

QB

275

433 Serial No. 65

no. 43

(1917)

C. 2

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

E. LESTER JONES, SUPERINTENDENT

GEODESY

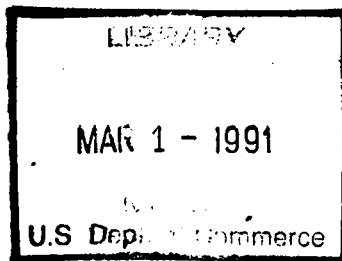
TRIANGULATION IN GEORGIA

BY

CLARENCE H. SWICK

Geodetic Computer, U. S. Coast and Geodetic Survey

Special Publication No. 43



PRICE, 10 CENTS

Sold only by the Superintendent of Documents, Government Printing Office
Washington, D. C.

WASHINGTON
GOVERNMENT PRINTING OFFICE
1917

National Oceanic and Atmospheric Administration

ERRATA NOTICE

One or more conditions of the original document may affect the quality of the image, such as:

Discolored pages

Faded or light ink

Binding intrudes into the text

This has been a co-operative project between the NOAA Central Library and the Climate Database Modernization Program, National Climate Data Center (NCDC). To view the original document, please contact the NOAA Central Library in Silver Spring, MD at (301) 713-2607 x124 or www.reference@nodc.noaa.gov.

LASON

Imaging Contractor

12200 Kiln Court

Beltsville, MD 20704-1387

January 1, 2006

CONTENTS.

	Page.
Introduction.....	5
Triangulation.....	5
The North American datum.....	8
Explanation of tables of positions.....	12
Tables of geographic positions.....	14
Oblique arc, primary triangulation.....	14
Oblique arc to Augusta, secondary triangulation.....	15
Savannah River.....	17
Savannah River to Sapelo Sound.....	30
Sapelo Sound to St. Simon Sound.....	37
St. Simon Sound to St. Marys River.....	48
Sketches.....	54
Index.....	55

ILLUSTRATIONS.

	Following page.
FIG. 1. Index map showing areas covered by published triangulation which has been rigidly computed on the North American datum.....	54
FIG. 2. Index map showing the limits of each of the sketches, figures 3 to 9....	54
FIG. 3. Primary triangulation, section of the eastern oblique arc across the northern part of Georgia.....	54
FIG. 4. Secondary triangulation, along the Savannah River, eastern oblique arc to Augusta.....	54
FIG. 5. Triangulation, lower end of Savannah River.....	54
FIG. 6. Triangulation, Savannah River to St. Catherines Sound.....	54
FIG. 7. Triangulation, Sapelo Sound to St. Simon Island.....	54
FIG. 8. Triangulation, Brunswick River and St. Simon Sound.....	54
FIG. 9. St. Andrew Sound to St. Marys River.....	54

TRIANGULATION IN GEORGIA.

By CLARENCE H. SWICK, *Geodetic Computer, U. S. Coast and Geodetic Survey.*

INTRODUCTION.

This publication contains the geographic positions of about 590 triangulation stations in Georgia, together with the azimuths and back azimuths of the lines of the triangulation over which observations have been made. The locations of all of these stations, except those lost or destroyed, are shown on the sketches following page 54. It is intended that the descriptions of these stations will be published in a separate volume as soon as they can be compiled and edited. The greatly increased demand for the results of coast triangulation due to present conditions has made advisable this departure from the usual method of publication by this office. Anyone desiring results of triangulation for any particular locality in Georgia will find the geographic positions of all the available stations given in this book. By making use of these positions in connection with the sketches he can make a list of the stations for which descriptions are required. A request for these descriptions, previous to the publication of the descriptions of stations in Georgia, can be responded to much more promptly and economically by this office than a blanket order for all the triangulation data in a given section.

TRIANGULATION.

The triangulation across the northern part of the State, shown in figure 3, is a part of the eastern oblique arc of primary triangulation which extends from Maine to Mississippi. The results for this arc are given in Special Publication No. 7 but they are not there computed on the North American datum (see p. 8), which was adopted at a somewhat later date and involved small changes in the positions of the stations. The amounts of these changes can be obtained readily by comparing positions of stations along the oblique arc as given in this publication with the corresponding positions in Special Publication No. 7.

A scheme of secondary triangulation, shown in figures 3 and 4, extends from the oblique arc to Augusta, Ga. From Augusta, Ga., to Beaufort, S. C., there is a primary traverse line, but as it is entirely

in South Carolina its data are not given in this publication. This connection with the oblique arc serves as a control for the triangulation along the Georgia coast, shown in figures 5 to 9, all of which is of tertiary accuracy.

All of the triangulation in Georgia is a part of a loop extending through Florida and connecting with the oblique arc in Alabama. For a discussion of this loop and its adjustment, see page 421 of Appendix 6, Superintendent's Report for 1911. As there stated, none of the discrepancy for loop closure was put into the Georgia triangulation. The tertiary triangulation along the coast of Georgia has been adjusted for the discrepancies of triangle closures and the ratios of sides and lengths and has been made to conform to observed azimuths.

Work is in progress at the present time on two traverse lines, one starting at Brunswick, Ga., and the other at Jacksonville, Fla. These two lines will meet near the central part of Georgia and from there triangulation will be extended to connect with the oblique arc. Another strong connection will thus be made between the coast triangulation and the primary work in the interior, and new loops will be formed. It may be necessary when that work has been completed to readjust the coast triangulation. The changes which may be made in the positions on account of any readjustment will probably be small.

The accuracy of the tertiary triangulation in this publication is comparable with that of other coast triangulation in the United States.¹ The observing in tertiary triangulation is usually done with a repeating theodolite. The main-scheme angles are measured by the method of repetitions while the intersection stations such as church spires, cupolas, etc., are observed by the direction method. In the main scheme the angles are measured with such accuracy that the average closing error of a triangle (the difference between 180° plus the spherical excess and the sum of the three observed angles of a triangle) is from three to five seconds of arc.

The probable error of a length in the main scheme is nearly always less than 1 part in 5,000 or about 1 foot in 1 mile. In general, the probable error of a length is much less than this. The error is likely to exceed this amount, however, between supplementary points and especially between intersection points which are near together if their positions were determined by observations from distant stations.

In selecting stations upon which to base new triangulation only the principal points—that is, the main-scheme stations—and the best determined of the supplementary points should be used. No-check

¹ For details regarding this class of triangulation, see The General Instructions for the Field Work of the U. S. Coast and Geodetic Survey, Special Publication No. 26.

points or those observed on from only two stations should always be used with caution and never as a base for new triangulation.

Triangulation stations of the United States Coast and Geodetic Survey on the coast and in the interior of the country are used more and more in controlling maps and surveys, and also as monuments in private-property surveys. The latter is especially true in the State of Massachusetts. The increased use of triangulation stations for this purpose is urged upon engineers and surveyors in work involving the location and perpetuation of private-property lines or boundaries.

It seems to be appropriate to include in this publication the following quotation from the report on the Maryland Oyster Survey. It appeared there under the heading "Methods."

There is one point in the methods not adequately explained elsewhere in the publications of the Maryland Oyster Survey which it is believed should be emphasized. And that point relates to the advantages of the use of geographic coordinates in technically and legally defining boundaries of natural oyster bars and leased oyster bottoms.

This method of defining property lines under water was also used in the survey of the leased oyster bottoms of Delaware, and outlined in the following extract from the report of that work:

"The difficulties of accurately locating and permanently defining the boundaries of a farmer's plantation on land, even with the aid of monuments, public roads, streams of water, and other points of reference, are often great, judging from the disputes arising from this source. But be that as it may, there can be no doubt as to the difficulties of accurately locating and permanently defining the boundaries of an oyster-man's plantation situated under water at a distance off shore from 1 to 6 miles, as is the case with the leased oyster bottoms of Delaware.

"There is only one point on the earth's surface at the intersection of any one parallel of latitude and any one meridian of longitude, and therefore there can be no dispute as to the meaning of such a geographic definition of the location of a point, even though all the original triangulation station marks used in its determination, together with the chart on which its position was originally plotted, have been totally destroyed.

"In the case of the destruction of an original triangulation station mark, or any other point defined by a geographic position, a competent geodetic engineer can reestablish its exact location by means of a new system of triangulation connecting with other distant triangulation station marks which have not been destroyed. In the case of the destruction of the chart on which the position of any such point on the earth's surface was originally plotted, this point can be replotted by its geographic position with any degree of accuracy permitted by the scale of any new chart constructed for that purpose.

"If there be no question at the time of the original location and legal adoption of a geographic definition of the location of a point by a given latitude and longitude, there can be no technical or legal question afterwards as to its exact meaning, or as to the exact redetermination of the location of this point, be it either on land or water at its newly determined position, or on a new chart in its newly plotted position.

"For these reasons, the method of defining the location of boundary points by latitudes and longitudes (geographic positions) was adopted in the survey of the leased oyster bottoms of Delaware. This method is more or less an innovation in oyster surveys which was first used in connection with the work of the Maryland Oyster Survey. It possesses so many undoubted advantages, and at the same time is so simple in principle and application when once understood, that its adoption by other oyster surveys of other States than Maryland and Delaware seems probable."

THE NORTH AMERICAN DATUM.

Early in the year 1913 the Superintendent of the United States Coast and Geodetic Survey was notified by the director of the Comisión Geodésica Mexicana and by the chief astronomer of the Dominion of Canada Astronomical Observatory that the so-called United States standard datum had been adopted as the datum for the triangulation of those organizations. They also reported that the Clarke spheroid of 1866, now used in the United States, would be used by them.

Owing to the international character of the datum now adopted by the three countries, the Superintendent of the United States Coast and Geodetic Survey has changed its designation from the "United States Standard datum" to the "North American datum."

EXPLANATION OF THE NORTH AMERICAN DATUM.

All of the positions and azimuths have been computed upon the Clarke spheroid of 1866, as expressed in meters, which has been in use in the Coast and Geodetic Survey for many years.

After a spheroid has been adopted and all the angles and lengths in a triangulation have been fully fixed, it is still necessary, before the computation of latitudes, longitudes, and azimuths can be made, to adopt a standard latitude and longitude for a specified station and a standard azimuth of a line from that station. For convenience, the adopted standard position (latitude and longitude) of a given station, together with the adopted standard azimuth of a line from that station, is called the geodetic datum.

The primary triangulation in the United States was commenced at various points and existed at first as a number of detached portions in each of which the geodetic datum was necessarily dependent only upon the astronomic stations connected with that particular portion. As examples of such detached portions of triangulation there may be mentioned the early triangulation in New England and along the Atlantic coast, a detached portion of the transcontinental triangulation centering on St. Louis and another portion of the same triangulation in the Rocky Mountain region, and three separate portions of triangulation in California, in the latitude of San Francisco, in the vicinity of Santa Barbara Channel, and in the vicinity of San Diego. With the lapse of time these separate pieces expanded until they touched or overlapped.

The transcontinental triangulation, of which the office computation was completed in 1899, joined all of the detached portions mentioned and made them one continuous triangulation. As soon as this took place the logical necessity existed of discarding the old geodetic data used in these various pieces and substituting one for the whole

country, or at least for as much of the country as is covered by continuous triangulation. To do this was a very heavy piece of work, and involved much preliminary study to determine the best datum to be adopted. On March 13, 1901, the superintendent adopted what was known from that time until 1913 as the United States Standard datum, but is now known as the North American datum (see above), and it was decided to reduce the positions to that datum as rapidly as possible. The datum adopted was that formerly in use in New England, and therefore its adoption did not affect the positions which had been used for geographic purposes in New England and along the Atlantic coast to North Carolina, nor those in the States of New York, Pennsylvania, New Jersey, and Delaware. The adopted datum does not agree, however, with that used in the Transcontinental Triangulation and in the Eastern Oblique Arc of the United States, publications which deal primarily with the purely scientific problem of the determination of the figure of the earth and which were prepared for publication before the adoption of the new datum.

As the adoption of such a standard datum was a matter of considerable importance, it is in order here to explain the desirability of this step more fully.

