

lifters. The compressors themselves are standing up well in view of their extremely heavy task, though, of course, the petrol-consumption is somewhat severe. The replacement of worn and of broken parts of the jack-hammers is, as can only be expected, a problem that has to be faced continuously.

*Accommodation.*—Previous to the commencement of this year the workmen had been quartered in tents. A start was made early in this year to replace this accommodation with corrugated-iron huts; by the end of June all the men were so housed. A small rent is paid by all men occupying huts. A similar structure, large enough to take both the Thorneycroft truck and the Ford car, has also been erected.

*Output.*—During the year 32,946 cubic yards of rock have been excavated, at a total cost of £11,929 18s., or 7s. 2·9d. per cubic yard. The total excavation to date amounts to 121,552 cubic yards, at a cost of £35,447 8s. 2d., or 5s. 10d. per cubic yard.

*Draining Swamp Land.*—The location of the necessary dredge-cuts in order to drain the swamp lands in Block IV, Purua Survey District, has been proceeded with, and the plans of same are practically completed.

This work will be carried out by a Priestman dredge, and for this purpose the necessary timber for the pontoon has been obtained and carted out on to the site selected for the erection of the plant. The punt will be constructed by day labour under the supervision of an officer of the Department. It is anticipated that the pontoon will be completed in August, 1924, and the erection of the machinery should not then be a lengthy process. The dredge machinery is being transferred from the Rangitaiki works, but before erection the whole plant will be overhauled, so as to have the machine in first-class order.

*Rainfall.*—A rain-gauge is installed at the local headquarters at Ruatangata. The total rainfall for the year was 51·40 in., rain falling on 156 days. The wettest month was May, 1923, with a fall of 8·54 in.; the driest month was December, 1923, the fall being 1·19 in.

*Works Expenditure.*—The total amount expended during the year, as shown in the books at Auckland, was £15,695. Of this amount the sum of £7,329 was paid out in wages.

The works were under the control of Mr. G. E. Tuck for the first six months of the period, when Mr. V. C. Bosselmann, B.E., took over local control. Mr. Bosselmann is now well established, and is proving a capable and energetic officer.

The following operations were carried on under the authority of the Swamp Drainage Amendment Act, 1922.

#### MANGAWAI DRAINAGE (1,050 ACRES) RODNEY COUNTY.

No work has been carried out in this area during the year with the exception of completion of drain referred to in last report. The country has greatly benefited from the past expenditure, and a large part of the area is now subdivided into 3-acre lots, which are let for gum-digging purposes. These are, I understand, returning quite a satisfactory revenue. When the gum has been won the land will be disposed of for agricultural purposes. Expenditure, £113 15s. 4d.

#### HARIHARI SWAMP (1,486 ACRES), WESTLAND COUNTY.

Construction work on this swamp was commenced in January, 1923. During the year two miles of catchwater drain and one mile of double drain and road formation have been constructed. The country is drying out and consolidating very well, but in order to ensure the maximum consolidation the above-mentioned drains require deepening on to the clay stratum lying below the peat. This work has just been commenced, and will be completed about August. In addition to this work a further 35 chains of small drain requires constructing, and the area will then be ready for settlement. The Chief Surveyor's approval has been obtained to a scheme of subdivision, and the survey will be put in hand in time to ensure the land being ready for selection next spring. The cost of the work during the year was £2,638 5s. 10d. This work is under the direct control of Mr. J. S. Strawbridge, who is engaged on exploration surveys of the many swamp areas in the Westland District.

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O. N. CAMPBELL,

Chief Drainage Engineer.

The Under-Secretary for Lands, Wellington.