 1 ; concrete mixers, 2 ; road planers, 7 ; winch, steam, 1 ; loadometers, 2 pairs. For local authorities : Motor-trucks, 6 ; loadometers, 1 pair ; power-graders, 6.

TESTING OF HIGHWAY MATERIALS.

The Petrological Laboratory has continued the testing of road-metal and similar materials from a number of sources, details of the standard tests being given in Table 6 appended to this report. Tests have also been carried out to give abrasion factors for metal chips.

During the coming year it is hoped to carry out tests on the subgrade soils, and for this purpose the Board recently purchased an Andrews kinetic elutriator.

The Dominion Analyst has carried out, on the Board's behalf, numerous tests of tar, bitumen, road-oil, and emulsion for surfacing-work. In order to facilitate these examinations, a latest pattern Saybolt-Furol viscometer was purchased by the Board.

EXAMINATION FOR FOREMEN AND OVERSEERS OF ROAD CONSTRUCTION.

The ninth examination for foremen and overseers of road construction was held on the 30th October, 1934, when forty-three candidates presented themselves. There were sixteen examination centres scattered throughout the Dominion, according largely to the requirements of the examinees. The requirements for a pass in the examination are kept to a fairly high standard, both in the interests of the Board, and those, who having passed, can feel that they have a certificate which carries some weight. Three candidates passed in both papers, while ten obtained a partial pass by satisfying the necessary requirements in respect of only one paper. Also, two candidates completed the examination by passing in that paper in which they had previously failed. Before issuing certificates of competency in respect of the examination, the Board requires evidence to be submitted that the candidate has had reasonable practical experience in modern roadwork, and, as some who had passed both papers were not considered sufficiently qualified in this respect, only three certificates were issued directly as a result of the examination. The cases of those candidates from whom certificates have been withheld will be reviewed when these men can produce evidence of adequate practical experience. During the year four certificates were issued to candidates who had passed previous examinations, and who have satisfied the Board in this latter respect, these candidates being G. L. K. Drew, P. B. Lattey, W. I. Gardiner, and J. A. Sissons.

The names of the candidates who passed or completed a pass at their examination are as follows, those to whom a certificate was issued being indicated by an asterisk : *Carson, W., Collins, D. A., *McKeown, D. J., *Sissons, J. A., *Williams, E. M., Williscroft, V. L.

MAGNETIC TRUCK.

The Board's magnetic truck which was acquired for the purpose of clearing highways of puncture-producing materials has been in operation during the past year throughout the South Island. In January last the machine was temporarily withdrawn from service for purposes of general overhaul and reinstatement of electrical equipment. During the nine months ended 31st December, 1934, 1,491 miles of highway were swept as against 2,243 miles in the previous full year, and the material lifted amounted to 4,853 lb., compared with 4,486 lb. for 1933-34. The yield per mile was therefore 3.25 lb., compared with 2 lb. for 1933-34 and 2.26 lb. for 1932-33.

ANNUAL REVIEW OF MAIN HIGHWAYS.

In accordance with the requirements of section 11 of the Main Highways Act, 1922, the Board made another review of the main highways system during the year. Recommendations for the declaration of additional main highways, totalling approximately 1,084 miles, were received from the District Highways Councils, together with recommendations for the revocation of 80 miles. As a result of the review, roads involving a length of 644 miles 9 chains were declared, while 55 miles 48 chains of main highway were revoked.

Particulars of these are as under :—

No. 1 Highway District.—Whakapara-Russell : A length of 36 miles 8 chains was declared, thus extending the Whakapara-Matheson's Bridge Highway to Russell.

Kaikohe-Donnelly's Crossing : This road, comprising a length of 32 miles 64 chains, was declared a main highway.

Pamapurua-Mangonui : A length of 1 mile 12 chains was declared, and 7 miles 20 chains of the Victoria Valley - Mangonui Highway were revoked.

Kaitaia-Motukaraka via Broadwood : A length of 4 miles was declared, thus extending the Kaitaia-Kohukohu via Broadwood Main Highway to Motukaraka.

Oakleigh-Paparoa : This road, a length of 26 miles 64 chains, was declared as a main highway.

Wellsford-Leigh : A length of 6 miles 40 chains was declared, thus extending the Wellsford-Pakiri Main Highway to Leigh.

No. 2 Highway District.—Tapu-Kaimarama : This road, a length of 24 miles 40 chains, was declared a main highway.

Drury-Awhitu via Waiuku : A length of 8 miles 30 chains was declared, thus extending the Drury-Waiuku main highway to Kohekohe.

Ngatea-Turua : This road, a distance of 2 miles 56 chains, was declared a main highway.