The main objects to be attained by the geodetic operations of the Coast and Geodetic Survey are, first, the control of the charts published by the Survey; second, the furnishing of geographic positions (latitudes and longitudes) of accurately determined elevations, and of distances and azimuths, to officers connected with the Coast and Geodetic Survey and to other organizations; third, the determination of the figure of the earth. For the first and second objects it is not necessary that the reference spheroid should be accurately that which most closely fits the geoid within the area covered, nor that the adopted geodetic datum should be absolutely the best that can be derived from the astronomic observations at hand. It is simply desirable that the reference spheroid and the geodetic datum adopted shall be, if possible, such a close approximation to the truth that any correction which may hereafter be derived from the observations which are now or may become available shall not greatly exceed the probable errors of such corrections. It is, however, very desirable that one spheroid and one geodetic datum be used for the whole country. In fact, this is absolutely necessary if a geodetic survey is to perform fully the function of accurately coordinating all surveys within the area which it covers. This is the most important function of a geodetic survey. To perform this function, it is also highly desirable that when a certain spheroid and geodetic datum have been adopted for a country they be rigidly adhered to, without change, for all time, unless shown to be largely in error.

In striving to attain the third object, the determination of the figure of the earth, the conditions are decidedly different. This problem concerns itself primarily with astronomic observations of latitude, longitude, and azimuth, and with the geodetic positions of the points at which the astronomic observations were made, but is not concerned with the geodetic positions of other points fixed by the triangulations. The geodetic positions (latitudes and longitudes) of comparatively few points are therefore concerned in this problem. However, in marked contrast to the statements made in preceding paragraphs, it is desirable in dealing with this problem that, with each new important accession of data, a new spheroid fitting the geoid with the greatest possible accuracy, and new values of the geodetic latitudes, longitudes, and azimuths of the highest degree of accuracy should be derived.

The United States standard (now the North American) datum was adopted with reference to positions furnished for geographic purposes, but has no reference to the problem of the determination of the figure of the earth. It is adopted with reference to the engineer's problem of furnishing standard positions and does not affect the scientist's problem of the determination of the figure of the earth.

The principles which guided in the selection of the datum to be adopted were: First, that the adopted datum should not differ widely from the ideal datum for which the sum of the station errors in latitude, longitude, and azimuth should each be zero; second, it was desirable that the adopted datum should produce minimum changes in the publications of the Survey, including its charts; and, third, it was desirable, other things being equal, to adopt that datum which allowed the maximum number of positions already in the office registers to remain unchanged, and therefore necessitated a minimum amount of new computation. These considerations led to the adoption, as the standard, of that datum which had been in use for many years in the northeastern group of States and along the Atlantic coast as far south as North Carolina.

An examination of the station errors available in 1903 on the United States standard datum at 246 latitude stations, 76 longitude stations, and 152 azimuth stations, scattered widely over the United States from Maine to Louisiana and to California, indicated that this datum approaches closely the ideal with which the algebraic sum of the station errors of each class would be zero.¹

The North American datum, upon which the positions and azimuths given in this publication depend, may be defined in terms of the position of the station Meades Ranch as follows:

¹ This is further borne out in the reduction of 785 astronomic stations in connection with the Supplementary Investigation in 1909 of the Figure of the Earth and Isostasy, by J. F. Hayford, published by the Coast and Geodetic Survey.

	°	'	"
$\phi = 39$	13	26.686	
$\lambda = 98$	32	30.506	
α to Waldo	= 75	28	14.52

Points are then said to be upon the North American datum when they are connected with the station Meades Ranch by a continuous triangulation, through which the corresponding latitudes, longitudes, and azimuths have been computed on the Clarke spheroid of 1866, as expressed in meters, starting from the above data.

The principal lists of geographic positions published on the adopted datum throughout the whole United States are contained in the following publications of the Coast and Geodetic Survey and of other organizations:

- Appendix 8 of the Report for 1885, positions in Massachusetts and Rhode Island.
- Appendix 8 of the Report for 1888, positions in Connecticut.
- Appendix 8 of the Report for 1893, positions in Pennsylvania, Delaware, and Maryland.
- Appendix 10 of the Report for 1894, positions in Massachusetts.
- Appendix 6 of the Report for 1901, positions in Kansas and Nebraska.
- Appendix 3 of the Report for 1902, positions in Kansas, Missouri, Nebraska, and Colorado.
- Appendix 4 of the Report for 1903, positions in Kansas, Oklahoma, and Texas.
- Appendix 9 of the Report for 1904, positions in California.
- Appendix 5 of the Report for 1905, positions in Texas.
- Appendix 3 of the Report for 1907, positions in California.
- Appendix 5 of the Report for 1910, positions in California.
- Appendix 4 of the Report for 1911, positions in Nebraska, Minnesota, North Dakota, and South Dakota.
- Appendix 5 of the Report for 1911, positions in Texas.
- Appendix 6 of the Report for 1911, positions in Florida.
- Special Publication No. 11, positions in Texas, New Mexico, Arizona, and California.
- Special Publication No. 13, positions in California, Oregon, and Washington.
- Special Publication No. 16, positions in Florida.
- Special Publication No. 17, positions in Texas.
- Special Publication No. 19, positions in Colorado, Utah, Nevada, Wyoming, Montana, South Dakota, and North Dakota.
- Special Publication No. 24, positions in Alabama and Mississippi.
- Special Publication No. 30, positions in West Virginia, Ohio, Kentucky, Indiana, Illinois, and Missouri.
- Special Publication No. 31, positions in Oregon, Washington, and California.
- Special Publication No. 43, positions in Georgia.
- Appendix EEE, pages 2905-3031, Annual Report of the Chief of Engineers, 1902, positions of points on and near the Great Lakes.
- Publications of the Massachusetts Harbor and Land Commission.
- Report on the Triangulation of Greater New York.
- Report on a Plan of Sewerage for the City of Cincinnati.
- Various bulletins of the United States Geological Survey.

EXPLANATION OF TABLES OF POSITIONS.

In the tables of positions the latitude and longitude of each point are given on the North American datum (see p. 8), also the length in meters and azimuth of each line observed over, whether in one or both ways. This is, in a way, a duplication, as the lengths and azimuths are implicitly contained in the corresponding latitudes and longitudes, while, on the other hand, from the latitude and longitude of a single point all the remaining latitudes and longitudes may be derived by means of the given lengths and azimuths. The amount of computation involved in transforming one of these systems of coordinates into the other is so great that it is necessary to have the double system for the convenient use of the tables. Along with the latitude and longitude of each point the lengths and azimuths are given of lines from that point to other points of the triangulation. No lengths or azimuths are repeated, and for a given line the length and azimuth will generally be found opposite the position of the last mentioned of the two stations involved.

For the convenience of the engineer and the draftsman a column of "seconds in meters" is given, in which is placed the length (in meters) of each small arc of a meridian or parallel corresponding to the seconds of the given latitude or longitude. To facilitate further the use of the tables, a column is given of the logarithms of the lengths. It must be remembered that it is the logarithm which is derived first in the computation, the lengths given in this table being then derived from the corresponding logarithms.

The rule followed in recent publications of this office has been to give latitudes and longitudes to thousandths of seconds for all points the positions of which are fixed by fully adjusted triangulation. Points the positions of which are given to hundredths of seconds only are marked by a footnote as being without check. This note means that the object was pointed on from only two triangulation stations and that therefore an error in either pointing or in the identification of the object from either occupied station would not be detected in the computation.

In the columns giving azimuths, distances, and logarithms of distances the accuracy is indicated to a certain extent by the number of decimal places given, it being understood that in each case two doubtful figures are given. In some cases there is very little doubt of the correctness of the second figure from the right, while in a few cases some doubt may be cast on the third figure from the right.

These tables of positions may be conveniently consulted by using as finders the sketches and index at the end of this publication. In the third column of the index will be found for each point the number of the sketch on which it appears.

For the convenience of those who wish to convert the distances given in the table from meters into feet the following conversion table is here inserted:

Meters.	Feet.	Feet.	Meters.
1	3.280833	1	0.3048006
2	6.561667	2	0.6096012
3	9.842500	3	0.9144018
4	13.123333	4	1.2192024
5	16.404167	5	1.5240030
6	19.685000	6	1.8288037
7	22.965833	7	2.1336043
8	26.246667	8	2.4384049
9	29.527500	9	2.7432055
10	32.808333	10	3.0480061

If a more complete conversion table is desired, application should be made to the United States Bureau of Standards for Circular No. 47, entitled "Units of Weight and Measure," which contains tables of equivalents for all metric and other units of weight and measure.

In the first column of the following tables there are given the names of the stations and the year of the establishment of each. Following the date are letters and numbers which refer to the description and marking of the station, the recovery of the station, and the date of such recovery. For example, we have the station "Atlanta, northeast base, 1873, d. m., r. d. '07." (See p. 14.) This means that the station in question was established in 1873, and that it was described and marked. It was last recovered in 1907, and at that time it was newly described or the old description was revised.

There are cases where the letters "n. d." are used and they indicate that the station was not described. These letters frequently are used when the name of the station is adequate to its recovery and identification.

The meanings of all the letters and combinations of letters used in the tables are shown below.

As was stated on page 5, no descriptions of stations are included in this volume. They will appear in a later one.

ABBREVIATIONS IN LIST OF POSITIONS.

d.=station described.

l.=station lost or destroyed.

m.=station marked on the ground in some permanent manner.

n.=not.

p.=probably.

r.=station recovered.

d. m.=station described and marked.

d. n. m.=station described but not marked.

n. d.=station not described.

p. l.=station probably lost.

p. r.=station probably recovered.

r. d.=station recovered and redescribed or the old description revised.

r. d. m.=station recovered, redescribed (or old description revised), and re-marked.

GEOGRAPHIC POSITIONS.

