SURVEYS BY THE WAR DEPARTMENT.

LETTER

FROM

THE SECRETARY OF WAR,

IN RESPONSE TO

A resolution of the House of Representatives, giving information concerning the surveys conducted by the department in the last ten years.

MAY 10, 1878.—Referred to the Committee on Appropriations and ordered to be printed.

WAR DEPARTMENT,
Washington City, May 10, 1878.

The Secretary of War has the honor to transmit to the House of Representatives, in compliance with House resolution of March 8, 1878, a report of the Chief of Engineers, giving certain information relative to public surveys conducted under the War Department during the past ten years.

GEO. W. McCRARY,
Secretary of War.

The SPEAKER *of the House of Representatives.*

OFFICE OF THE CHIEF OF ENGINEERS,
Washington, D. C., May 10, 1878.

SIR: In response to your reference to this office of the resolution of the House of Representatives of the 8th of March last, requesting the Secretary of War to report—

A list of all public geological and geographical surveys conducted by or under the authority of the War Department during the past ten years, together with a statement of the areas of territory so surveyed, the years in which each district or area was surveyed, the cost incurred by direct appropriations by Congress, what aid and supplies and the value thereof have been furnished by the Ordnance, Commissary, and Quartermaster's Departments, outside of said appropriations, from what funds transportation and office-rents have been paid, together with a list of the publications made and in progress, as the result of such surveys; also, whether said surveys have duplicated other public surveys made by authority of Congress the cost of such duplications, if any have occurred, and the reason why they were made—

I have the honor to state that the principal surveys conducted under the engineer department during the period mentioned have been—

I. A geological exploration of the 40th parallel, conducted by Mr. Clarence King; and

II. The geographical surveys west of the 100th meridian, conducted by Lieut. George M. Wheeler, of the Corps of Engineers.

Respecting the geological exploration of the 40th parallel, and replying to the questions submitted in the order in which they are found in the resolution, Mr. King reports as follows:

1st. The area surveyed topographically was about 75,000 square miles, and the area surveyed geologically was about 95,000 square miles, besides which there were examined in detail the mining developments over about 110,000 square miles.

2d. The exploration was made in the years 1868, 1869, 1870, 1871, and 1872.

3d. The amount expended by this department for this exploration, including the cost of preparation of reports, maps, and illustrations, was $394,011.85. From this should be deducted, the value of instruments and other survey property remaining on hand and available for other surveys, the sum of $10,300, leaving a balance of $383,711.85.

4th. No aid was received from the Ordnance Department. The supplies furnished by the Subsistence Department was paid for from the funds of the survey, and are included in the foregoing statement of the cost of the survey. The aid received from the Quartermaster's Department amounted to about $3,000.

5th. Transportation and office rents have been paid for by funds belonging to the exploration.

6th. The following is a list of the publications made:

Vol. II. Descriptive Geology (illustrated).

Vol. III. Mining Industry (illustrated).

Vol. IV. Paleontology and Ornithology (illustrated).

Vol. V. Botany (illustrated).

Vol. VI. Microscopical Petrography (illustrated).

An atlas in 17 sheets to accompany Vol. III (Mining Industry).

A general Geological and Topographical Atlas in 25 sheets.

The following named volumes are now in progress:

Vol. I. Systematic Geology.

Vol. VII. Vertebrate Paleontology.

7th. The exploration did not duplicate other surveys made by authority of Congress.

Respecting geographical surveys west of the 100th meridian, Lieutenant Wheeler states as follows:

1st. The area surveyed has amounted to 332,515 square miles, distributed as follows:

	Square miles.
California	54,751
Nevada	62,181
Utah	38,969
Arizona	61,816
Colorado	33,041
Wyoming	231
New Mexico	71,427
Oregon	1,242
Idaho	8,877

2d. The survey has been made in the years 1869, 1871, 1872, 1873, 1874, 1875, 1876, 1877, 1878.

3d. The amount expended by the Engineer Department for this survey during the last ten years, including the preparation of reports, maps, and illustrations, has been $432,259. From this sum should be deducted the value of the instruments and other property on hand, amounting to

the estimated sum of $57,000, and proceeds of sales of condemned property, amounting to $6,488.45, deposited in the Treasury of the United States, leaving a balance of $368,770.55.

