

*Local Visits.*—Preliminaries having been arranged, we adjourned the sittings of the Commission until Tuesday, the 25th, to enable the Commission to visit the district affected and to view principally the works already carried out both by the River Board and the Drainage Board. We spent the remainder of Saturday and the next two days travelling over the district, particularly the river between the Devil's Elbow and Oteata Point, and the various channels between the islands that stud the river from Kaitangata Point seawards, and which are shown on map attached [not printed].

*Witnesses.*—We sat again on the 25th, 26th, and 27th in Waiuku, and then proceeded to Auckland on the 28th, where we took further evidence, the sittings at Auckland having also been notified in the public Press in advance. We took the evidence on oath of twenty-three witnesses, twenty-one of whom were examined at Waiuku and two in Auckland. In addition a written statement was received from Mr. R. J. Hamilton, a property-owner in the Waikato district, who also attended the Commission and explained his letter.

Mr. Hamer, M.I.C.E., Engineer to the Auckland Harbour Board, furnished the Commission with a graphical representation of the river-levels at Mercer, extending over a period of years, also tidal diagrams showing the action of the tide in the Waikato River, and an explanatory letter, copy of which is attached [not printed].

The following plans [not printed] are enclosed to illustrate the report:—

- A. General plan from Devil's Elbow to near Oteata Point, showing the islands and channels in river, the groynes as built, shoaling as surveyed by Mr. Ashley Hunter, and also a portion of the Akaaka Drainage District and its outlet-drains delivering into the river.
- B. Copy of the plan accompanying the Order in Council issued by the Marine Department authorizing the work of the River Board, 19th April, 1912.
- C. A comparative plan and section from Mercer to the sea, showing the variation between the survey made by Mr. Breakell in 1911 and the survey by the Lands Department in 1913.
- D. Plan, dated 1862, of soundings taken by Captain Greaves, D.A.Q.M.G., Her Majesty's Forces, Waikato Heads to Tuakau.
- E. General plan of the district, showing the Akaaka and Otatau Drainage District, the Waikato River Board boundary, and the general course of the river.
- F. Waikato River anchorage, 1863.
- G. Graphical representation of levels of Waikato River at Mercer, April, 1914, to date.

*Physical Characteristics.*—The Waikato River and the greater number of its tributaries take their rise in country which is within the volcanic area of the North Island, and which is covered to a greater or less extent with pumice and other easily eroded materials, and as a consequence it carries great quantities of pumiceous sand derived directly from the volcanoes as explosive dust and from the disintegration by natural agencies of the pumice and other soft rocks. This detrital matter has a very low specific gravity, and as the result the travel of detrital matter is not, as in most rivers, confined to flood-time, but is carried on continuously. An examination of the river-bed at any time or place discloses a constant movement of a volume of sandy material of greater or less thickness constantly moving down-stream. Uninterrupted discharge of this material to the sea requires a minimum of obstruction in the course of the river. The presence of any obstructing agency such as a snag results in the immediate formation of a sandbank. The sandbanks are constantly shifting and changing their shapes and dimensions, but there is usually to be found between them a navigable channel of greater or less depth. The above added to the extremely low fall in the lower reaches and the tidal obstruction is the problem of the river.

*History and Condition of Present Works.*—The old plan, number D, previously referred to, shows a navigable channel via the southern channel, between Oteata Point and the Devil's Elbow and Tuakau; but an explanatory note on the plan to the effect that the river was then 3 ft. above normal rather discounts its value as