OBLIQUE ARC, PRIMARY TRIANGULATION.¹

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Principal points.</i>							
Rabun, 1875, d. m...	34 57 55.501 83 17 59.176	1710.2 1501.2	261 24 25.16 284 30 07.03	81 43 37.61 104 52 56.64	Pinnacle..... Mauldin.....	51508.24 62846.07	4.7118767 4.7982781
Currahee, 1874, d. m.	34 31 44.887 83 22 33.201	1383.1 846.7	188 10 24.70 244 14 57.30	8 13 00.88 64 40 15.33	Rabun..... Mauldin.....	48897.33 75283.90	4.6892851 4.8767021
Blood, 1875, d. m...	34 44 22.971 83 56 13.121	707.8 333.8	246 34 01.13 294 15 36.82	66 55 52.03 114 34 44.83	Rabun..... Currahee.....	63426.06 56503.39	4.8022677 4.7520745
Skitt, 1874, d. m....	34 30 20.294 83 43 19.714	625.3 502.9	142 52 17.58 265 12 54.28	322 44 58.15 85 24 40.63	Blood..... Currahee.....	32594.66 31900.76	4.5131465 4.5038010
Grassy, 1874, d. m...	34 29 10.294 84 19 52.921	317.2 1350.4	232 01 26.51 267 37 11.93	52 14 53.00 87 57 54.06	Blood..... Skitt.....	45818.85 55996.62	4.6610442 4.7481618
Sawnee, 1873, d. m..	34 14 11.839 84 09 38.695	364.8 990.3	150 29 46.62 233 23 16.08	330 23 59.94 83 38 07.50	Grassy..... Skitt.....	31823.78 50180.95	4.5027518 4.7005389
Pine Log, 1874, d. m.	34 19 18.008 84 38 13.528	554.9 345.9	236 55 15.63 282 00 12.94	57 05 37.50 102 16 18.78	Grassy..... Sawnee.....	33515.13 44866.23	4.5252409 4.6519201
Sweat Mtn., 1873, d. m.	34 04 01.148 84 27 21.388	35.4 548.5	149 27 54.06 235 15 55.82	329 21 47.56 55 25 62.41	Pine Log..... Sawnee.....	32815.89 33093.28	4.5160841 4.5197395
Kenesaw, 1873, d. m.	33 58 34.075 84 34 45.584	1049.8 1170.1	172 06 12.08 228 28 49.99	352 04 15.35 48 32 58.52	Pine Log..... Sweat Mtn.....	38696.03 15213.00	4.5876664 4.1822149
Atlanta NE. base, 1873, d. m., r. d. '07.	33 55 57.579 84 14 09.287	1773.9 238.5	126 18 03.54 191 36 21.05	306 10 40.60 11 38 52.70	Sweat Mtn..... Sawnee.....	25203.24 34421.90	4.4014563 4.5368346
Academy, 1874, d. m.	33 57 32.396 83 59 28.351	997.8 728.0	82 42 38.47 153 06 52.03	262 34 26.55 333 01 09.88	Atlanta, NE. base. Sawnee.....	22809.61 34540.94	4.3581179 4.5383342
Stone Mtn., 1873, d. m.	33 48 21.788 84 08 45.730	671.3 1176.2	149 23 29.22 220 07 59.02	329 20 28.90 40 13 09.75	Atlanta, NE. base. Academy.....	16320.68 22202.42	4.2127382 4.3464003
Atlanta middle base, 1873, d. m., r. d. '07.	33 54 21.460 84 16 37.632	661.2 966.8	232 08 07.74 312 22 31.30	52 09 30.52 132 26 54.29	Atlanta, NE. base. Stone Mtn....	4826.032 16430.41	3.6835902 4.2156483
Atlanta SW. base, 1873, d. m., p. r. '07.	33 52 51.542 84 18 56.254	1587.9 1445.7	232 06 50.44 297 51 12.97	52 09 30.52 117 56 52.99	Atlanta, NE. base. Stone Mtn....	9338.478 17761.13	3.9702761 4.2494706
Carnes, 1873, d. m...	33 59 35.442 85 00 49.874	1091.9 1280.0	223 31 53.96 272 34 28.61	43 44 35.51 92 49 03.00	Pine Log..... Kenesaw.....	50346.31 40196.08	4.7019677 4.6041837
Lavender, 1873, d. m., r. d. '75.	34 19 19.243 85 17 18.251	592.9 466.6	269 51 09.89 325 09 27.77	90 13 11.95 145 18 42.72	Pine Log..... Carnes.....	59944.70 44400.50	4.7777508 4.6473879
Johns, 1874, d. m....	34 37 22.910 85 05 53.657	705.9 1366.8	308 08 40.18 27 40 23.25	128 24 19.83 207 33 55.76	Pine Log..... Lavender.....	53967.09 37685.70	4.7321290 4.5761705
Indian (Ala.), 1875, d. m., r. d. '85.	34 01 49.599 85 25 30.939	1528.3 793.7	201 16 27.75 276 05 32.63	21 21 04.51 96 19 21.08	Lavender..... Carnes.....	34715.57 38227.45	4.5405243 4.5823753
Gulf Point, 1875, d. m.	34 37 31.818 85 28 02.368	980.4 60.3	270 21 35.23 356 37 54.24	90 34 10.19 176 39 19.64	Johns..... Indian.....	53848.38 66120.65	4.7329379 4.8203371
Bean (Tenn.), 1887, d. m., r. d. '07.	35 11 31.466 84 33 29.635	969.7 749.7	108 31 37.33 195 24 10.44	288 06 00.94 15 28 03.61	Harvey..... Roy.....	70778.46 36223.35	4.8499011 4.5823287
High Point (2) (U. S. G. S.), 1888, d. m.	34 51 49.300 85 23 32.600	1519.2 823.0	188 24 34.85 244 11 14.55	8 27 52.63 64 39 58.21	Harvey..... Bean.....	59311.93 84392.00	4.7731421 4.9263013

¹ Positions of the supplementary stations of this primary work and the extra azimuths for the main scheme stations will be included in a later publication.

GEOGRAPHIC POSITIONS—Continued.

OBLIQUE ARC, PRIMARY TRIANGULATION—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Principal points—Continued.</i>							
Cohutta, 1874, d. m., r. d. '88.	34 53 23.211	715.3	88 01 08.99	267 33 04.26	High Point (2) Bean.....	<i>Meters.</i> 74879.93	A. 6743654
	84 34 26.346	669.0	182 26 59.19	2 27 31.75		33566.66	4.5259081
Mauldin(S.C.),1875, d. m., r. d. '62.	34 49 18.242	502.1	.....	.....	.....	.....	.....
	82 38 04.989	126.8	.....	.....	.....	.....	.....

OBLIQUE ARC TO AUGUSTA, SECONDARY TRIANGULATION.

<i>Principal points.</i>	" "	" "	" "	" "	" "	" "	<i>Meters.</i>	
Six Mile Mtn. (S. C.), 1902, d. m.	34 49 57.980	1786.6	274 29 00.40	94 34 47.63	Mauldin..... Currahee.....	15498.41	4.1902871	
	82 48 12.979	329.8	57 27 10.06	237 07 37.78		62330.49	4.7947005	
Little Mtn. (S. C.), 1902, d. m.	34 26 28.348	873.5	99 06 17.83	278 43 17.85	Currahee..... Six Mile Mtn... Mauldin.....	62950.46	4.7989088	
	82 41 55.910	1427.4	167 33 43.77	347 30 09.46		44485.61	4.0482196	
Owens, 1902, d. m. . .	34 21 33.337	1027.2	122 38 43.43	302 27 49.48	Currahee..... Little Mtn.	35018.88	4.5443020	
	83 03 16.983	434.0	216 47 24.91	37 01 43.30		64160.69	4.8072690	
Beulah (S. C.), 1902, d. m.	34 14 51.550	1588.4	110 03 10.15	289 50 38.41	Owens..... Little Mtn.....	36256.32	4.5597430	
	82 41 03.104	79.4	176 24 25.90	356 23 56.11		21512.52	4.3326914	
Dewey Rose, 1902, d. m., r. d. '07.	34 10 14.180	436.9	156 31 58.22	336 28 38.02	Owens..... Beulah.....	22618.02	4.3582770	
	82 57 21.408	548.2	251 04 53.99	71 14 04.00		26462.47	4.4226302	
Rose Hill, 1902, d. m., r. d. '07.	34 05 01.417	43.7	118 01 43.10	297 55 05.85	Dewey Rose... Beulah.....	20544.58	4.3126972	
	82 45 33.327	854.4	200 49 04.63	20 51 36.38		19455.73	4.2890474	
Parsons (S. C.), 1902, d. m.	34 04 56.046	1819.3	90 13 31.91	270 00 12.74	Rose Hill..... Beulah.....	86561.45	4.5630234	
	82 21 47.260	1211.7	121 45 01.77	301 34 12.67		34781.17	4.5413442	
Lincoln, 1902, d. m. . .	33 44 23.447	722.4	150 43 18.31	330 35 32.64	Rose Hill..... Parsons.....	43756.20	4.6410396	
	82 31 38.665	995.2	201 42 37.81	21 48 07.76		40989.04	4.6126677	
Williams (S. C.), 1902, d. m.	33 53 40.893	1259.9	61 14 01.48	241 02 47.08	Lincoln..... Parsons.....	35582.96	4.5512471	
	82 11 26.913	691.3	142 44 23.87	322 38 37.07		26269.57	4.4194529	
Clarks Hill (S. C.), 1902, d. m.	33 40 22.059	679.6	102 52 06.95	282 40 19.84	Lincoln..... Williams.....	33644.82	4.5269182	
	82 10 24.439	629.6	176 16 06.06	356 15 31.32		24664.35	4.3920696	
McKnight, 1902, d. m.	33 31 14.625	450.6	124 22 23.54	304 09 37.03	Lincoln..... Clarks Hill....	43162.91	4.6351107	
	82 08 34.659	894.6	170 28 53.08	350 27 52.33		17101.67	4.2330389	
Bunch (S. C.), 1902, d. m.	33 35 04.034	124.3	65 10 05.10	245 04 38.60	McKnight..... Clarks Hill....	16890.99	4.2253348	
	81 58 43.808	1129.7	118 32 14.26	298 25 46.25		20545.05	4.3127072	
Reservoir, 1902, d. m.	33 28 20.353	627.0	118 45 28.63	298 41 59.21	McKnight..... Bunch.....	11170.01	4.0480585	
	82 02 15.204	392.6	203 39 58.69	23 41 55.45		13580.49	4.1329164	
Butler (S. C.), 1902, d. m.	33 30 24.941	768.4	60 43 30.96	240 41 04.73	Reservoir..... McKnight..... Bunch.....	7844.40	3.8945645	
	81 57 50.198	1295.6	95 18 27.04	275 12 31.21		10702.72	4.2227873	
Post Office, Augusta, 1902, d. m.	33 28 25.517	786.1	88 35 27.98	268 33 11.64	Reservoir..... Butler.....	6384.79	3.8051465	
	81 58 08.004	206.7	187 07 12.22	7 07 22.05		3707.87	3.5691247	
Beech Island (S. C.), 1901, d. m., r. d. '02.	33 23 41.270	1271.5	122 02 31.99	301 57 38.53	Reservoir..... Post Office.... Butler.....	10224.44	4.2101697	
	81 53 22.577	583.4	139 55 32.82	319 52 55.56		11447.60	4.0587180	
Tignal Baptist Church spire, 1902, d. 1	33 52 01.48	45.5	175 27 56.8	355 27 15.8	Rose Hill..... Lincoln.....	24106.18	4.382128	
	82 44 19.00	488.3	305 45 15.5	125 52 18.5		24116.99	4.382323	
Clemson College, top of tower (S. C.), 1902, n. d. 1	34 40 47.64	1468.0	190 17 11.16	10 18 20.21	Six Mile Mtn... Mauldin.....	17236.1	4.236440	
	82 50 14.11	359.2	229 37 49.29	49 44 44.89		24320.4	4.385970	

1 No check on this position.

GEOGRAPHIC POSITIONS—Continued.

OBLIQUE ARC TO AUGUSTA, SECONDARY TRIANGULATION—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Supplementary points—Con.</i>							
Elberton Courthouse, dome, 1902, n. d.	34 06 35.492	1093.6	129 56 52.1	309 53 55.7	Dewey Rose...	10499.4	4.021167
	82 52 07.125	182.6	202 59 46.9	23 05 31.2	Little Mtn....	39941.8	4.601428
Elberton Methodist Church spire, 1902, n. d.		872.4	227 59 54.1	48 06 07.2	Beulah.....	22854.5	4.359161
		1485.8	273 30 11.1	93 47 11.4	Parsons.....	46744.9	4.669734
			285 59 25.0	106 03 05.8	Rose Hill.....	10502.5	4.021292
			322 21 01.1	142 32 26.8	Lincoln.....	51768.6	4.714067
					Dewey Rose...	10821.4	4.034284
					Little Mtn....	40054.9	4.602555
Elberton, Swift's factory chimney, 1902, n. d.		1154.8	202 33 54.5	22 39 33.6	Beulah.....	22840.4	4.358703
			227 11 36.4	47 17 44.3	Parsons.....	46497.6	4.667430
			273 15 00.5	93 31 55.6	Rose Hill.....	10217.0	4.009523
			285 09 42.1	105 13 17.7	Lincoln.....	51450.2	4.711387
					Dewey Rose...	11007.4	4.041683
					Rose Hill.....	9850.3	3.993451
Elberton Baptist Church spire, 1902, n. d. ¹		937.0	323 00 48.8	143 11 59.3	Lincoln.....	51393.4	4.710907
		1394.0	127 22 10.1	307 18 58.4	Dewey Rose...	11007.4	4.041683
			287 27 28.2	107 30 53.7	Rose Hill.....	9850.3	3.993451
Elberton Oilmill water tank, 1902, n. d. ¹		1593.0	323 00 48.8	143 11 59.3	Lincoln.....	51393.4	4.710907
		183.3	127 22 10.1	307 18 58.4	Dewey Rose...	11007.4	4.041683
Hartwell Courthouse, 1902, n. d....		330.2	287 27 28.2	107 30 53.7	Rose Hill.....	9850.3	3.993451
		1451.7	323 00 48.8	143 11 59.3	Lincoln.....	51393.4	4.710907
Bowersville Baptist Church spire, 1902, n. d. ¹		857.2	93 34 49.8	273 30 41.4	Owens.....	11270.6	4.051946
		1407.0	115 44 29.3	295 29 28.3	Currahee.....	46197.8	4.655118
			192 29 03.7	12 33 27.0	Six Mile Mtn..	54520.5	4.738590
			207 37 42.7	27 47 51.1	Mauldin.....	58737.0	4.768912
			245 26 12.6	65 34 07.7	Little Mtn....	23603.7	4.372980
			297 00 21.8	117 08 45.5	Beulah.....	25667.0	4.409374
Canon Church spire, 1902, n. d. ¹		1305.2	303 48 31	123 49 26	Owens.....	3016.7	3.479538
		907.4	122 31 08	302 21 10	Currahee.....	32002.8	4.505188
Roystonschoolhouse belfry, 1902, n. d.		587.9	129 56 03	300 47 02	Currahee.....	81852.8	4.903147
		1280.5	252 46 58	72 46 48	Owens.....	5310.9	3.725169
Augusta, Summer-ville standpipe, 1902, n. d.		1164.0	137 56 14	317 47 20	Currahee.....	35976.6	4.556021
		1028.8	214 32 55	34 34 54	Owens.....	9518.8	8.978354
			240 52 10.3	60 54 17.0	Butler.....	6785.5	3.831584
			273 56 09.8	93 58 06.6	Post office....	5482.7	3.738993
Augusta, U. S. Arsenal flagstaff, 1902, n. d.			305 22 51.8	125 27 25.8	Beech I.....	15782.1	4.197815
			59 32 25.4	239 32 05.8	Reservoir.....	1099.2	8.024980
			238 00 56.1	58 02 54.4	Butler.....	6521.4	3.814339
			272 32 30.1	92 34 18.5	Post office....	5078.7	3.705754
Augusta, Clark Mill Co. water tank, 1902, n. d.			305 46 43.2	125 51 08.8	Beech I.....	16352.0	4.180155
			73 35 18.4	253 34 50.4	Reservoir.....	1364.6	3.135020
			200 13 02.6	20 13 32.4	Butler.....	4031.8	3.605496
			203 38 39.2	93 38 59.2	Post office....	939.9	2.973061
Augusta, St. Patrick's Catholic Church spire, 1902, n. d.			316 08 31.5	136 11 28.8	Beech I.....	11995.6	4.079021
			89 26 12.5	269 24 16.1	Reservoir.....	5449.0	8.736319
			183 58 35.4	3 58 41.2	Butler.....	3923.0	3.593019
			319 50 40.9	139 53 14.1	Beech I.....	11147.6	4.047183
Augusta, St. Pauls Episcopal Church spire, 1902, n. d.			90 40 30.7	270 38 10.4	Reservoir.....	6570.9	3.817626
			180 43 10.6	0 43 11.7	Butler.....	4022.3	3.604473
			320 22 04.3	140 24 32.8	Beech I.....	10922.3	4.038315
			129 56 40.4	309 56 31.7	Post office....	533.8	2.727358
Augusta, Court-house, top of dome, 1902, n. d.			91 34 06.9	271 81 41.8	Reservoir.....	6794.6	8.832166
			176 00 03.5	355 59 58.3	Butler.....	3470.5	3.540387
			72 48 09.0	262 47 54.0	Post office....	724.7	2.866129
Augusta, Court-house, top of dome, 1902, n. d.			86 58 48.5	266 56 17.2	Reservoir.....	7094.6	3.850927
			91 17 45.9	271 15 15.7	Reservoir.....	7030.8	3.847004
			116 01 54.2	296 01 40.4	Post office....	719.1	2.856784
		177 19 47.4	357 19 43.4	Butler.....	3999.2	3.601970	

