

The number of serviceable dredges and excavators on the plant lists has been reduced from eleven to eight. No. 28 light Bay City excavator has been transferred to the Rangitaiki Works. No. 20 Rood excavator has been practically dismantled, and the engine and some parts used for reconstruction of No. 19 dredge. No. 6 Priestman dredge, which was purchased from the Auckland Harbour Board over twenty years ago, has been dismantled, and the hull, which had become completely unseaworthy, broken up.

The output of the dredges for the year was 200,954 cubic yards, and the average cost, including interest and depreciation charges for plants in commission, was 8d. per cubic yard.

The following table given the total quantities excavated by the dredges during the past thirteen years:—

Year.	Cubic Yards.	Cost per Cubic Yard.
1920-21	158,865	7.42d.
1921-22	246,022	7.29d.
1922-23	440,092	8.20d.
1923-24	508,654	7.27d.
1924-25	822,286	5.86d.
1925-26	856,653	6.32d.
1926-27	647,182	7.42d.
1927-28	652,413	7.32d.
1928-29	619,911	6.54d.
1929-30	595,565	6.25d.
1930-31	536,692	8.32d.
1931-32	390,611	7.99d.
1932-33	200,954	8.00d.

No. 1 Priestman dredge was from April to July engaged on the Piako River improvement works above Patetonga, between 17 m. 12 ch. and 17 m. 22 ch. When the work was closed down for reasons of economy 16,499 cubic yards of material had been excavated at an average cost of 6d. per cubic yard.

No. 11 Kingston dredge completed dredging the Puhanga Canal in July, and has since been idle. The total output for the time worked was 21,648 cubic yards, and the unit cost 6.23d.

No. 15 Bucyrus excavator has also been out of commission since July. It was employed on channel-enlargement in connection with the Piako River improvement works above Kaihere Landing, between 14 m. 47 ch. and 15 m. 18,394 cubic yards was excavated, at average cost of 7.55d. per cubic yard.

No. 16 Bucyrus excavator has been continuously employed throughout the year. From April to July the machine was engaged widening the Piako River and strengthening the stop-banks with the spoil between 12 m. 12 ch. and 12 m. 38 ch. After stoppage of the river-improvement works the machine has been used to complete the stop-banks and embankment road on the Awaiti Canal. The difficulty due to bank-caving experienced during the early stage of construction of this canal has been overcome, and the stop-banks are now stable and complete, with the exception of one gap which is to be filled when the Kerepeehi Block pumping-station is installed. The total excavation for the year was 54,117 cubic yards, and the unit cost 8.13d.

No. 19 dredge, working on the right bank of the Piako River between 13 m. 10 ch. and 13 m. 23 ch., excavated 13,291 cubic yards. The material was excavated from the river-bed and conveyed 200 ft. to the stop-bank by the dredge at cost of 11.26d. per cubic yard. This unit cost is unusually high for this plant, because it includes cost of extensive repairs and the standing charges for four months when the actual working-time was only fifty-three days.

No. 23 steam dipper dredge, after being laid up for some time, was recommissioned in April, 1932, to recondition the Upper Elstow Canal for a distance of 3 m. 55 ch. above the temporary dam in the Intercepting Canal. This work occupied about five months, and on its completion the dredge crew was transferred to No. 24 steam dipper dredge. 36,622 cubic yards were excavated for the improvement of the Upper Elstow Canal and unit cost was 7.7d. per cubic yard.

No. 24 steam dipper dredge has been working intermittently in the Pouarua and Railway Canals due west from Ngataca. The water-level had been raised in the canal by a temporary dam built last year at the intersection of the Orchard West Road and Canal to prevent the canal-banks from caving under the weight of the spoil-banks. The canals were deepened by successive shallow cuts with an interval between each during which the water-level above the dam was gradually lowered. At the end of January the dam was removed and the dredge is proceeding downstream deepening the canal, which was originally made only deep enough to float the dredge to reduce the risk of bank-caving. In 108 working-days the dredge output was 40,283 cubic yards, and the cost was 8.86d. per cubic yard.

The following are the details of the works carried out in each district:—

#### WAITAKARURU-TOREHAPE DISTRICT.

The Miranda drainage scheme, commenced in November, 1931, is now nearing completion. This work, which is being financed by the Hauraki Plains County Council and the Unemployment Board, provides drainage for a block of 4,700 acres of excellent dairy land at Waitakaruru. The work has been carried out on the co-operative contract principle at rates of pay computed so as to enable 10s. per day to be earned by the average workman. The actual average daily earnings of the co-operative contract workers since the commencement of the scheme is 9s. 9.6d. per man. Accommodation for sixty men is provided in camps, and the number of men employed has varied between twenty-five and sixty-five. The total excavation completed to date is 101,364 cubic yards, and 850 chains of drains and 245 chains of stop-bank have been completed. Several bridge culverts and flood-gates connected with the scheme are also completed.