

ENGINEER DEPARTMENT, U. S. ARMY.

REPORT

UPON

UNITED STATES GEOGRAPHICAL SURVEYS

WEST OF THE ONE HUNDREDTH MERIDIAN,

IN CHARGE OF

FIRST LIEUT. GEO. M. WHEELER,
CORPS OF ENGINEERS, U. S. ARMY,

UNDER THE DIRECTION OF

BRIG. GEN. A. A. HUMPHREYS,
CHIEF OF ENGINEERS, U. S. ARMY.

PUBLISHED BY AUTHORITY OF THE HONORABLE THE SECRETARY OF WAR,

IN ACCORDANCE WITH ACTS OF CONGRESS OF JUNE 23, 1874, AND FEBRUARY 15, 1875.

IN SEVEN VOLUMES, ACCOMPANIED BY ONE TOPOGRAPHICAL AND ONE
GEOLOGICAL ATLAS.



VOL. II.—ASTRONOMY AND BAROMETRIC HYPSONOMETRY.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1877.

NOTE.

Seven volumes, accompanied by one Topographical and one Geological Atlas, embrace reports upon Geographical Surveys of the territory of the United States West of the One hundredth Meridian of longitude from Greenwich, as follows:

Volume I.—Geographical Report.

Volume II.—Astronomy and Barometric Hypsometry.

Volume III.—Geology and Mineralogy.

Volume IV.—Palæontology.

Volume V.—Zoölogy.

Volume VI.—Botany.

Volume VII.—Archæology.

The Topographical Atlas edition, consisting of Title-Page, Legend, and Conventional Sign Sheets, Index, Progress and Basin Maps, and Sheets Nos. 49, 50, 57, 58, 59, 66, 67, 75, 76, 83, 53 (C), 61 (B), 61 (C), 61 (C sub.), 61 (D), 65 (D), 69 (B), 69 (D), 70 (A), 70 (C), 78 (B), have been issued at date of sending forward the MS. of this volume. Other sheets, of which there are seventeen in various stages of completion, will follow as rapidly as they can be prepared, engraved, and printed.

Sheets 53 (C), 61 (B), 61 (C), 61 (D), 65 (D), 69 (B), 69 (D), 70 (A), 70 (C), and 78 (B), are projected upon a scale of 1 inch to 4 miles, while the scale of 1 inch to 2 miles has been used for sheet 61 (C sub.), the latter embracing a part of the San Juan mining region of Southwestern Colorado.

The following Geological Maps, forming a part of those supplementing

Volume III, based upon the topographical sheets, have been published, *i. e.*, Title-Page, Index Sheet, Restored Outline of Lake Bonneville, Nos. 50, 59, $\frac{1}{2}$ of 58, and $\frac{1}{2}$ of 66, 66, 67, 75, 76, and 83. Other sheets are in course of completion.

The Topographical Atlas referred to will comprise 95 sheets, on a scale of 1 inch to 8 miles, numbered consecutively from 1 to 95, inclusive, while the "Geological Atlas" will consist of the same number, using the topographical maps as a base. (See Progress Map of 1877.)

The quarto reports embrace the results of the special branches of the Survey that are completed at the date at which each is separately submitted, while annual reports of the operations of the work, showing its progress during the fiscal year, are regularly submitted to the Chief of Engineers, and have appeared as appendixes to his Annual Reports.



U. S. GEOGRAPHICAL SURVEYS WEST OF THE ONE HUNDREDTH MERIDIAN,
1ST LIEUT. GEO. M. WHEELER, CORPS OF ENGINEERS, U. S. ARMY, IN CHARGE.

REPORTS
UPON
THE ASTRONOMICAL DETERMINATIONS AT MAIN STATIONS
OCCUPIED IN
THE YEARS 1872, 1873, AND 1874,
AND
RESULTS OF BAROMETRIC OBSERVATIONS
OF
THE YEARS 1871, 1872, 1873, 1874, AND 1875.
IN TWO PARTS.
ILLUSTRATED BY TWENTY-TWO PLATES AND THREE WOOD-CUTS.

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