¹ No check on this position.

GEOGRAPHIC POSITIONS—Continued.

OBLIQUE ARC TO AUGUSTA, SECONDARY TRIANGULATION—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Supplementary points—Con.</i>							
	" " "	" " "	" " "	" " "		<i>Meters.</i>	
Augusta, Christian Churchspire, 1902, n. d.	33 28 21.822 81 57 50.919	672.3 1314.8	89 38 25.1 104 28 17.3 180 16 52.1	269 35 59.3 284 28 07.9 0 16 52.5	Reservoir..... Post office..... Butler.....	6824.1 455.6 3793.2	3.834047 2.658582 3.579000
Augusta orphan asylum, 1902, n. d.	33 28 09.164 81 59 04.126	282.3 106.5	94 00 40.3 204 31 08.7 250 49 29.6	273 58 54.9 24 31 49.5 70 50 00.6	Reservoir..... Butler..... Post office.....	4945.9 4597.9 1534.2	3.694243 3.662558 3.185880
Augusta, Bon Air hotel, flagstaff, 1902, n. d.	33 28 35.062 82 00 37.195	1080.2 960.4	231 50 47.8 274 21 14.6 308 50 33.9	51 52 19.5 94 22 36.9 128 54 23.4	Butler..... Post office..... Beech I.....	5481.3 3863.3 14421.0	3.738882 3.586955 4.158996
Augusta Enterprise Mill, south cupola, 1902, n. d. ¹	33 28 37.51 81 58 55.05	1155.6 1421.4	206 49 39 286 55 00	26 50 15 106 55 26	Butler..... Post office.....	3709.1 1269.8	3.569266 3.103719
Augusta, Sibley mills, obelisk chimney, 1902, n. d. ¹	33 29 12.92 81 59 32.90	398.0 849.3	230 03 50 303 40 07	50 04 47 123 40 54	Butler..... Post office.....	3457.1 2838.8	3.538713 3.420586
Augusta, Palne Institute, 1902, n. d. ¹	33 28 10.00 81 59 35.50	308.1 916.7	94 26 03 258 02 49	274 24 35 78 03 37	Reservoir..... Post office.....	4136.1 2309.2	3.616589 3.363459
Augusta cotton mill chimney, 1902, n. d. ¹	33 28 18.08 81 58 36.24	557.0 935.7	90 43 35 252 33 07	270 41 34 72 33 22	Reservoir..... Post office.....	5654.2 764.2	3.752373 2.883220

SAVANNAH RIVER.

<i>Principal points.</i>							
Fort Pulaski, 1854, d. m., r. '94.	32 01 39.095 80 53 27.226	1204.2 714.4	194 58 23.1 278 03 40.2	14 58 55.0 98 05 06.4	Mungen..... Tybee L. H....	6105.6 4309.2	3.785731 3.634399
Norton (S. C.), 1853, n. d.	32 05 00.030 80 55 10.843	0.9 284.3	273 51 41.8 336 16 54.0	93 53 08.8 156 17 49.0	Mungen..... Fort Pulaski..	4304.7 6759.6	3.633941 3.829922
McQueen, 1873, d. m.	32 02 52.628 80 57 13.242	1621.0 347.4	219 16 44.1 244 08 59.5 290 53 10.7 285 41 31.2	89 17 49.1 64 11 31.4 110 55 10.6 105 44 57.3	Norton..... Mungen..... Fort Pulaski.. Tybee L. H....	5070.1 8339.3 6348.0 10592.6	3.705020 3.921132 3.802634 4.025003
Rock Point (S. C.), 1851, d. m.	32 05 33.877 80 59 20.895	1043.4 547.9	279 00 54.9 326 00 20.1	99 03 07.9 146 01 27.9	Norton..... McQueen.....	6639.6 5989.8	3.822142 3.777415
Cooper, 1854, d. m., r. '70.	32 03 43.344 81 00 43.594	1335.0 1143.5	212 29 36.0 254 49 52.6 285 47 26.0	32 30 19.9 74 52 49.5 105 49 17.7	Rock Point... Norton..... McQueen.....	4036.7 9041.3 5735.0	3.606029 3.956233 3.758534
Fort Jackson, 1850, d. m.	32 04 55.980 81 02 11.307	1724.2 296.5	255 20 54.3 314 11 41.1 88 28 31.5	75 22 24.8 134 12 27.7 268 26 46.9	Rock Point... Cooper..... Savannah Exchange.	4618.7 3209.0 5168.3	3.664524 3.506373 3.713351
Proctor (S. C.), 1852, d. m.	32 06 07.641 81 01 03.937	235.3 103.2	291 02 40.5 353 09 13.6 38 40 38.6	111 03 35.2 173 09 24.4 218 40 02.8	Rock Point... Cooper..... Fort Jackson..	2895.1 4476.4 2827.2	3.461658 3.650931 3.451349
Savannah N. base (S. C.), 1850, d. m., l. '94.	32 06 34.804 81 02 48.226	1072.0 1264.4	287 00 20.1 842 21 17.1 52 50 30.6	107 01 15.5 162 21 36.7 232 49 05.6	Proctor..... Fort Jackson.. Savannah Exchange.	2859.4 3194.1 5267.8	3.452799 3.504352 3.721629
Savannah S. base (S. C.), 1850, d. m., r. d. '13.	32 05 33.925 81 03 18.356	1045.0 481.3	303 36 26.9 69 01 06.4	123 37 02.6 248 59 57.4	Fort Jackson.. Savannah Exchange. Savannah, N. base.	2111.3 3650.1 2034.8	3.324546 3.562309 3.308515
Cheves (S. C.)..... 1850, d. m., l. '93.....	32 06 22.612 81 04 45.872	696.5 1202.7	263 02 59.5 303 09 32.1 303 20 54.8 21 37 37.5	83 04 02.0 123 10 18.6 123 22 16.9 201 37 15.0	Savannah, N. base. Savannah, S. base. Fort Jackson.. Savannah Exchange.	3107.2 2741.3 4852.5 3019.7	3.492389 3.437950 3.685965 3.479665

¹ No check on this position.

GEOGRAPHIC POSITIONS—Continued.

SAVANNAH RIVER—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Principal points—Continued.</i>						<i>Meters.</i>	
Daniell (S. C.), 1850, d. m.	32 06 34. 316 81 03 20. 459	1057. 5 536. 4	358 18 08. 8 329 05 16. 1 268 58 41. 8 46 37 57. 3 80 51 41. 6	178 18 09. 9 149 05 52. 8 88 58 59. 0 226 36 49. 9 260 50 56. 3	Savannah, S. base. Fort Jackson. Savannah, N. base. Savannah Exchange. Cheves.....	1860. 9 3530. 1 845. 2 4612. 3 2268. 2	3. 269730 3. 547791 2. 926949 3. 663915 3. 355678
Smith (S. C.), 1850, d. m.	32 08 39. 198 81 05 59. 463	1207. 3 1558. 3	312 41 32. 3 335 21 43. 5 353 21 22. 4	132 42 56. 8 155 22 22. 8 173 21 39. 0	Daniell..... Cheves..... Savannah Exchange.	5671. 6 4628. 2 7061. 6	3. 753706 3. 665413 3. 848904
King (S. C.), 1850, d. m.	32 07 41. 037 81 07 29. 391	1264. 0 770. 4	232 45 22. 7 287 27 43. 3 328 41 53. 5	52 46 10. 5 107 29 55. 6 148 42 57. 9	Smith..... Daniell..... Savannah Exchange.	2960. 5 6841. 6 6111. 9	3. 471370 3. 835160 3. 786176
Potter, 1852, n. d.....	32 09 03. 023 81 08 58. 190	93. 1 1524. 9	278 53 28. 1 317 19 46. 3	98 55 03. 1 137 20 33. 5	Smith..... King.....	4741. 0 3434. 2	3. 675866 3. 535822
Heyward (S. C.), 1852, n. d.	32 09 55. 882 81 06 57. 218	1722. 0 1499. 2	327 20 45. 5 11 28 38. 4 62 49 20. 3	147 21 16. 2 191 23 21. 3 242 48 15. 9	Smith..... King..... Potter.....	2805. 3 4238. 2 3563. 6	3. 447975 3. 627178 3. 551886
Drakie, 1852, n. d....	32 10 32. 112 81 09 22. 255	989. 1 583. 0	286 21 19. 0 330 41 12. 2 347 03 25. 9	106 22 36. 2 150 42 12. 2 167 03 38. 7	Heyward..... King..... Potter.....	3860. 4 6042. 7 2815. 6	3. 597742 3. 781231 3. 449574
Argyle (S. C.), 1852, n. d.	32 12 23. 211 81 08 09. 759	714. 9 255. 6	337 16 25. 2 11 37 50. 6 29 01 55. 6	157 17 03. 8 191 37 25. 0 209 01 17. 0	Heyward..... Potter..... Drakie.....	4919. 8 6295. 4 3913. 7	3. 691948 3. 799020 3. 592583
Fritchard, 1852, n. d.	32 12 35. 505 81 09 31. 136	1093. 6 815. 4	280 04 06. 7 356 29 49. 0	100 04 50. 1 176 29 53. 7	Argyle..... Drakie.....	2164. 6 3907. 8	3. 335374 3. 580678
Oyster Beds rear range L. H., 1902, n. d.	32 02 19. 637 80 53 41. 376	604. 8 1085. 6	291 46 36. 1 58 49 24. 2	111 48 09. 8 238 47 35. 3	Tybee L. H... Wilmington...	4994. 4 6303. 5	3. 698482 3. 799581
Pulaski (U. S. E.), 1902, d. m. ¹	32 01 38. 923 80 53 24. 391	1198. 9 640. 1	71 00 50. 8 160 26 11. 2 278 07 54. 4	250 58 52. 9 340 26 02. 2 98 09 19. 1	Wilmington... Oyster Beds rear range L. H. Tybee L. H...	6174. 8 1330. 9 4234. 8	3. 790624 3. 124140 3. 626835
Long Island (3) (U. S. E.), 1902, d. m. ¹	32 02 09. 286 80 55 15. 662	286. 0 410. 9	262 38 58. 2 287 45 08. 5 44 44 14. 2	82 39 48. 2 107 46 08. 5 224 43 15. 3	Oyster Beds rear range L. H. Pulaski (U. S. E.). Wilmington...	2494. 3 2065. 8 4146. 4	3. 396957 3. 486550 3. 617671
Wing Dam 33 (U. S. E.) (S. C.), 1902, d. m. ¹	32 03 28. 840 80 56 08. 679	838. 3 227. 7	298 52 08. 1 308 08 09. 0 330 24 54. 9	118 53 26. 2 128 09 36. 1 150 25 23. 0	Oyster Beds rear range L. H. Pulaski (U. S. E.). Long Island (3) (U. S. E.).	4413. 3 5481. 0 2817. 6	3. 644767 3. 738858 3. 449878
Long Island (1) (U. S. E.), 1902, d. m. ¹	32 03 03. 918 81 56 38. 416	120. 7 1007. 8	225 27 30. 3 286 21 05. 4 307 46 17. 4	45 27 46. 1 106 22 39. 3 127 47 01. 3	Wing Dam (33) (U. S. E.). Oyster Beds rear range L. H. Long Island (3) (U. S. E.).	1094. 4 4840. 9 2746. 9	3. 039179 3. 684924 3. 438838

¹ Description of this station may be obtained from the U. S. Army Engineers office at Savannah, Ga.

