## TABLE OF TIDAL CONSTANTS.-EXPLANATION.

These constants are determined from old observations at Halifax as indicated; and from the tidal record obtained by this Survey, reduced to a uniform datum, and tabulated in hourly ordinates. The analysis of the record and the determination of the constants has been made by Mr. Edward Roberts, F.R.A.S., Chief Assistant in the Nautical Almanac office, London.

HALLEAX. Datum. The varying values of  $\mathbf{A}_{o}$  correspond with the difference in datum used in the old observations. In the present series, 1895 to 1896, the height is referred to the Admiralty datum as established by the Bench Mark in the Dock yard. The K's are referred to the meridian of the place.

With regard to these constants as now determined, Mr. Roberts makes the following remarks: "A few of the smaller components were not evaluated for the year 1860, as the observations were broken, and a better mean value is probably obtained by excluding them. The lunar and luni-solar long period tides, in 1861, are also omitted. The results for these long-period tides do not accord well, and the results cannot be regarded as genuine. No mean value, therefore, has been taken for them from the three years' results. The results for the solar annual tide agree very well; and those for the solar semi-annual, fairly so. The whole of they sorry reliable set of constants."

ST. JOHN, N.B. Datum. The datum to which the tides are referred is 55.60 feet below the Tidal Survey bench mark at the south-east corner of the Custom house. The values of the harmonic tide plane, mean sea level, &c. as now determined, are given in the last report of this survey.

The K's are referred to the meridian of St. John Observatory, its longitude being  $4^{h} 24^{m} 16^{s} W$ .

QUEBEC. Datam. The tides are referred to the original Admiralty datum, as established by the Bench Mark on the Marine and Fisheries building in Quebec. The scale of heights used at the tide guage was the outside scale cut on the masonry of the Dry Dock at Lévis ; and on this scale a slight error has been found in the spacing of the figures, is tus 7.78 below the Admiralty datum, instead of 7.80 feet as assumed in the tabulation of the tidal record. Hence, height of mean sea level above Admiralty datum =  $\Lambda_{\phi} + 0.020 = 8.602$ . The K's are referred to the 75th meridian west, to correspond with Eastern

The K's are referred to the 75th meridian west, to correspond with Eastern Standard time.