4th. The value of the aid and assistance received from the Quartermaster's Department in ten years, as reported by the Quartermaster-General (but not including certain vouchers not in his office, these vouchers being on file in the Treasury Department), has amounted to $85,238.70, from which should be deducted the value of quartermaster's property now on hand and available for the further use of the survey, $9,801.52, leaving a balance of $75,437.18. Lieutenant Wheeler, however, after a careful estimate, reports the *total* value of the aid and assistance of all kinds received from the Quartermaster's Department in the last ten years as $121,348. The Chief of Ordnance reports the total value of ordnance stores expended and lost within the last ten years, on the surveys west of the 100th meridian, as $4,062.63. This amount does not include the value of ordnance stores on hand and available for the further use of the survey, nor the deterioration of ordnance stores returned to the Ordnance Department, or to various military posts in the West, the amount of such deterioration being unknown. The value of the aid and assistance received from the Subsistence Department within ten years, as stated by the Commissary-General, has been $5,135.54.

5th. Transportation and office-rents have been paid for partly from the appropriations for the survey, and partly by the Quartermaster's Department.

6th. List of publications made and in course of preparation. (For list, see Appendix A.)

Respecting duplication of surveys, Lieutenant Wheeler reports that the only official information he has of parties operating in overlapping areas is of a case which occurred at the close of the field season of 1873, when one of his parties under Lieutenant Marshall, of the Engineers, met Doctor Hayden's parties in Colorado. He also reports that the area then covered by both surveys is unknown to him. It should be stated that the prosecution of the geographical surveys west of the 100th meridian, under the Engineer Department, is in pursuance of acts of Congress providing means for the continuous prosecution of the survey. This department has not been restricted as to areas by the acts making appropriations for its surveys, nor has it been apprised of the projects of surveys under the Department of the Interior, except in 1874, when the law of June 23, 1874, directed the surveys of Doctor Hayden for that year to be "westward toward the Green and Colorado rivers."

After a correspondence between the Secretaries of War and of the Interior, begun at the instance of this department in order to prevent a duplication of surveys, it was ascertained that the most southern limit of Doctor Hayden's previous survey was the highest of the Spanish Peaks in Colorado, and Lieutenant Wheeler was directed to confine his surveys of that year to the area south of an east-and-west line through that peak, except that for the purpose of connecting the triangulation of the field thus designated with his former triangulation, he was authorized to occupy temporarily six triangular points north of said east-and-west line, and to occupy for astronomical purposes of his survey, certain named points on the line of the Union Pacific Railroad which were entirely out of the field of Doctor Hayden's survey.

I will add that the labors of officers of the Engineers and others engaged in the Engineer Department surveys of the West are annually carried on in accordance with projects regularly submitted to the Chief

of Engineers, and by him to the Secretary of War, by whom they are approved before the parties enter the field. These projects are in the direction of a systematic, thorough, and economic prosecution of surveys in connected areas (according to a plan adopted in 1872), by means of astronomical, geodetic, topographical, and meteorological observations. At the same time, and as far as practicable without too greatly increasing the cost, all the information necessary before the settlement of the country, concerning the branches of mineralogy and mining, geology, paleontology, zoology, botany, archæology, ethnology, philology, and ruins, is collected by experts in their branches of science.

In addition to the foregoing, it may be stated that the officers of Engineers and officers on Engineer duty, attached to the headquarters of the Military Divisions of the Missouri and the Pacific; at the headquarters of the Military Departments of Dakota, the Platte, the Missouri, Texas, California, Arizona, and the Columbia, and at the headquarters of the military district of New Mexico, together with other officers of the Army, have surveyed within the last ten years an aggregate of more than 175,000 miles of routes, lines, and marches, beside an aggregate of more than 40,000 miles of area, and the results of these surveys are mainly to be found on the maps in use by the Army and the country.

There are transmitted with this report a set of the publications of the explorations of the 40th parallel (excepting Vols. I and VII, not yet issued, and Vols. III and V, of which the edition printed has been exhausted); a set of the publications of the surveys west of the 100th meridian, as far as issued; a map of the United States, showing the areas of the surveys west of the 100th meridian and the plan before alluded to as adopted in 1872, and a progress map of these surveys; also a memoir on European surveys by Major Comstock, of the Corps of engineers, showing the methods, the organizations, and the cost of the elaborate surveys of various countries; the latter of which will be found of much value in view of the important information it contains concerning the interesting and important subject of public surveys.

The resolution of the House of Representatives is returned herewith.