GEOGRAPHIC POSITIONS—Continued.

SAVANNAH RIVER—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Principal points—Continued.</i>							
Bird (U. S. E.), 1902, d. m. ¹	32 03 35.611 80 57 28.004	1096.9 734.6	275 43 03.8	95 43 45.9	Wing Dam (38) (U. S. E.).	2091.3	3.320409
			306 52 52.0	126 53 18.3	Long I. (1) (U. S. E.).	1626.4	3.211227
Red (U. S. E.) (S. C.), 1902, d. m. ¹	32 04 17.658 80 57 20.809	543.9 545.8	308 28 15.2	128 28 53.5	Wing Dam (33) (U. S. E.).	2416.7	3.383225
			333 54 36.5	153 54 59.0	Long I. (1) (U. S. E.).	2528.9	3.402930
			8 17 32.0	188 17 28.2	Bird (U. S. E.).	1308.8	3.116865
Elba (U. S. E.), 1902, d. m. ¹	32 04 27.954 80 58 42.690	861.0 1119.7	278 23 37.9	98 24 21.4	Red (U. S. E.).	2170.8	3.336620
			294 15 03.4	114 16 25.2	Wing Dam (33) (U. S. E.).	4431.0	3.646505
			308 26 29.3	128 27 35.3	Long I. (1) (U. S. E.).	4162.5	3.619351
			309 26 55.4	129 27 35.1	Bird (U. S. E.).	2537.1	3.404333
Bush (U. S. E.) (S. C.), 1902, d. m. ¹	32 05 40.247 80 59 29.103	1239.7 763.2	307 04 58.3	127 06 06.4	Red (U. S. E.).	4217.9	3.625101
			320 23 22.9	140 24 27.2	Bird (U. S. E.).	4982.4	3.697440
			331 20 05.4	151 20 30.0	Elba (U. S. E.).	2537.7	3.404437
Proctor (U. S. E.) (S. C.), 1902, d. m. ¹	32 06 10.212 81 00 35.656	314.5 934.9	297 52 11.3	117 52 46.7	Bush (U. S. E.).	1974.1	3.295364
			72 29 02.1	252 26 26.6	Savannah Exchange.	8048.1	3.905696
Oglethorpe (U. S. E.), 1902, d. m. ¹	32 04 55.992 81 02 10.457	1724.6 274.2	88 28 44.5	208 26 59.4	Savannah Exchange.	5190.6	3.715217
			227 23 26.7	47 24 17.0	Proctor (U. S. E.).	8377.2	3.628563
Flat, 1900, d. m.	31 58 46.040 80 51 03.407	1418.0 89.4	144 42 16.0	324 1 00.0	Fort Pulaski.	6531.5	3.815016
			185 57 03.0	5 57 13.0	Tybee L. H.	4750.7	3.676756
White, 1873, d. m., 1, '94.	32 06 06.897 81 04 39.730	212.4 1041.7	295 28 47.1	115 27 30.1	Savannah, S. base.	2363.1	3.373474
			28 44 30.8	208 44 05.0	Savannah Exchange.	2649.5	3.423158
Northeast, 1874, d. m., 1, '94.	32 06 35.928 81 02 47.508	1106.6 1245.5	22 57 22.8	202 57 06.4	Savannah, S. base.	2078.9	3.316785
			52 40 02.6	232 38 37.2	Savannah Exchange.	5308.7	3.724577
			73 06 17.3	253 05 17.7	White.	3075.1	3.487862
Fort Jackson (3), 1874, d. m., r. d. '13.	32 04 56.041 81 02 11.429	1726.1 299.7	88 27 15.6	208 25 31.2	Savannah Exchange.	5165.2	3.713087
			123 37 27.9	303 36 52.4	Savannah, S. base.	2107.6	3.323790
			162 54 35.5	342 54 16.4	Northeast.	3218.8	3.507691
Rock Point (2) (S. C.), 1874, d. m.	32 05 34.128 80 59 20.311	1051.2 532.6	75 21 42.1	255 20 11.2	Fort Jackson (3).	4638.1	3.666344
			109 19 28.5	289 17 38.4	Northeast.	5756.5	3.760157
St. Augustine (2), 1874, d. m.	32 04 37.430 80 59 51.054	1153.1 1339.0	98 51 29.7	278 50 15.2	Fort Jackson (3).	3725.8	3.571218
			128 16 43.3	308 15 09.6	Northeast.	5893.1	3.770347
			204 46 50.2	24 47 06.6	Rook Point (2)	1923.3	3.284053
De Wolf (S. C.), 1873 d. m.	32 04 28.649 80 57 44.000	882.4 1154.0	94 39 10.1	274 38 02.7	St. Augustine (2).	3843.2	3.524163
			128 36 55.3	308 36 04.3	Rook Point (2)	3232.2	3.509493
McQueen (2), 1874, d. m.	32 03 50.539 80 58 23.541	1556.7 617.5	123 11 23.6	302 10 37.2	St. Augustine (2).	2712.0	3.433292
			154 59 23.0	334 58 53.0	Rook Point (2)	3521.0	3.546661
			221 27 30.0	41 27 51.0	De Wolf.	1566.4	3.194900
Venus Point beacon, 1873, d. m.	32 03 51.482 80 56 50.503	1585.7 1324.7	89 19 30.8	269 18 41.4	McQueen (2) ..	2440.6	3.387483
			129 12 54.2	309 12 25.8	De Wolf.	1810.9	3.257899

¹ Description of this station may be obtained from the U. S. Army Engineers office at Savannah, Ga.

GEOGRAPHIC POSITIONS—Continued.

SAVANNAH RIVER—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Principal points—Continued.</i>							
McClintock, 1874, d. m.	32 02 36.357	1116.8	133 28 22.6	313 27 33.8	McQueen (2) . . .	3325.9	3.521914
	80 56 51.524	1351.8	158 19 11.7	338 18 44.0	De Wolf	3725.5	3.571183
			180 39 44.0	0 39 44.6	Venus Point beacon.	2317.2	3.364961
Turtle Point (S. C.), 1874, d. m.	32 03 21.962	677.4	68 09 57.2	248 08 46.1	McClintock . . .	3786.0	3.578178
	80 54 37.572	985.6	104 36 38.4	284 35 27.9	Venus Point beacon.	3603.3	3.556705
			330 10 27.5	150 11 05.0	Fort Pulaski flagstaff.	3734.4	3.572222
Barrel, 1874, d. m. . . .	32 01 23.914	736.6	119 56 27.6	209 55 09.3	McClintock . . .	4466.0	3.649916
	80 54 24.020	630.3	139 47 44.3	319 46 26.6	Venus Point beacon.	5952.3	3.774683
			174 25 01.9	354 24 54.7	Turtle Point . .	3654.3	3.562804
			255 11 13.2	75 11 43.5	Fort Pulaski flagstaff.	1553.4	3.191273
Read, 1873, d. m.	32 06 43.221	1331.3	283 40 34.9	103 42 08.0	White	4727.7	3.674648
	81 07 34.929	915.7	316 01 23.3	136 02 30.6	Savannah Exchange.	4782.3	3.679633
Rutledge (S. C.), 1873, d. m.	32 07 42.180	1297.7	311 15 07.8	131 16 15.6	White	4447.8	3.648145
	81 06 47.266	1238.9	338 29 54.2	158 30 36.2	Savannah Exchange.	5649.4	3.752000
			34 33 18.1	214 32 52.8	Read	2203.1	3.343027
Cross Tides, 1874, d. m.	32 07 33.555	1033.5	262 49 01.1	82 49 43.6	Rutledge	2114.4	3.325182
	81 08 07.297	191.3	331 18 17.6	151 18 34.8	Read	1767.3	3.247318
Gordon (S. C.), 1874, d. m.	32 08 03.610	111.2	286 22 07.6	106 22 53.3	Rutledge	2346.8	3.370474
	81 08 13.168	345.1	337 57 29.1	157 57 40.5	Read	2671.3	3.426722
			350 33 43.8	170 33 47.0	Cross Tides . . .	938.5	2.972427
Shack (S. C.), 1913, d. m.	32 05 25.948	799.2	108 04 03.2	288 03 47.9	Savannah, S. base.	792.3	2.898881
	81 02 49.631	1301.5	248 46 43.7	68 47 54.9	Procter (U. S. E.).	3768.3	3.576142
			312 35 46.2	132 36 06.5	Fort Jackson (3).	1361.0	3.133846
Coast, 1913, d. m.	32 04 46.161	1421.8	203 35 35.6	23 35 48.6	Savannah, S. base.	1605.4	3.205586
	81 03 42.860	1124.0	228 42 53.7	48 43 22.0	Shack	1857.5	3.268932
			262 45 36.9	82 40 25.5	Fort Jackson (3).	2417.1	3.383287
Chim (S. C.), 1913, d. m.	32 05 36.685	1129.9	274 46 34.3	94 46 54.9	Savannah, S. base.	1020.5	3.008793
	81 03 57.136	1498.2	280 34 38.3	100 35 14.2	Shack	1800.8	3.255458
			346 28 19.5	166 28 27.1	Coast	1600.6	3.204286
Levee, 1913, d. m.	32 05 33.412	1029.1	264 10 09.0	84 10 29.0	Chim	992.9	2.999913
	81 04 34.806	912.7	316 53 22.0	136 53 49.6	Coast	1993.5	3.299607
Rourke, 1913, d.	32 04 43.580	1342.3	202 20 33.2	22 20 48.0	Levee	1650.5	3.219972
	81 04 58.864	1543.8	224 41 48.8	44 42 21.6	Chim	2301.3	3.361968
			267 42 38.4	87 43 18.6	Coast	1994.9	3.299914
<i>Supplementary points.</i>							
Tybee Hotel, cupola, 1900, d.	31 59 37.699	1161.2	12 09 34	162 09 23	Flat	1627.7	3.211573
	80 50 50.355	1321.8	132 15 23	312 14 00	Fort Pulaski . .	5561.7	3.745296
			182 44 23	2 44 28	Tybee L. H. . . .	3137.5	3.496588
South End, hotel cupola flagpole, 1900, d.	31 59 26.482	815.7	354 32 08	174 32 06	Flat	1251.4	3.092398
	80 51 07.951	208.7	138 11 03	318 09 49	Fort Pulaski . .	5481.5	3.738994
			189 58 18	9 58 30	Tybee L. H. . . .	3532.8	3.546122
Railroad draw, 1902, n. d., r. '13.	32 04 26.260	808.9	105 57 30.8	285 56 25.9	Oglethorpe (U. S. E.).	3332.6	3.522789
	81 00 08.276	217.0	167 21 46.9	347 21 22.3	Procter (U. S. E.).	8281.4	3.516056
			204 15 43.4	24 16 04.2	Bush (U. S. E.).	2499.7	3.397693
		268 69 45.1	88 40 30.5	Elba (U. S. E.).	2246.8	3.351274	

GEOGRAPHIC POSITIONS—Continued.

