

Waikaremoana.—The last stage of design for the upper development was completed—namely, the sealing of the leaks in the lake margin—and the actual work commenced.

Cobb.—As final investigations on the site determined without doubt that a concrete dam could not be built, but that an earth dam would be satisfactory, design work proceeded. Details of the necessary diversion works and final spillway were nearly completed. The design work for the earth dam is being done in close collaboration with the Soil Survey section of the Department of Scientific and Industrial Research.

Highbank.—As trouble has been experienced with screen-cleaning due to large quantities of material which float down the race, a screen-cleaner was designed to reduce the present labour involved, and this is now being installed.

Tekapo.—Design work progressed on the intake, surge chamber, penstocks, and the various gates required. Tenders for the penstock and steel tunnel-liners should be called very soon.

Pukaki.—The sluice structure contract was completed, and by building the upstream coffer dam it was possible to store water for winter supply. The design and drawing of the remaining features—namely, the earth dam and spillway—were completed. To complete the design of these major jobs within the limited time available the design of other works had to be delayed to some extent.

Black Jack's Point.—Surveys were completed and are being studied. Preliminary work for foundation investigation was done, including a suspension bridge across the Waitaki River for access to the site.

Clutha River.—A comprehensive study has been made of the whole Clutha River catchment area and a report is being prepared. At the site of the proposed development above Roxburgh, the investigation of the foundation conditions by means of bores, shafts, and drives under the river was practically completed, and similar work was done at the outlet to Lake Wanaka.

General Investigation.—Engineering reconnaissances have been carried out on the Kaituna, Rangitaiki, and Tarawera Rivers and minor sites in the North Island. In the South Island surveys were carried out at Lakes Rotoiti and Rotoroa preparatory to investigation of major development in the Nelson lake district. In conjunction with a mission from an overseas company interested in the manufacture of aluminium, reconnaissance was carried to a further stage in the southern sounds. An aerial survey was put in hand of the whole area involved in the potential development at Deep Cove.

Hydrology.—Routine records were kept and studies made of hydrological conditions in both Islands.

(b) STRUCTURAL SECTION

Structural drawings of the Maraetai power-house were completed for work up to the generator-floor level, and design of the superstructure is in hand. Complete drawings for the lift-shaft, penthouse, and adits were prepared. The shaft is approximately 200 ft. deep, and, although required as a permanent feature, has been designed to transport workmen rapidly to and from the main working area.

Design and drawings were completed for the Tekapo power-house foundations and superstructure, and drawings are well in hand for the secondary concrete required for the installation of the machines.

As information from the manufacturers became available, plans for the installation of the fifth unit at Waitaki were put in hand.