Very respectfully, your obedient servant,

A. A. HUMPHREYS,
Brigadier-General and Chief of Engineers.

Hon. GEO. W. McCRARY,
Secretary of War.

APPENDIX A.

LIST OF PUBLICATIONS.

The following is a list of publications made:

1. Preliminary Report upon a Reconnaissance through Southern and Southeastern Nevada, made in 1869. Quarto, 72 pages.
2. Preliminary Report concerning Explorations and Surveys, principally in Nevada and Arizona, &c., in 1871. Quarto, 96 pages, with maps.
3. Progress Report upon Geographical and Geological Explorations and Surveys west of the 100th Meridian, in 1872. Quarto, 56 pages, with skeleton map and five plates.
4. Annual Report upon the Geographical and Geological Surveys and Explorations west of the 100th Meridian, &c., in 1873. Octavo, 11 pages, with skeleton maps.
5. Annual Report of Geographical Explorations and Surveys west of the 100th Meridian, &c., in 1874. Octavo, 130 pages, with progress map.
6. Annual Report upon the Geographical Explorations and Surveys west of the 100th Meridian, &c., in 1875. Octavo, 196 pages, with progress and triangulation maps and 38 illustrations.

7. Annual Report upon the Geographical Surveys west of the 100th Meridian, &c., in 1876. Octavo, 355 pages, with 9 folded maps, 15 illustrations, and 7 separately folded topographical sheets.

8. Annual Report upon the Geographical Surveys west of the 100th Meridian, &c., in 1877. Octavo, 133 pages, with progress map, sketch, and profile maps of the continental divide, sketch of lignitic seams, and 9 separately folded maps, 7 of which belong to the economic series.

Quarto reports.

9. Volume II. Astronomy and Barometric Hypsometry. In two parts, with 22 plates and 3 wood-cuts, 566 pages, besides indexes.

10. Volume III. Geology. In six parts, with 13 plates and 171 wood-cuts, 661 pages.

11. Volume IV. Paleontology. In two parts, with 83 plates and accompanying explanatory notes, 581 pages, besides indexes.

12. Volume V. Zoology. In 16 chapters, with 45 plates and appropriate indexes, 1021 pages.

Special publications.

13. Tables of camps, distances, lines of march, &c., surveys and explorations in Nevada and Arizona. Oblong folio, 14 pages, 1871.

14. Tables containing camps, distances, lines of march, latitudes, longitudes, altitudes, &c., explorations and surveys in Utah, Nevada, and Arizona. Quarto, 43 pages, 1872.

15. Report upon the determination of the astronomical co-ordinates of the primary stations at Cheyenne, Wyo., and Colorado Springs, Colo., &c. Quarto, 82 pages.

16. Report upon vertebrate fossils discovered in New Mexico, with descriptions of new species. Octavo, 18 pages.

17. Systematic catalogue of vertebrata of the Eocene of New Mexico, &c. Octavo, 37 pages.

18. Preliminary report upon invertebrate fossils, with descriptions of new species, &c. Octavo, 27 pages.

19. Catalogue of plants collected, with descriptions of new species. Octavo, 62 pages.

20. Report upon ornithological specimens, &c. Octavo, 148 pages.

21. Logarithm, traverse, and altitude tables. Octavo, 30 pages.

22. Instructions for taking and recording meteorological observations, and for preserving and repairing instruments, &c. Octavo, 64 pages.

23. Barometric hypsometry instructions.

A revised edition of the preceding. Octavo, 88 pages.

24. Catalogue of the mean declination of 2,018 stars between 0^h and 2^h and 12^h to 24^h right ascension, and 10° and 70° of north declination, &c. Quarto.

25. Lists of longitudes, latitudes, and altitudes, &c. Quarto, 22 pages, with blank tables bound in, being an extract from volume 2 of the quarto reports.

MAPS.

Topographical atlas.

1. Conventional signs.

2. Legend.

3. Progress map of that portion of the United States west of the 100th meridian, in ninety-five numbered rectangular divisions, each to be illustrated upon a separate numbered atlas sheet.

4. Drainage maps, showing the area of drainage to the Atlantic and Pacific Oceans, and of the interior basins of the territory of the United States west of the Mississippi, by colors; scale, 1:6000000.

5. No. 49. Map of parts of Eastern Nevada and Western Utah. Area, 16,813 square miles; scale, 1 inch to 8 miles, or 1:506880.