SAVANNAH RIVER—Continued.

Station.	Latitude and longitude.	Sec-onds in meters.	Azimuth.	Back azimuth.	To station.	Dis-tance.	Loga-rithm of distance.
<i>Supplementary points—Con.</i>							
Finger (U. S. E.), 1902, d. m. ¹	32 05 32.740 81 01 02.478	1008.4 64.8	211 20 58	31 21 12	Proctor (U. S. E.).	Meters. 1351.5	3.130825
			264 35 52 57 85 45	84 36 42 237 35 04	Bush (U.S.E.) Oglethorpe (U. S. E.).	2459.2 2111.8	3.300800 3.324644
Obstruction (U. S. E.), 1902, d. m. ¹	32 05 16.691 81 01 18.090	514.1 474.4	214 00 54	34 01 16	Proctor (U. S. E.).	1983.9	3.298611
			255 44 49 65 06 01	75 45 47 245 05 23	Bush (U.S.E.) Oglethorpe (U. S. E.).	2948.6 1514.1	3.469612 3.180144
Fort Jackson front range L. H., 1902, n. d.	32 05 11.888 81 01 25.948	366.1 680.5	67 14 42	247 14 18	Oglethorpe (U. S. E.).	1265.7	3.102343
			210 16.45	36 17 11	Proctor (U. S. E.).	2228.5	3.348019
			254 04 48 287 31 41	74 05 50 107 33 07	Bush (U.S.E.) Elba (U.S.E.).	3186.1 4490.3	3.503258 3.652279
Fort Jackson rear range L. H., 1902, n. d.	32 05 05.909 81 01 30.232	182.0 792.8	73 51 14	253 50 52	Oglethorpe (U. S. E.).	1098.2	3.040683
			215 50 47	35 51 15	Proctor (U. S. E.).	2443.5	3.388020
			251 34 29 284 53 13	71 35 33 104 54 41	Bush (U.S.E.) Elba (U.S.E.).	3347.8 4546.8	3.524764 3.657709
Jim (U. S. E.), 1902, d. m. ¹	32 05 18.110 81 00 37.078	557.8 972.3	181 19 53	1 19 53	Proctor (U. S. E.).	1605.2	3.205538
			249 03 43 297 14 22	69 04 19 117 15 22	Bush (U.S.E.) Elba (U.S.E.).	1908.4 3374.3	3.280676 3.528184
Duck Paddle (U. S. E.), 1902, d. m. ¹	32 05 51.575 81 00 34.094	1588.6 894.0	175 55 13	355 55 12	Proctor (U. S. E.).	575.5	2.760054
			281 33 58 55 53 20	101 34 33 235 52 29	Bush (U.S.E.) Oglethorpe (U. S. E.).	1739.5 3052.3	3.240420 3.484622
Spirit I. 1 (U. S. E.), 1902, d. m. ¹	32 05 48.183 81 00 08.953	1484.2 234.8	134 06 15	314 06 01	Proctor U. S. E.).	975.0	2.988993
			283 09.47	103 10 08	Bush (U.S.E.).	1073.1	3.030655
Spirit I. 2 (U. S. E.), 1902, d. m. ¹	32 05 37.664 80 59 51.364	1160.2 1347.0	130 48 19	310 47 56	Proctor (U. S. E.).	1534.2	3.185881
			262 14 11	82 14 23	Bush (U.S.E.).	589.1	2.770202
Wing Dam 4, 1902, d. m.	32 05 24.657 80 59 41.960	759.5 1100.4	134 54 19	314 53 51	Proctor (U. S. E.).	1987.8	3.298364
			215 04 11	35 04 18	Bush (U.S.E.).	588.7	2.768418
Island 2 (U. S. E.), 1902, d. m. ¹	32 05 39.29 81 01 36.10	1210.1 946.6	238 59 44	59 00 16	Proctor (U. S. E.).	1849.0	3.266929
			34 02 28	214 02 10	Oglethorpe (U. S. E.).	1609.6	3.206710
Post Light 4, 1902, n. d.	32 05 28.500 80 59 38.714	816.3 962.8	76 53 30	256 52 09	Oglethorpe (U. S. E.).	4139.8	3.616981
			131 03 55	311 03 24	Proctor U. S. E.).	2049.8	3.311701
			205 13 49 300 44 22 321 50 27	25 13 53 120 45 34 141 50 56	Bush (U.S.E.) Red (U. S. E.) Elba (U.S.E.).	468.1 4147.2 2293.3	2.670346 3.617754 3.360454
St. Augustine (U. S. E.), 1902, d. m. ¹	32 04 55.604 80 59 57.711	1712.8 1513.4	156 35 28	336 35 08	Proctor (U. S. E.).	2504.2	3.398864
			208 36 48 293 24 02	28 37 03 113 24 42	Bush (U.S.E.) Elba (U.S.E.).	1566.4 2143.9	3.194898 3.331213
Tobin (U. S. E.), 1902, d. m. ¹	32 04 47.334 80 59 35.483	1458.0 930.7	148 17 02	328 16 30	Proctor (U. S. E.).	3001.0	3.477273
			185 51 39 293 19 08	5 51 40 113 19 36	Bush (U.S.E.) Elba (U.S.E.).	1638.4 1507.8	3.214409 3.178338

¹ Description of this station may be obtained from the U. S. Army Engineers office at Savannah, Ga.

GEOGRAPHIC POSITIONS—Continued.

SAVANNAH RIVER—Continued.

Station.	Latitude and longitude.	Sec-onds in meters.	Azimuth.	Back azimuth.	To station.	Dis-tance.	Loga-rithm of distance.
<i>Supplementary points—Con.</i>							
Meigs (U. S. E.), 1902, d. m. ¹	32 04 42.251	1301.5	140 22 45	320 22 00	Proctor (U. S. E.).	<i>Meters.</i> 3517.6	3.546247
	80 59 10.101	264.9	164 24 51	344 24 41	Bush (U.S.E.)	1854.5	3.268238
Oyster Beds, front range light (S. C.), 1902, n. d.	32 02 17.794	548.1	295 59 35	116 00 50	Elba (U.S.E.)	843.1	2.925862
	80 53 05.042	132.3	301 29 21	121 29 36	Tybee L. H...	4099.1	3.612690
Post Light 10, 1902, n. d.	32 04 44.300	1367.4	295 59 35	116 00 50	Pulaski (U. S. E.).	1300.5	3.114100
	80 59 07.670	201.2	22 58 49	202 58 30	Oyster Beds, rear range L. H.	955.0	2.980006
P beacon, 1902, n. d..	32 04 35.417	1091.0	93 24 38	273 24 19	Proctor (U. S. E.).	3508.7	3.543148
	80 58 57.266	1502.2	161 54 37	341 54 26	Bush (U.S.E.)	1810.0	3.257670
Elba Island rear un-used L. H., 1902, n. d.	32 04 34.178	1052.8	286 21 49	106 22 40	Red (U.S.E.)	2921.1	3.465549
	80 58 56.480	1481.6	307 41 29	127 41 43	Elba (U.S.E.)	828.0	2.918014
O beacon, 1902, n. d..	32 04 29.566	910.7	157 18 50	337 18 33	Proctor (U. S. E.).	3896.4	3.590658
	80 58 53.483	1402.8	282 11 37	102 12 29	Bush (U.S.E.)	2164.3	3.335319
N beacon, 1902, n. d..	32 04 30.607	942.8	301 00 55	121 01 03	Red (U. S. E.).	2588.4	3.413028
	80 58 45.459	1192.4	157 12 01	337 11 44	Elba (U.S.E.)	446.2	2.646508
M beacon, 1902, n. d..	32 04 23.040	709.7	281 27 23	101 28 14	Proctor (U. S. E.).	3938.7	3.595349
	80 58 37.655	987.7	297 55 38	117 55 40	Bush (U.S.E.)	2207.5	3.343005
Elba Island front un-used L. H., 1902, n. d.	32 04 23.040	709.7	297 55 38	117 55 40	Red (U.S.E.)	2560.3	3.408290
	80 58 31.137	816.7	301 51 11	127 51 58	Elba (U.S.E.)	409.3	2.612088
Island 1 and 2 (U. S. E.), 1902, d. m. ¹	32 03 58.180	1792.1	279 56 57	99 57 03	Bird (U.S.E.)	2639.3	3.468247
	80 57 54.358	1426.0	139 10 17	319 09 23	Proctor (U. S. E.).	4097.4	3.612510
Philbrick (U. S. E.) 1902, d. m. ¹	32 04 13.260	408.4	156 46 48	336 46 29	Bush (U.S.E.)	2369.0	3.374567
	80 58 11.544	302.8	278 34 27	98 35 16	Red (U.S.E.)	2458.2	3.390610
D beacon (U. S. E.), 1902, n. d.	32 02 40.714	1254.1	279 56 57	99 57 03	Elba (U.S.E.)	287.4	2.458504
	80 50 04.372	114.7	280 10 41	100 11 26	Red (U. S. E.).	2255.7	3.353284
Wing Dam (28) (U. S. E.), 1902, d. m. ¹	32 02 41.852	1289.2	318 22 36	138 22 38	Elba (U.S.E.)	109.3	2.038745
	80 56 05.323	139.6	99 52 16	279 52 13	Bush (U.S.E.)	134.0	2.127225
Island 1 and 2 (U. S. E.), 1902, d. m. ¹	32 03 58.180	1792.1	149 03 06	329 03 38	Red (U.S.E.)	2623.3	3.418843
	80 57 54.358	1426.0	278 17 51	98 18 31	Red (U. S. E.).	2036.8	3.308959
Philbrick (U. S. E.) 1902, d. m. ¹	32 04 13.260	408.4	116 32 37	296 32 31	Elba (U.S.E.)	338.7	2.529793
	80 58 11.544	302.8	147 24 59	327 24 28	Bush (U.S.E.)	2822.4	3.450621
D beacon (U. S. E.), 1902, n. d.	32 02 40.714	1254.1	275 07 49	95 08 26	Red (U. S. E.).	1852.0	3.267644
	80 50 04.372	114.7	311 24 49	131 25 22	Bird (U.S.E.)	2208.3	3.344051
Wing Dam (28) (U. S. E.), 1902, d. m. ¹	32 02 41.852	1289.2	235 42 43	55 43 01	Red (U. S. E.).	1065.0	3.027365
	80 56 05.323	139.6	315 09 26	135 09 40	Bird (U.S.E.)	980.4	2.991383
Wing Dam (33) (U. S. E.)	32 02 41.852	1289.2	118 59 22	298 59 06	Elba (U.S.E.)	933.9	2.970284
	80 56 05.323	139.6	142 48 06	322 47 25	Bush (U.S.E.)	3363.9	3.526843
Wing Dam (33) (U. S. E.)	32 02 41.852	1289.2	264 11 04	84 11 31	Red (U. S. E.).	1337.6	3.126323
	80 56 05.323	139.6	315 26 05	135 26 28	Bird (U.S.E.)	1627.6	3.211547
Wing Dam (33) (U. S. E.)	32 02 40.714	1254.1	22 44 10	202 43 38	Wilmington...	4243.4	3.627715
	80 50 04.372	114.7	128 40 14	308 39 56	Long I. (1) (U. S. E.).	1143.9	3.058376
Wing Dam (33) (U. S. E.)	32 02 41.852	1289.2	175 38 29	355 38 27	Wing Dam(33) (U. S. E.).	1486.6	3.172199
	80 56 05.323	139.6	128 03 33	308 03 15	Long I. (1) (U. S. E.).	1102.6	3.042403
Wing Dam (33) (U. S. E.)	32 02 41.852	1289.2	176 31 09	356 31 07	Wing Dam(33) (U. S. E.).	1450.0	3.161355
	80 56 05.323	139.6	280 15 31	100 16 47	Oyster Beds rear range L. H.	3838.2	3.584125

¹ Description of this station may be obtained from the U. S. Army Engineers office at Savannah, Ga.

GEOGRAPHIC POSITIONS—Continued.

SAVANNAH RIVER—Continued.

