

downstream to the junction of the Awaitei Stream and Tarawera River, and continued down the Tarawera River, reconstructing the stop-bank to the Tauranga-Whakatane Highway Bridge. For future operations the machine has to travel to the Rangitaiki River. For part of the route it must return along the Awaitei Stream. For this reason, work on the stream was carried out in two stages. Working downstream, the heavy growth of willows was removed and the bases of the stop-bank built, to be raised as the plant returned upstream. The quantity of silt removed from the channels and built into the stop-banks during the year was 54,281 cubic yards.

*No. 30 Bay City Excavator, Model 29.*—Between the 3rd April and 9th May this machine repaired breaches in the right stop-bank of the Waioho Canal, and replaced the material washed from the roadway on the right bank of the canal into the roadside drain. It then deepened Fortune's Drain, and was laid up for overhaul at the Thornton Depot between 29th May and 15th October. After repairing a flood-gate and stop-bank on the Omehu Canal and enlarging the lower 20 chains of Walker's Drain, the machine was, on the 13th November, moved by tractor to Te Teko to remove the spoil-bank on the Edgecumbe Catchwater Drain for a distance of 32 chains. During December and January this plant was employed repairing the right stop-bank on the Rangitaiki River for a distance of 30 chains south of the railway, removing silt from the White Pine Drain and Orini Stream, and from the 12th February it has replaced a broken-down machine cleaning the Tarawera Western Drain. The total quantity of earth handled by the machine on the various jobs during the year was 28,401 cubic yards.

*No. 32 Ruston Bucyrus Excavator, Model 10.*—For the first seven months of the year this machine was employed entirely on flood-damage repairs, including restoration of partially destroyed stop-banks on the Rangitaiki River between Thornton and Edgecumbe, similar work on the Whakatane River below the outlet of the Te Rahu Canal, and on the Tarawera River near the mouth of the Waikimiki Stream. In some cases, earth for filling gaps in the stop-bank was loaded into motor-trucks by the excavator. Six thousand six hundred cubic yards of earth, scoured by flood-water from railway and road embankments and the drain banks, were removed from Reid's Central Drain for a distance of 113 chains. In October and part of November the spoil-bank on the western side of the Te Rahu Canal was formed into a medium flood-level stop-bank for a distance of 29 chains down-stream from the Whakatane-Rotorua Highway. This necessitated the removal of a number of large pine-trees growing on the canal bank.

After forming a service road from the Manawahe Road into a new quarry, the machine was transported by road to Otakire, where it cleaned the Tarawera Western Drain for a distance of 190 chains before the end of January, when a complete breakdown necessitated the removal of the plant for overhaul at the Thornton Workshops. The output for ten working months was 24,686 cubic yards.

*No. 33 Ruston Bucyrus Excavator, Model 17.*—This machine arrived at Thornton on the 21st March, and after repairs commenced work on the Te Rahu Canal on the 11th April, 1944. Work has been interrupted by floods in the canal and difficulties caused by the soft nature of the banks on which the machine must move, and the plant was idle for three months undergoing workshop overhaul. It has reconditioned the Te Rahu Canal for a distance of 134 chains up-stream from the Whakatane-Rotorua Highway, raising the right stop-bank where required with silt taken from the canal. The quantity of silt removed was 43,519 cubic yards.

The total output for the four excavators was 150,887 cubic yards.

The principal works carried out by manual labour were cleaning 116 miles of drains, excavating 1,624 cubic yards to widen and deepen 110 chains of drain, bank-protection work on the Rangitaiki River, cutting willows on the banks between Thornton and Edgecumbe, bank-protection work on the Tarawera River, reconstruction of two flood-gates damaged by floods, placing 2-ft.-diameter pipe culverts at each power pole on the Edgecumbe Railway Road Drain, and controlling noxious weeds on river-bank and drain reserves. Two three-roomed cottages were erected at Thornton for married workmen. A tractor was employed for several months removing willows and trees from the banks and waterways of rivers, canals, and drains, and 65 chains of drain was cleaned by weed-cutting launch.

The workshop at Thornton was enlarged and the machinery adapted for operation by electric motor in place of internal-combustion engine, and an electrical welding plant was installed. All plant repairs have been carried out at the Thornton Depot, and this has greatly reduced time losses for the earth-moving plant.

#### EXPENDITURE AND RATES

Expenditure on maintenance for the year amounted to £14,845.

Rates struck: Special, £10,592; general, £6,072.

Rates collected, including arrears: Special, £11,065; general, £6,600.

#### NATIVE RATING

The total Native rates paid, including arrears, during the year under review was £1,594. Native rates levied for the year 1944-45 amounted to £1,781.

I have, &c.,

R. L. INNIS,

Chief Drainage Engineer.

The Under-Secretary for Lands, Wellington.

#### STATEMENT OF ACCOUNTS

A statement of accounts is published in parliamentary paper B.-1 [Pt. IV].

*Approximate Cost of Paper.*—Preparation, not given; printing (513 copies), £3 15s.

By Authority: E. V. PAUL, Government Printer, Wellington.—1945.