6. No. 50. Map of Central and Western Utah. Area, 16,813 square miles; scale, 1 inch to 8 miles, or 1:506880.

7. No. 536. Map of a part of Central Colorado. Area, 4,228 square miles; scale of 1 inch to 4 miles, or 1:253440.

8. No. 58. Map of parts of Eastern and Southern Nevada and Southwestern Utah. Area, 17,258 square miles; scale, 1 inch to 8 miles, or 1:506880.

9. No. 59. Map of Southwestern Utah. Area, 17,208 square miles; scale, 1 inch to 8 miles, or 1:506880.

10. No. 61 B. Map of part of Central Colorado. Area, 4,278 square miles; scale, 1 inch to 4 miles, or 1:253440.

11. No. 61 C. Route and drainage map of Southwestern Colorado. Area, 4,236 square miles; scale, 1 inch to 4 miles, or 1:253440.

12. No. 61 C sub. Map of a part of Southwest Colorado—the San Juan mining region. Area, 1,099.96 square miles; scale, 1 inch to 2 miles, or 1:126720.
13. No. 61 D. Map of part of Southwest Colorado. Scale, 1 inch to 4 miles, or 1:253440.
14. No. 62 A. Map of part of Central Colorado. Area, 4,278 square miles; scale, 1 inch to 4 miles, or 1:253440.
15. No. 62 C. Map of part of Central Colorado. Area, 4,326 square miles; scale, 1 inch to 4 miles, or 1:253440.
16. No. 65 D. Map of portion of Southeastern California. Area, 4,420 square miles; scale, 1 inch to 4 miles, or 1:253440.
17. No. 66. Map of parts of Eastern California, Southeastern Nevada, and Southern Utah. Area, 17,587 square miles; scale, 1 inch to 8 miles, or 1:506880.
18. No. 67. Maps of parts of Northern and Northeastern Arizona and Southern Utah. Area, 17,587 square miles; scale, 1 inch to 8 miles, or 1:506880.
19. No. 69 B. Map of part of Northern New Mexico and Southern Colorado. Area, 4,373 square miles; scale, 1 inch to 4 miles, or 1:253440.
20. No. 69 D. Map of north Central New Mexico. Area, 4,420 square miles; scale, 1 inch to 4 miles, or 1:253440.
21. No. 70 A. Map of parts of Southern Colorado and Northern New Mexico. Area, 4,373 square miles; scale, 1 inch to 4 miles, or 1:253440.
22. No. 70 C. Map of parts of Northern New Mexico. Area, 4,420 square miles; scale, 1 inch to 4 miles, or 1:253440.
23. No. 75. Map of parts of Central and West Arizona. Area, 17,952 square miles; scale, 1 inch to 8 miles.
24. No. 76. Map of parts of Eastern Arizona and Western New Mexico. Area, 17,952 square miles; scale, 1 inch to 8 miles.
25. No. 77 B. Map of part of Central New Mexico. Area 4,465 square miles; scale, 1 inch to 4 miles.
26. No. 83. Map of portions of Southeastern Arizona, and Western and Southwestern New Mexico. Area, 18,301 square miles; scale, 1 inch to 8 miles, or 1:506880.

Geological atlas.

1. Index.
2. Unnumbered locality, portions of Western Utah and Eastern Nevada. Exhibits the location and outlines of a great fresh-water lake of the glacial period, which included the region of Great Salt Lake, Sevier Lake, and Utah Lake.
3. No. 50. Map of Central and Western Utah. Area, 16,813 square miles; scale, 1 inch to 8 miles, or 1:506880.
4. Nos. half of 58 and 66. Map of parts of Eastern California, Southeastern Nevada, Northwestern Arizona, and Southwestern Utah. Area, 13,635 square miles; scale, 1 inch to 8 miles, or 1:506880.
5. No. 59. Map of Southern and Southwestern Utah. Area, 17,208 square miles; scale, 1 inch to 8 miles, or 1:506880.
6. No. 67. Map of parts of Northwestern Arizona and Southern Utah. Area, 17,587 square miles; scale, 1 inch to 8 miles, or 1:506880.
7. No. 75. Map of parts of Central and Western Arizona. Area, 17,952 square miles; scale, 1 inch to 8 miles, or 1:506880.
8. No. 76. Map of parts of Eastern Arizona and Western New Mexico. Area, 17,952 square miles; scale, 1 inch to 8 miles, or 1:506880.
9. No. 83. Map of parts of Eastern and Southeastern Arizona and Southwestern New Mexico. Area, 18,301 square miles; scale 1 inch to eight miles, or 1:506880.