Station.	Latitude and longitude.	Sec-onds in meters.	Azimuth.	Back azimuth.	To station.	Dis-tance.	Loga-rithm of distance.
<i>Supplementary points—Con.</i>							
Beacon C, 1902, n. d..	32 02 21.322	656.8	134 53 40	314 53 13	Long I. (1) (U. S. E.)	Meters. 1859.0	3.269282
	80 55 48.215	1205.1	165 31 35	345 31 24	Wing Dam(33) (U. S. E.)	2147.6	3.331906
			203 27 37	113 27 54	Long I. (3) (U. S. E.)	931.1	2.968998
Beacon B, 1902, n. d..	32 02 19.715	607.3	130 17 30	310 16 57	Long I. (1) (U. S. E.)	2105.0	3.323371
	80 55 37.196	976.0	158 47 55	338 47 38	Wing Dam(33) (U. S. E.)	2283.7	3.358646
			299 37 11	119 37 22	Long I. (3) (U. S. E.)	649.9	2.812837
Post Light 28, 1902, n. d.	32 02 34.667	1007.8	164 39 50	344 39 41	Wing Dam(33) (U. S. E.)	1730.2	3.238098
	80 55 51.235	1344.2	277 43 41	97 44 50	Oyster Beds rear range L. H.	3438.4	3.536358
			204 00 29	114 01 47	Pulaski (U. S. E.)	4218.2	3.625131
			309 50 50	129 57 09	Long I. (3) (U. S. E.)	1217.5	3.085461
Slatted red and white front beacon, 1902, n. d.	32 02 11.701	360.4	127 57 48	307 57 06	Long I. (1) (U. S. E.)	2614.9	3.417450
	80 55 19.831	520.4	151 39 44	331 39 18	Wing Dam (33) (U.S.E.)	2699.0	3.431293
			285 25 29	108 26 29	Pulaski (U. S. E.)	3192.9	3.504183
			304 12 56	124 12 58	Long I. (3) (U. S. E.)	132.2	2.121315
Slatted red and white rear beacon, 1902, n. d.	32 02 03.375	104.0	129 20 28	309 19 42	Long I. (1) (U. S. E.)	2942.0	3.468644
	80 55 11.684	309.6	150 10 18	330 10 16	Long I. (3) (U. S. E.)	209.9	2.321907
			150 24 22	330 23 52	Wing Dam (33) (U.S.E.)	3027.5	3.481079
			284 58 08	104 59 05	Pulaski (U. S. E.)	2914.4	3.464542
Beacon A, 1902, n. d.	32 02 07.703	237.3	287 53 06	107 54 01	Pulaski (U. S. E.)	2885.2	3.460182
	80 55 09.030	230.9	105 39 13	285 39 09	Long I. (3) (U. S. E.)	180.7	2.256998
			147 57 01	327 56 29	Wing Dam (33) (U.S.E.)	2948.6	3.469623
Long I. red beacon, 1902, n. d.	32 02 05.981	184.2	102 17 15	282 17 06	Long I. (3) (U. S. E.)	478.4	2.679789
	80 54 57.847	1517.8	143 56 44	323 56 07	Wing Dam (33) (U.S.E.)	3157.0	3.499276
			258 09 16	78 09 57	Oyster Beds rear range L. H.	2050.1	3.311771
			288 45 48	108 46 38	Pulaski (U. S. E.)	2590.0	3.413307
Tybee Knoll rear beacon, 1902, n. d.	32 01 54.029	1664.3	127 40 17	307 40 05	Long I. (3) (U. S. E.)	769.0	2.885945
	80 54 52.463	1376.8	145 36 19	325 35 39	Wing Dam (33) (U.S.E.)	3539.3	3.548917
			247 04 18	67 04 56	Oyster Beds rear range L. H.	2025.2	3.300458
			281 22 33	101 23 20	Pulaski (U. S. E.)	2357.4	3.372435
New Hope (U. S. E.), 1902, d. m. ¹	32 01 23.996	739.2	68 10 34	248 09 16	Wilmington...	4169.5	3.620089
	80 54 39.381	1033.5	148 39 11	328 38 24	Wing Dam (33) (U.S.E.)	4502.9	3.653491

¹ Description of this station may be obtained from the U. S. Army Engineers office at Savannah, Ga.

GEOGRAPHIC POSITIONS—Continued.

SAVANNAH RIVER—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Supplementary points—Con.</i>							
Quarantine tank, 1902, n. d.	32 02 01.468	45.2	59 43 47	239 42 13	Wilmington...	<i>Meters.</i> 5304.1	3.729497
	80 54 10.347	271.5	98 00 09	277 59 34	Long I. (3) (U. S. E.).	1730.6	3.238204
			233 38 16	53 38 31	Oyster Beds rear range L. H.	943.9	2.974937
Quarantine cupola, 1902, n. d.	32 01 58.807	1811.4	60 26 26	240 24 53	Wilmington...	5314.9	3.725495
	80 54 10.713	281.1	100 43 45	280 43 11	Long I. (3) (U. S. E.).	1734.5	3.239172
			230 11 13	50 11 29	Oyster Beds rear range L. H.	1002.1	3.000910
Pulaski house chimney, 1902, n. d.	32 01 35.193	1084.1	71 49 28	251 47 31	Wilmington...	6072.0	3.783329
	80 53 27.054	710.0	110 14 09	290 13 11	Long I. (3) (U. S. E.).	3037.2	3.482471
			201 18 13	31 18 15	Pulaski (U. S. E.).	134.5	2.128655
Square beacon (2), 1902, n. d.	32 02 08.916	274.6	242 51 57	62 52 10	Oyster Beds rear range L. H.	724.1	2.859796
	80 54 05.936	155.7	286 04 34	106 06 21	Tybee L. H....	5497.5	3.740164
			310 16 34	130 16 58	Pulaski (U. S. E.).	1428.9	3.155011
Lower Oyster Rock beacon, 1902, n. d.	32 01 55.790	1718.5	16 17 59	196 17 56	Pulaski (U. S. E.).	541.3	2.733422
	80 53 18.602	488.1	140 52 19	320 52 07	Oyster Beds rear range L. H.	946.9	2.976300
			285 28 32	105 29 53	Tybee L. H....	4192.3	3.622452
Cockspur unused L. H., 1902, n. d.	32 01 21.659	648.7	77 52 30	257 50 13	Wilmington...	6941.8	3.841470
	80 52 48.271	1266.8	120 08 17	300 07 58	Pulaski (U. S. E.).	1096.0	3.039806
			142 19 27	322 18 59	Oyster Beds rear range L. H.	2279.7	3.357884
Center railroad draw, 1902, n. d.	32 00 52.149	1606.4	84 57 08	264 54 58	Wilmington...	6453.7	3.809806
	80 53 01.922	50.4	157 44 36	337 44 24	Pulaski (U. S. E.).	1556.7	3.192200
			258 51 13	76 52 24	Tybee L. H....	3699.5	3.568146
House cupola, 1902, n. d.	32 01 24.229	746.3	80 43 49	260 40 37	Wilmington...	9644.5	3.984280
	80 51 04.192	110.0	112 29 25	292 28 02	Oyster Beds rear range L. H.	4463.6	3.649086
			286 00 59	106 01 10	Tybee L. H....	533.8	2.727430
Tybee beacon, 1902, n. d.	32 01 41.673	1283.7	346 23 06	166 23 09	Tybee L. H....	704.4	2.847804
	80 50 50.959	1337.3	88 48 22	268 47 00	Pulaski (U. S. E.).	4027.1	3.604988
			104 40 03	284 38 32	Oyster Beds rear range L. H.	4622.0	3.664826
Signal Tower, 1902, n. d.	32 01 24.982	769.5	50 26 37	230 26 33	Tybee L. H....	267.7	2.427585
	80 50 36.778	965.1	95 35 18	275 33 49	Pulaski (U. S. E.).	4419.3	3.646364
			109 10 42	289 09 04	Oyster Beds rear range L. H.	5128.0	3.709950

GEOGRAPHIC POSITIONS—Continued.

SAVANNAH RIVER—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Supplementary points—Con.</i>							
Tybee tank, 1902, n. d.	32 01 11.701 80 50 40.538	380.5 1063.9	83 26 01 101 02 44 113 48 31 155 42 40	263 22 36 281 01 17 293 46 55 335 42 38	Wilmington... Pulaski (U. S. E.), Oyster Beds rear range L. H. Tybee L. H. ...	10206.3 4380.8 5186.1 261.7	4.008870 3.641654 3.714840 2.417773
South End hotel tank, 1902, n. d.	31 59 39.527 80 50 51.679	1217.4 1356.6	99 38 07 132 32 56 183 26 08	279 34 48 312 31 35 3 26 11	Wilmington... Pulaski (U. S. E.), Tybee L. H. ...	9987.8 5489.5 3083.1	3.999472 3.735560 3.488994
Stoddard's house, southwest chimney (S. C.), 1902, n. d.	32 04 50.571 80 52 27.137	1557.7 711.8	337 31 39 14 16 47 42 51 45	157 32 33 194 16 17 222 49 18	Tybee L. H. ... Pulaski (U. S. E.), Wilmington...	7036.8 6091.0 10792.6	3.847378 3.784691 4.033127
Palmetto (U. S. E.) (S. C.), 1902, d. m. ¹	32 04 35.741 80 57 37.070	1100.9 1496.8	300 21 08 837 37 28 78 40 02 129 28 10	120 21 27 157 37 43 258 39 38 309 27 21	Red (U. S. E.) Bird (U. S. E.) Elba (U. S. E.) Bush (U. S. E.).	1102.2 2002.8 1220.3 3128.3	3.042240 3.301643 3.086452 3.495034
Cheves tall chimney (S. C.), 1860, n. d.	32 06 06.880 81 04 39.942	211.9 1047.3	247 55 14.9 253 37 36.9 295 22 40.7	67 55 57.1 73 38 36.3 115 23 24.0	Daniell. Savannah, N. base. Savannah, S. base.	2248.7 3052.7 2367.8	3.351940 3.484680 3.374352
Cheves Presbyterian Church spire, 1860, n. d., r. '13.	32 04 35.508 81 05 36.633	1093.8 934.5	175 14 37.8 201 34 37.2 224 04 35.5 230 03 23.3 243 26 00.8 263 16 24.6	355 14 25.1 21 35 03.6 44 05 47.3 50 04 52.3 63 27 13.7 83 18 13.2	Smith..... Cheves..... Daniell..... Savannah, N. base. Savannah, S. base. Fort Jackson..	7531.9 3547.6 5094.6 5724.7 4024.0 5395.6	3.876907 3.549338 3.707114 3.757751 3.604728 3.732043
Fig Island L. H., 1860 n. d.	32 04 56.348 81 03 46.617	1735.7 1222.5	86 47 08.0 206 47 02.5 212 37 47.2 270 15 08.4	266 46 13.9 26 47 33.5 32 38 02.0 90 15 59.0	Savannah Exchange. Savannah, N. base. Savannah, S. base. Fort Jackson..	2671.1 3397.2 1374.4 2499.6	3.426698 3.531118 3.138105 3.397863
Signal, 1866, n. d.	32 05 14.806 81 01 07.302	456.1 191.5	82 15 46.6 84 01 32.7 99 44 01.9	262 14 22.2 263 59 14.1 279 42 52.3	Fig I. L. H. ... Savannah Exchange. Savannah, S. base.	4218.5 6882.5 3486.7	3.624948 3.837744 3.542418
Tatnall (S. C.), 1866, n. d.	32 05 09.009 81 02 18.591	277.5 487.5	80 25 05.3 83 49 06.9 116 05 42.7 264 32 21.3 331 44 56.0	260 24 18.8 263 47 26.3 296 05 11.0 84 32 59.2 161 45 00.5	Fig I. L. H. ... Savannah Exchange. Savannah, S. base. Signal..... Fort Jackson (2).	2341.2 5004.0 1745.1 1878.0 464.5	3.369434 3.699369 3.241811 3.273690 2.667022
Tower (3), 1866, n. d.	32 04 19.488 80 58 19.324	600.3 506.8	264 03 16.0 286 53 30.0 303 07 12.8 309 59 42.3	84 06 23.0 106 54 18.2 123 09 48.1 129 55 47.5	Mungen..... Vlaie..... Fort Pulaski flagstaff. Long.....	9287.9 2231.1 9165.5 4195.2	3.967918 3.348522 3.962155 3.622757
Winckler's chimney, 1866, n. d.	32 12 09.504 81 08 51.506	292.8 1349.0	15 01 54.9 127 39 28.4 248 52 52.6	195 01 38.6 307 39 07.3 68 53 14.9	Drake..... Pritchard..... Argyle.....	3106.1 1311.0 1172.1	3.492214 3.117596 3.068949

¹ Description of this station can be obtained from the U. S. Army Engineers office at Savannah, Ga.

