

No. 35 P. and H. ($\frac{3}{8}$ Yard) (American) Excavator.—This machine continued with the cleaning and deepening of the Central Drain. A distance of 164 chains was completed on 12th August, 1949. It then commenced improving the west boundary drain, Section 7, Block IX, Waihou Survey District, for a distance of 21 chains. Since September the excavator has been employed widening and deepening Mangawhero Road Drain, and at the end of March had completed 154 chains. The total output for the year was 27,915 cubic yards, at a cost of 1s. 2-4d. per cubic yard.

No. 40 Jacques ($\frac{3}{8}$ Yard) Excavator.—During the year this excavator has been engaged removing *poa aquatica* and silt from the Pouarua Canal for a distance of 228 chains, widening and deepening 86 chains of the Orchard West Road Drain, and improving Hopai Road Drain for a distance of 58 chains. This machine excavated 19,412 cubic yards of spoil, at a cost of 1s. 10-3d. per cubic yard.

Machine work by contract was 12,530 cubic yards, forming 70 chains of stop-bank, in addition to the 130 chains of banking comprising 23,110 cubic yards as shown for machine No. 16 above. Machine work totals for banking, cleaning, and construction during the year are as follows:—

By Excavator.	Chains.	Cubic Yards.
Stop-banking	200	35,640
Cleaning and reformation	1,795	115,281
Canal extension	67	13,500

A comparison of excavator costs for the last six years is given below:—

Year.	Cubic Yards.	Cost Per Cubic Yard.
		d.
1944-45	171,603	9·13
1945-46	121,505	8·79
1946-47	79,186	11·79
1947-48	144,126	10·50
1948-49	155,455	12·42
1949-50	151,891	17·60

The costs schedule shows practically the same output in yardage for 1949-50 as in preceding years but, as the higher costs indicate, considerably more machine-hours.

This apparent reduced output per hour is considered to be due to the changing class of work now being performed by the excavators.

Records show that 1949-50 has been a period when little new work involving heavy earthworks has been undertaken and when drain canal and river cleaning has absorbed a far greater number of machine-hours than in any previous year.

Maintenance and drain-cleaning work, although increasing in chainage, does not result in such high yardage quantities as that produced when excavators were engaged in the comparatively heavier capital works of new drain, canal, and stop-bank construction carried out in past years.

In future it is intended that drain and canal cleaning, including such work as *Poa aquatica* clearing, will be shown for purposes of costing on a chainage basis.