Land classification maps. Showing by color the relative proportions of agriculture (with irrigation), timber, grazing, and arid and barren lands of the included regions.

1. No. 61 B. Map of a part of Central Colorado. Area, 4,278 square miles; scale 1 inch to 4 miles.
2. No. 61 C sub. Map of a portion of Southwestern Colorado. Area, 1,099.96 square miles; scale, 1 inch to 2 miles.
3. No. 65 D. Map of a portion of Southeastern California. Area, 4,420 square miles; scale, 1 inch to 4 miles.
4. No. 69 B. Map of portions of Southern Colorado and Northern New Mexico. Area, 4,373 square miles; scale, 1 inch to 4 miles.
5. No. 70 A. Map of portions of Southern Colorado and Northern New Mexico; area, 4,373 square miles; scale, 1 inch to 4 miles.
6. No. 70 C. Map of a portion of Northern New Mexico; area, 4,420 square miles; scale, 1 inch to 4 miles.
7. No. 77 B. Map of portions of Central New Mexico; area, 4,465 square miles; scale, 1 inch to 4 miles.

A copy of each of the above maps and reports is herewith sent.

Special sheets.

1. Reconnaissance map of parts of Nevada and Arizona; scale, 1 inch to 12 miles.
2. Map of the Grand Cañon of the Colorado Exploration of 1871; scale, 1 inch to 6 miles.

WORKS IN PROGRESS OF PUBLICATION.

The following are now in course of preparation, and will soon be ready for publication:

Reports.

1. Volume I (quarto)—Geographical Report.
2. Volume VI (quarto)—Botany.
3. Volume VII (quarto)—Archæology.
4. Tables of Geographical Positions, Distances, Altitudes, &c.

Maps.

1. No. 32 C. Map of Southeastern Idaho; area, 4,022 square miles; scale, 1 inch to 4 miles, or 1:253440.
2. No. 32 D. Map of the Southeastern portion of Idaho; area, 4,022 square miles; scale, 1 inch to 4 miles, or 1:253440.
3. No. 38 B. Map of Northeastern California, Southern Oregon, and Northwestern Nevada; area, 4,075 square miles; scale, 1 inch to 4 miles, or 1:253440.
4. No. 38 D. Map of part of Eastern California and Western Nevada; area, 4,127 square miles; scale, 1 inch to 4 miles, or 1:253440.
5. No. 41 A. Map of parts of Southeastern Idaho and Northwestern Utah; area, 4,075 square miles; scale, 1 inch to 4 miles, or 1:253440.
6. No 41 B. Map of the southeast corner of Idaho and a part of Northern Utah; area, 4,075 square miles; scale, 1 inch to 4 miles, or 1:253440.
7. No. 47 B. Map of parts of Eastern California and Western Nevada; area, 4,178 square miles; scale, 1 inch to 4 miles.
8. No. 47 D. Map of parts of Eastern California and Southwestern Nevada; area, 4,228 square miles; scale, 1 inch to 4 miles.
9. No. 48. Map of part of Western Nevada; scale, 1 inch to 8 miles.
10. No. 52 D. Map of Central Colorado. Area, 4,228 square miles; scale 1 inch to 4 miles.
11. No. 56 B. Map of Eastern California and Western Nevada. Area, 4,278 square miles; scale 1 inch to 4 miles.
12. No. 61 A. Map of Western Middle Colorado. Area, 4,278 square miles; scale 1 inch to 4 miles.
13. No. 61 C. Map of Southeastern Colorado. Area, 4,326 square miles; scale 1 inch to 4 miles.
14. No. 68 in part. Map of portions of Colorado, New Mexico, and Arizona; scale 1 inch to 8 miles.
15. No. 69. Map of Southwestern Colorado and Northwestern New Mexico. Area, 17,587 square miles; scale 1 inch to 8 miles.
16. No. 73. Map of Southern California. Area, 17,952 square miles; scale 1 inch to 8 miles.
17. No. 73 A. Map of Southern California. Area, 4,465 square miles; scale 1 inch to 4 miles.
18. No. 73 C. Map of part of coast line Southern California. Area, 4,321 square miles; scale 1 inch to 4 miles.
19. No. 74 in part. Map of parts of Southern California and Western Arizona; scale 1 inch to 8 miles.
20. No. 77. Map of Western New Mexico. Area, 17,952 square miles; scale, 1 inch to 8 miles.
21. No. 77 D. Map of a portion of Central New Mexico. Area, 4,510 square miles; scale 1 inch to 4 miles.
22. No. 78 A. Map of a part of Northern Central New Mexico. Area, 4,465 square miles; scale 1 inch to 4 miles.
23. No. 80 A. Map of a part of area within coast line of Southern California. Scale 1 inch to 4 miles.
24. No. 84. Map of part of Southwestern New Mexico. Scale 1 inch to 8 miles.
25. No. 84 B. Map of a part of Central New Mexico. Area, 4,554 square miles; scale 1 inch to 4 miles.
26. Special. Map of small parts of Eastern California and Western Nevada, the Lake Tahoe region. Scale 1 inch to 1 mile.
27. Special. Map of Virginia City, Nevada, the Washoe mining districts. Scale 1 inch to 2,000 feet.

