

Courthouse, where the evidence of six witnesses was taken. The Commission then proceeded to Tapanui, inspecting *en route* all the mining operations and erosions along the banks of the river to Island Block, and from there obtaining a first-hand impression of the character of the country drained by the Pomahaka River, one of the principal tributaries of the Clutha.

On the 27th June the diggings in the Tuapeka watershed, notably at Blue Spur and Weatherstones, were inspected, also the Waitahuna diggings. At Lawrence the evidence of three witnesses was secured, and the Commission returned to Dunedin.

On the 28th June the Commission sat in the Public Works Office, Dunedin, and had a consultation with Professor Park as to the geological characteristics and probable geological history of the lower Clutha; also evidence was given as regards flood-levels in the Clutha River by Mr. F. J. Williams, Engineer to the Cromwell Development Company.

On the 30th June evidence was secured from Mr. R. Milne, District Land-valuer, as to land-values in the Clutha district, and the probable effects of floods in depreciating land-values.

After considering the evidence and the impressions received in the course of their investigations your Commissioners came to the conclusion that it would be impossible to intelligently and thoroughly consider the problem until a very considerable further amount of definite data as to levels, falls, erosions, discharges, &c., had been obtained; and with this in view a list of surveys required was drawn up and submitted to the Public Works Department, who agreed to carry out the work desired as soon as possible.

It was intended that the Commission should reassemble at Wellington on the 11th October, but the Chairman was unfortunately taken ill, and after two or three days spent in calculations and consideration of the problems Messrs. Hay and Hunter proceeded to Dunedin, expecting the Chairman to follow almost at once. He, however, became worse, and as there appeared no prospect of his resuming duty at an early date Messrs. Hay and Hunter, on the 22nd October, adjourned the work they were doing in Dunedin and returned to their homes.

Although their order of reference confines your Commissioners to the river where it runs in the vicinity of the town of Balclutha, nevertheless their investigations had to be extended farther into the watershed of the Clutha to enable reliable evidence to be obtained as to the extent of the mining operations in the Clutha basin, which it was contended were the primary cause of the shoaling of that portion of the river referred to in the order of reference.

The plans, &c., prepared by the Public Works Department having been completed at the beginning of February, 1920, the Commissioners reassembled as soon as their respective duties permitted, and arrived in Dunedin on the 17th February, and from then on proceeded with the preparation of their report.

Over fifty samples of water from the river and several of its tributaries were collected, and the percentage of solid matter determined. Samples of present-day and ancient silt were analysed by the Dominion Analyst, the object of this investigation being to ascertain whether any alteration in the character of the silt carried by the river in recent years as the result of mining operations could be detected.

Considerable difficulty was experienced in arriving at what was the actual discharge of the river during the great flood of 1878, the largest experienced within historic times. However, as the result of gaugings and levels that were taken, a discharge which may fairly be assumed to be correct was determined.

NOMENCLATURE.

The lower Clutha River divides at Balclutha into two branches, the left or northerly one being known as the Matau Branch, and the right or southerly one as the Koau Branch. Prior to the 1878 flood these channels united at the bottom of Inch-Clutha, where they were separated from the ocean by a large sandspit, and flowed into the sea at Port Molyneux. The 1878 flood breached the sandspit where the Matau Branch met it, and since that date this breach has remained open, and the river has two distinct mouths.