

The batching plant previously used at Karapiro was remodelled and re-erected at the Cobb, equipped with a 2-cubic-yard mixer. This plant is almost ready to be put into operation. A 12,000 ft. jig-line, which will transfer the mixed concrete from the batching plant down to the dam-site, 800 ft. below, is complete. It is interesting to note that the screening and batching plants are at an elevation of 3,400 ft. above sea-level.

(4) Permanent Gate Shaft: The sinking of the gate shaft, which is 100 ft. deep by 16 ft. excavated diameter, was completed in March of last year, and concreting was not commenced until September, the interval being necessary while the 20 ft. steel liners were being taken into the intake tunnel through the gate shaft. When concreting had reached 30 ft. above the bottom of the shaft, the bottom section of the permanent screens was installed, together with the gate and gate frame, after which the water was diverted into the tunnel. Concreting was then resumed, and by the end of March was within 4 ft. of the top of the shaft.

(5) Concreting River-diversion Channel: Provision has been made in the general layout of the dam and spillway for the river to be diverted during the construction of the earth dam by means of a concrete intake channel and two 15-ft.-diameter culverts which run through the bottom of the main spillway block. A start was made with the concreting of the right-hand retaining-wall of the intake channel late last year, and to date 770 cubic yards of concrete have been placed. Two 24 ft. steel forms for the culvert barrels were made in Christchurch and were received on the job late in the year. All the reinforcing-steel required for the spillway arrived during the year, amounting to 1,100 tons.

(6) Accommodation: A contract was let late last year for the prefabrication of twenty workmen's cottages. These cottages are being built at Motueka before being assembled at the married workmen's quarters at Upper Takaka.

(7) Roads: General maintenance work was carried out during the year over the 20 miles of access road between Upper Takaka and the Cobb. Approximately 2,000 cubic yards of shingle were spread on the road.

(8) Labour: The number of men employed during the year varied from a peak of 197 last November to 138 in March of this year, which is 70 short of requirements. At no time during the year was the labour force adequate enough to keep the job on schedule.

*Lake Tekapo Development.*—A steel-sheet pile coffer-dam at the intake is being constructed. The primary grouting behind the lining blocks of the 20-ft.-diameter tunnel is 85 per cent. complete and the secondary grouting 78 per cent. complete. The smooth concrete lining inside the tunnel blocks is 27 per cent. complete. The 600 ft. of steel lining at the outlet end of the tunnel is complete, and the contractor is now placing the steel lining for the penstocks. The contractor for the surge chamber is doing the excavation and compacting the filling for the structure foundations.

The concreting of the main block of the power-house by direct labour is completed, 7,400 cubic yards of concrete having been placed.

The concrete lining of the tailrace has been completed.

Further foundation investigation has been done at the dam-site.

Two hundred and ninety men are employed on the works.

*Lake Pukaki Control.*—The earth dam has been completed up to the right wall of the spillway, some 350,000 cubic yards of material having been placed. The stone rip-rap wave protection has been substantially completed and further rip-rap material has been stock-piled nearby.

Twenty thousand cubic yards of concrete, about half the total quantity, have been placed by the contractor for the spillway.

A contract has been let for the fabrication of the six steel radial gates on the spillway. Each gate is 46 ft. wide by 21 ft. high.

The upstream coffer-dam has been raised to the height of the permanent dam across the width of the spillway, and protected against wave action.