NATURAL HISTORY COLLECTIONS.

Collections of natural history, a partial synopsis of which is given on page 1248 of the Report of the Chief of Engineers for 1877, have been made by members of the several expeditions.

The greater part of these collections, after their examination by scientists for the purposes of comparison and report, have been donated to the Smithsonian Institution, are there lodged and have their value as an increase to the number of typical specimens of that collection.

A list of these collections donated up to June 30, 1877, is herewith given. Donations to this institution have since been made. Other portions of the collections made during the past ten years, of which the number of mineral, fossil, ore, and archæological specimens is quite large, remain at present the property of the survey, as also the entire collection of the season of 1877.

List of natural-history collections forwarded to the Smithsonian Institution during the years 1871 *to* 1876, *inclusive.*

Subjects		1871.	1872.	1873.	1874.	1875.	1876.	Total specimens.
Vertebrate fossils	specimen	.....	.....	.....	.....	500	.....	500
	lot	.....	.....	.....	.....	1	.....	
Invertebrate fossils	specimens	126	1,426	1,566	250	.....	.....	3,368
Crustacea	specimens	.....	.....	.....	.....	100	200	300
	lots	.....	.....	.....	.....	1	14	
Mollusca	specimens	.....	.....	600	250	1,000	150	3,000
	lots	.....	.....	66	23	95	15	
Mammals	specimens	9	21	135	52	43	10	270
Birds and mammals (alcoholic), specimens		.....	.....	.....	.....	26	4	30
Mammal crania	specimens	.....	.....	37	3	18	2	60
Birds	specimens	60	522	659	1,055	793	150	3,239
Bird crania (sterna, &c.)	specimens	.....	4	31	22	9	2	68
Bird-skeletons	specimens	.....	.....	4	.....	.....	.....	4
Bird-embryos	specimens	.....	.....	.....	.....	5	.....	5
Bird-nests	specimens	.....	10	20	6	.....	.....	36
Bird-eggs	specimens	12	20	193	11	14	.....	250
Reptiles (batrachians)	specimens	135	550	950	750	750	83	3,218
	lots	27	109	192	140	153	8	
Fishes	specimens	15	275	850	650	800	350	2,940
	lots	3	48	109	91	116	49	
Hymenoptera	specimens	.....	.....	450	.....	790	50	500
	lots	.....	.....	43	.....	.....	3	
Lepidoptera	specimens	.....	.....	288	.....	483	.....	771
	lots	.....	.....	144	.....	162	.....	
Diptera	specimens	.....	.....	50	.....	.....	.....	50
	lots	.....	.....	13	.....	.....	.....	
Coleoptera	specimens	1,300	100	4,500	4,200	1,200	2,000	13,300
	lots	135	5	240	211	18	34	
Orthoptera	specimens	.....	.....	500	.....	.....	.....	500
	lots	.....	.....	48	.....	.....	.....	
Arachnida	specimens	.....	.....	250	.....	100	.....	350
	lots	.....	.....	26	.....	16	.....	
Botanical specimens	specimens	.....	.....	.....	.....	.....	.....	*11,000
	lots	.....	.....	.....	.....	.....	.....	

*Approximate.

Botanical specimens are finally deposited with the Agricultural Department. Several hundred photographic negatives, obtained to assist the topographer and geologist, are evidence of great peculiarities of scenery, and also illustrative of Indian life, and now stored in the Washington office.