

type of machine, and if carried out by manual labour the work would have been costly and difficult owing to the encroachment of the tide. From August to October the machine was used to raise the stop-banks on the Piako River downstream from Hocalia, and from November to the end of March it has been filling clay into motor-trucks from a pit for the formation of Orchard West Road. The machine operates a $\frac{3}{4}$ cubic yard bucket on 30 ft. beam, and handled 51,301 cubic yards of material during the year at a unit cost of 4d. in 192 working-days.

No. 2. Priestman dredge was reconditioned last year to open up the Waitakaruru Mankoro Canal above the temporary dam at 3 miles 55 chains. A floating plant was necessary to place sufficient spoil on the canal banks to carry a bank-operating machine. This dredge, which has been in intermittent use for over thirty years, is now beyond efficient service and is to be scrapped. The dredge excavated 25,031 cubic yards from 150 chains of canal, and the cost was 11·2d. per cubic yard.

The following table shows the total quantities excavated each year by the dredges during the past seventeen year, with the average unit cost for each year:

Year.	Cubic Yards.	Cost per Cubic Yard. d.
1922-23	440,092	8·20
1923-24	508,654	7·27
1924-25	822,286	5·86
1925-26	856,653	6·32
1926-27	647,182	7·42
1927-28	652,413	7·32
1928-29	619,911	6·54
1929-30	595,565	6·25
1930-31	536,692	8·32
1931-32	390,611	7·99
1932-33	200,954	8·00
1933-34	116,224	5·96
1934-35	52,517	10·02
1935-36	164,046	8·26
1936-37	171,717	8·69
1937-38	261,347	5·72
1938-39	206,412	7·36

WAITAKARURU-TOIOMAHAE DISTRICTS.

Activities in these districts have been connected principally with land-development operations in the Ponarua Block which are being carried out under the small-farms scheme. About eighty men have been employed throughout the year, and cleaned 22 miles 67 chains of drains, excavated 51,000 cubic yards in widening and deepening 32 miles 47 chains of existing drains and 114,238 cubic yards in the construction of 60 miles 71 chains of new drains; 16,518 cubic yards of clay were hauled a distance of three to six miles on light railway for ballasting peat roads; 265 acres was cleared and 584 acres sown in grass after burning felled scrub; 8,000 ft. of piping was laid for water-supply, and 6 miles 48 chains of fencing erected. Forty chains of the Mankoro Canal Left Embankment Road was re-formed and metalled. For the formation of 89 chains of Orchard West Road 17,320 cubic yards of clay ballast was hauled in motor-trucks an average lead of about 40 chains.

The effect of the improvement of the main drains carried out during recent years and the extensive system of subsidiary and field drains now under construction is apparent in the gradual consolidation of the peat in an area of 10,000 acres. Road construction is providing access to the land, and as it becomes fit for grazing it is being cleared, fenced, and sown in grass. When this stage is reached the process of soil-formation by decomposition of peat can be hastened by systematic stocking.

KEREPECHI-AWAITI DISTRICTS.

A party of three to twelve men has been employed on the Kerepechi Extension Block, of 2,300 acres, clearing scrub and controlling noxious weeds on 690 acres. An area of 690 acres has been cleared of scrub and sown in grass, and 2½ miles of roadway cleared of blackberry. On an area of 1,100 acres of this block which has been brought under the small-farms-development scheme, 632 chains of fencing has been erected and a water-supply scheme installed, and stock can now be confined to limited areas, which will greatly assist in the development of this peat-swamp area. For the improvement of 7 miles 77 chains of main drains in this district 12,699 cubic yards was excavated by manual labour and 20 miles 8 chains of main and subsidiary drains cleaned; 10 miles 27 chains of main drains were cleaned with weed-cutting launch; 166 cubic yards of metal was used for road-maintenance.

At Orongo Settlement extensive repairs have been carried out to 90 chains of stop-bank damaged by tidal overflow and also to two flood-gates; 37,618 cubic yards of material was excavated by machine for repairs to stop-banks and enlarging 69 chains of main drains; drains 2 miles 60 chains in length were cleaned by contractors, who also excavated 1,535 cubic yards in the improvement of 75 chains of drains.