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Hell Gate And Its Approaches From a Trigonometric Survey under the direction of F.R. Hassler and A.D. Bache . . . 1851 . . . [Rare Thick Paper Electrotpe Edition!]

Stock#: 32234mb
Map Maker: United States Coast Survey
Date: 1851
Place: Washington
Color: Uncolored
Condition: VG-
Size: 36 x 25.5 inches
Price: SOLD



Description:

Rare Electrotpe edition of the US Coast Survey map of Hell Gate published separately on thick paper as a presentation copy, with an area at the top which was intended for adding the name of the recipient of the presentation copy.

This is a apparently a rare variant edition, with an extra notation, calling this the "First Edition" (below the title), which is not present on most examples of the chart. It provides an extra annotation, noting the rock blasting operations which commenced in August 1851. This chart depicts Hell Gate, a narrow channel on the East River, at the confluence of the Harlem River, which connects Long Island Sound with New York Harbor. The chart shows Hell Gate in 1851, which is the year that the U.S. Army began blasting ledges and rocks within Hell Gate to ensure safe passage through the channel. Coast Survey Superintendent Alexander Bache was quoted as saying that "the first edition [of the Hell Gate chart] will serve as a historical record of no small value and interest."

The present example is Electrotpe Copy No. 1. Triangulation by James Ferguson and Edmund Blunt, Assistants. Topography by C.M. Eakin, W. M. Boyce and J. Farley, Assistants. Hydrography under the direction of G.S.Blake Lieut. Comg. U.S.Navy. Includes the seal of the U.S. Coast Survey Department. Verfied by Lieut. A.A. Humphreys, Topl. Engrs. & Asst.

Triangulation for the map was by Edmund Blunt, assistant. Topography by H.L. Whiting, assistant. Hydrography by the parties under the command of D.D. Porter & M. Woodhull, Lts., U.S. Navy. Published in 1851. A.D. Bache, Superintendent. Reduction of topography for engraving by C. Mahon, of hydrography



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by J.R.P. Mechlin. Topography engraved by A. Rolle, F. Dankworth & G. McCoy; lettering by J. Knight. Electrotpe copy no. 1 by G. Mathiot, U.S.C.S. (with logo) U.S. Coast Survey Office.

The United States Coast survey was responsible for several major printing innovations, including electrotyping and photography as applied to cartography. Neither of these technologies were invented within the Coast Survey. However, because of the electrical and mechanical genius of George Mathiot, both of these methods were improved and applied to the rapid production of charts and maps with great effect by the end of the 1850's.

As noted by NOAA,

Electrotyping was an electro-chemical method of producing an exact replica of an engraved copper plate. This was a vitally important procedure as first-class copper engravings took years to produce and would be ruined after a few hundred impressions on a printing press. The Coast Survey began experimenting with electrotyping in 1846. Selmar Siebert, a senior engraver, conducted these experiments; in 1847 Bache reported, "Several of the plates have been copied by the electrotpe process, preserving the originals from injury, and rendering possible an unlimited multiplication of copies from a single engraved plate." This early work was not without its risks, as the lower plate of the chart of Delaware Bay was destroyed by the adherence of copper to the original plate in 1849. Perhaps it is just coincidence, but the following year George Mathiot was first mentioned in the annual report as being in charge of the electrotyping division.

Under Mathiot, the electrotyping division prospered. At the end of 1851, Major Stevens reported:

The electrotyping department has improved so greatly the past year in all its arrangements and processes, that at my request its chief, Mr. Mathiot, has made a general report on the subject of electrotyping, (Appendix No. 55,).... The advances which have been made through the agency of the Coast Survey have scarcely been equaled in the history of any art. Not a single failure has yet occurred in Mr. Mathiot's process. A single plate has again been reproduced from the junction of plates with complete success.

"The time for reproducing a plate has been greatly abridged. Time has been saved, and a greater certainty given to the process ..."

The time saved was significant. During the first electrotyping experiments, no more than six plates a year could be reproduced. By the end of 1851 the time for producing a first reproduction of a plate was reduced to four days with all subsequent duplications reduced to three. The significance of this advance was that for the first time virtually unlimited printings of map sheets could be accomplished. In Stevens'



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*words, "... in fifty days the plates can be made for fifteen thousand sheets of any Coast Survey map,
however large and elaborate it may be."*

Detailed Condition:

Minor toning and soiling. Several repaired tears and creases, with minor loss at the lower right corner,
within the printed image