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SURVEY OF

THE MISSISSIPPI RIVER

Made under the direction of the

MISSISSIPPI RIVER COMMISSION.

CHART No 187

Projected from a Trigonometrical Survey

Made in 1896.

SCALE 1:20,000

Feet

Meters

Statute Miles

AUTHORITIES.

The Secondary Triangulation was done under the direction of Captain Geo. A. Zinn, Corps of Engineers, U. S. A., Secretary Mississippi River Commission. The Precise Levels were run under the direction of Captain Carl F. Palfrey, Corps of Engineers, U. S. A., Secretary Mississippi River Commission. The Topographical Survey was made in 1894 and 1895 under the direction of Captain H. E. Waterman, Corps of Engineers, U. S. A., Secretary Mississippi River Commission. The mapping was done under the direction of Captain Moses M. Patrick, Corps of Engineers, U. S. A., Secretary Mississippi River Commission.

Latitudes and Longitudes, are derived geodetically from the Cairo Astronomical Station determined in 1876 by Captain H. M. Adams, Corps of Engineers, U. S. A., and First Lieutenant D. W. Lockwood, Corps of Engineers, U. S. A.

Secondary Triangulation and Some Lines, in 1895, Assistant Engineer A. T. Morrow, Chief of Party.

Precise Levels, in 1894, by Assistant Engineers O. W. Ferguson and A. L. Johnson.

Topography and Hydrography, in August and September 1897 and May 1899, Assistant Engineer A. T. Morrow, Chief of Party.

Ordinary Levels, by C. G. Weyl and W. H. Roper.

Topography, by W. G. Comber, G. H. French, G. N. Axtell, W. S. Williams, F. G. Bay, M. I. Powers, E. J. Thomas and L. C. Dilatisko. Field plotting by F. F. Axtell.

Hydrography, by T. C. Hockridge and C. V. Sessions.

Office Reduction and Drawing, under the direction of J. A. Ockerson, Assistant Engineer in charge of Surveys, and C. W. Clark, Assistant Engineer, by W. G. Comber, G. H. French, E. L. Harman, O. N. Axtell, W. S. Williams, F. G. Bay, M. I. Powers, F. F. Axtell, E. A. Wilson, C. E. Lappiano and Paul Burgoldt.

NOTES.

Elevations are given in feet above the Memphis datum plane which is 190.8 feet below the zero of the U. S. Engineers gage at Memphis, Tenn., and approximately 5.15 feet below mean Gulf level.

Soundings are given in feet and are shown on the bluffs and fine feet apart on the bottom lands and river banks. The elevations of the contours above the Memphis datum are indicated by figures which are placed on the higher side of the lines to show the direction of the slope.

Lines of benchmarks, called stone lines, are placed normal to the river at intervals of about three miles and are numbered consecutively from Cairo, Ills., northward. The benchmark is a flat tile, 18 inches square, set about 3 feet below the surface of the ground and surmounted by a 4 inch iron pipe 4 feet long. The upper figures preceding the sign ∘ indicate the number of the stone line and the lower figures the elevations of the top of the tile or pipe. Other benchmarks have their elevations indicated in a similar way.

The shore line is not referred to the stage of the soundings, but is plotted as surveyed. Dates in the river bed indicate the days on which soundings were made.

Soundings are expressed in feet and are reduced to the mean stage of water on the days when the depths on this sheet were measured. For soundings above stone line No. 262 see Chart No. 189, as these were made in 1899 at a higher stage and cannot be reduced to stage for this sheet with precision. This stage, near foot of Eagle street, St. Paul, Minn., is 0.4 foot higher than the mean stage and the water surface has an average slope of 0.78 foot per mile, measured along the water surface. The reduction to mean stage between successive stone lines is as follows: 262 to 263 – 1.14; 263 to 261 – 1.00; 261 to 260 – 1.24; 260 to 259 – 2.21; 259 to 258 – 1.60.

The readings, in feet, on the U. S. Signal Service gauge at St. Paul, Minn., on the days of sounding were as follows:

Sept. 3, 1897, 4.6 Sept. 4, 1897, 4.6 Sept. 7, 1897, 4.7
" 8, " 4.6

The mean stage of the soundings on this sheet as derived from the above readings is 4.6 feet.

The highest water known prior to the date of this survey was on April 29, 1881, and reached to the above gauge 13.5 feet – 711.9 feet above the Memphis datum. The zero of this gauge – 691.5 feet above the datum.

The lowest water known prior to the date of this survey was in 1863 or 1864 and was approximately, for each year – 692.0 feet above the datum.

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