GEOGRAPHIC POSITIONS—Continued.

SAVANNAH RIVER—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Supplementary points—Con.</i>							
St. Augustine, 1853, n. d.	32 04 26.970	1138.8	98 43 22.0	278 42 04.6	Fort Jackson	3865.6	3.587216
	80 59 45.612	1106.2	143 40 23.7	323 39 42.1	Proctor	3466.7	3.539918
			200 17 31.0	30 17 44.1	Rock Point	1868.8	3.271564
Burton's rice mill chimney, 1866, n. d.	32 04 24.190	745.1	189 47 26.3	9 47 33.8	Savannah, S. base.	2179.7	3.339404
	81 03 32.491	852.1	234 31 56.4	54 32 35.6	Tatnall	2379.5	3.376489
			245 45 43.3	65 46 27.0	Fort Jackson	2366.6	3.374118
			247 43 21.6	67 44 38.7	Signal (2)	4114.5	3.614318
White house (red roof) (S. C.), 1866, n. d.	32 05 49.151	1514.0	304 17 06.2	124 17 37.6	Signal	1877.7	3.273636
	81 02 06.465	169.5	3 24 43.0	183 24 41.0	Fort Jackson	1648.5	3.217100
			14 25 22.4	194 25 15.9	Tatnall (2)	1276.6	3.106669
Turtle (S. C.), 1866, n. d.	32 03 41.799	1287.6	223 18 20.4	43 19 00.9	Mungen	2911.9	3.464170
	80 53 43.231	1134.0	813 05 09.2	133 06 43.9	Tybee L. H.	6417.2	3.807342
			363 36 26.1	173 36 34.9	Fort Pulaski flagstaff.	3874.1	3.585187
			42 41 21.1	222 39 33.2	Wilmington	7882.4	3.896657
Tybee beacon, 1866, n. d.	32 01 16.921	521.2	97 04 47.0	277 03 07.3	Fort Pulaski flagstaff.	4978.2	3.697072
	80 50 18.528	486.2	129 44 13.5	309 42 24.9	Turtle	6982.7	3.844021
			152 52 40.4	332 51 32.2	Mungen	7394.9	3.868931
			190 41 06.4	10 41 45.4	Cholera	10360.1	4.015383
Cholera (S. C.), 1866, n. d.	32 06 47.436	1461.2	35 39 29.0	215 37 10.2	Fort Pulaski flagstaff.	11772.8	4.070881
	80 49 05.258	137.8	51 54 35.5	231 52 08.0	Turtle	9294.5	3.966821
			55 47 40.5	235 45 53.3	Mungen	6399.8	3.806166
Pennyworth's chimney (S. C.), 1850, n. d.	32 06 13.301	409.7	257 10 55.1	77 11 20.8	Cheves	1293.1	3.111641
	81 05 33.964	890.5	259 30 47.1	79 31 58.1	Daniell	3559.6	3.551407
			261 19 16.7	81 20 44.8	Savannah, N. base.	4395.5	3.643013
			268 49 25.9	108 50 38.0	Savannah, S. base.	3756.9	3.574828
Hagar's (Joseph) tall chimney (S. C.), 1866, n. d.	32 07 25.129	774.1	292 42 45.7	112 44 00.7	Fort Jackson	5823.4	3.765174
	81 05 09.419	246.9	298 42 41.8	118 43 39.7	Savannah, N. base.	4012.9	3.603458
			342 13 25.5	162 13 38.1	Daniell	3257.1	3.512833
			97 36 59.9	277 35 45.4	Cheves	2022.1	3.305810
Proctor's house, center of chimney (S. C.), 1866, n. d.	32 06 08.222	253.3	2 19 19.9	182 19 18.6	King	3701.6	3.568389
	81 01 04.758	124.8	37 32 57.1	217 32 22.4	Signal	1646.6	3.216597
			46 42 53.3	226 42 14.1	Fort Jackson (2)	2816.4	3.449688
Derrick (S. C.), 1866, n. d.	32 05 22.410	690.3	277 26 25.6	97 27 01.9	Tatnall	2659.8	3.424851
	81 02 15.660	410.4	10 34 55.0	190 34 53.4	Signal	1807.6	3.257093
			350 08 48.3	170 08 51.2	Tatnall	419.9	2.623159
Torpedo (S. C.), 1866, n. d.	32 05 00.879	27.1	247 45 52.1	67 46 04.5	Fort Jackson (2)	834.3	2.921313
	81 02 41.950	1100.1	260 11 16.5	80 12 06.8	Signal	661.8	2.820718
			280 47 49.5	100 48 06.4	Tatnall	2518.9	3.401206
Old tower, Jones I. (S. C.), 1866, n. d.	32 03 49.272	1517.7	254 37 26.9	74 39 46.1	Fort Jackson	847.5	2.928132
	80 56 49.238	1292.3	299 14 21.1	119 16 00.8	Signal (2)	661.8	2.820718
			307 30 46.0	127 32 33.5	Square beacon	5650.1	3.752056
Bird, 1866, n. d.	32 03 35.340	1119.4	253 54 01.6	73 56 42.2	Fort Pulaski flagstaff.	6698.2	3.825961
	80 57 29.607	776.7	291 30 58.2	111 32 59.3	Mungen	8258.0	3.916873
			300 00 28.3	120 02 37.2	Square beacon	6437.2	3.806696
				Fort Pulaski flagstaff.	7358.0	3.866760	

GEOGRAPHIC POSITIONS—Continued.

SAVANNAH RIVER—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Supplementary points—Con.</i>							
Daniell's tall chimney (S. C.), 1866, n. d.	32 05 36.435	1122.8	138 02 17.2	818 01 51.4	Cheves.....	1912.9	3.281692
	81 03 57.088	1497.0	208 18 33.1	28 18 52.6	Daniell.....	2025.1	3.306436
			274 20 57.6	94 21 18.2	Savannah, S. base.	1018.6	3.007994
Smith's thrashing mill, iron smoke-pipe (S. C.), 1866, n. d.	32 05 49.581	1527.3	294 10 53.0	114 11 49.2	Fort Jackson..	8041.0	3.483012
	81 02 01.790	46.1	8 37 26.6	188 37 21.4	Fort Jackson..	1669.8	3.222671
			103 18 54.8	288 17 27.6	Cheves.....	4421.6	3.645581
			123 44 23.6	303 43 41.7	Daniell.....	2481.2	3.394661
			129 59 43.0	309 57 36.5	Smith.....	8181.6	3.910175
Dr. Hamilton's chimney (S. C.), 1866, n. d.	32 07 52.596	1620.1	295 36 55.5	115 38 36.8	Savannah, N. base.	5539.5	3.743474
	81 05 58.752	1540.0	300 08 51.5	120 10 15.6	Daniell.....	4799.2	3.681170
			325 24 55.6	145 25 34.4	Cheves.....	3368.3	3.527167
			351 61 20.8	171 51 37.0	Savannah Exchange.	5635.6	3.750943
Steam sawmill cupola, 1866, n. d.	32 05 20.449	629.9	227 53 26.4	47 54 09.4	Cheves.....	2855.8	3.455724
	81 06 06.678	175.1	242 25 18.1	62 26 46.4	Daniell.....	4916.5	3.691653
			246 13 45.7	66 15 31.2	Savannah, N. base.	5685.2	3.754745
			264 36 54.8	84 38 24.2	Savannah, S. base.	4433.3	3.646731
House, 1866, n. d. . . .	32 02 01.940	59.8	201 04 58.2	21 05 22.2	Turtle.....	3296.5	3.518053
	80 54 28.436	746.2	246 11 23.4	66 11 48.4	Square beacon	1350.0	3.130348
			296 34 23.4	116 34 56.1	Fort Pulaski flagstaff.	1793.3	3.253650
Shad's old chimney, 1866, n. d.	32 05 32.880	1012.8	57 05 49.0	287 05 18.4	Fort Jackson..	2092.0	3.320566
	81 01 04.331	113.6	90 32 08.6	270 30 52.2	Savannah, S. base.	3514.6	3.545872
			117 56 37.9	297 55 15.5	Daniell.....	4039.8	3.606361
			125 00 21.8	304 59 26.6	Savannah, N. base.	3325.4	3.521849
			180 33 12.3	0 33 12.5	Proctor.....	1070.7	3.029675
		269 20 37.3	89 21 32.2	Rock Point...	2712.5	3.433368	
South chimney of house on Little Tybee I., 1858, n. d.	31 58 07.811	240.6	14 13 48.3	194 13 34.5	Petit Chou....	2769.5	3.442396
	80 54 48.611	1276.4	22 22 20.1	202 21 56.8	Pole.....	3036.7	3.482402
			78 06 58.2	253 06 23.8	Cedar Tuft....	1783.3	3.251222
Manigault's red brick mill chimney (S. C.), 1866, n. d.	32 10 59.519	1833.4	37 23 27.2	217 22 31.7	Potter.....	4515.9	3.654744
	81 07 13.545	354.9	75 57 13.1	255 56 04.6	Drakie.....	8475.9	3.541072
			150 16 14.2	330 15 44.3	Argyle.....	2968.7	3.472573
Manigault's pounding mill ball (S. C.), 1866, n. d.	32 10 25.002	770.1	43 48 50.4	223 48 01.4	Potter.....	3499.0	3.543939
	81 07 25.751	674.6	94 06 45.1	274 05 43.1	Drakie.....	3060.1	3.485736
			162 26 08.2	342 25 44.8	Argyle.....	3849.2	3.581971
Fort Jackson flagstaff, 1866, n. d.	32 04 53.815	1657.6	91 47 12.5	271 46 22.0	Fig I. L. H....	2512.7	3.400137
	81 02 10.852	284.6	156 33 26.5	336 33 22.4	Tatnal.....	510.1	2.707663
			198 04 12.8	16 04 13.2	Fort Jackson(2)	61.2	1.786665
			248 47 29.6	68 48 03.4	Signal.....	1787.6	3.252268
Dike, 1873, l. '94, d. m.	32 04 42.731	1316.2	93 58 52.1	273 57 33.5	Savannah Exchange spire.	8889.5	3.589893
	81 08 00.358	9.4	163 20 18.3	348 20 08.7	Savannah, S. base.	1644.0	3.216425
			252 16 47.6	72 17 13.6	Fort Jackson(3)	1347.1	3.129400
Fort Jackson (2), 1866, n. d.	32 04 55.724	1716.5	88 34 17.2	268 32 32.0	Savannah Exchange.	5197.0	3.715752
	81 02 10.206	267.6	123 21 59.2	303 21 28.0	Savannah, S. base.	2189.7	3.330358
			250 23 05.3	70 23 38.7	Signal.....	1751.2	3.243338
Grove, 1913, d. m. . . .	31 54 26.612	819.6	171 30 40.2	351 30 06.2	Wilmington....	11430.3	4.058057
	80 56 02.571	67.6	213 15 49.2	35 18 37.5	Tybee L. H....	15211.3	4.182160
Petit Chou I, 1913, d. m.	31 56 35.325	1088.0	9 39 04.8	189 38 51.2	Grove.....	4021.3	3.604267
	80 55 36.918	969.6	162 10 21.4	342 09 33.8	Wilmington....	7711.0	3.887112

GEOGRAPHIC POSITIONS—Continued.

SAVANNAH RIVER—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Supplementary points—Con.</i>							
Petit Chou 2, 1913, d. m. ¹	31 56 37.175	1144.9	12 40 43.1	192 40 24.9	Grove.....	<i>Meters.</i> 4121.9	3.615095
	80 55 28.140	739.1	76 06 17.8	258 06 13.2	Petit Chou (1).	237.4	2.375403
Tybee hotel, north cupola, 1913, d.	31 59 39.392	1213.2	40 19 07.2	220 15 22.7	Grove.....	12627.7	4.101325
	80 50 51.746	1358.2	99 40 36.1	279 36 16.4	Wilmington.....	9987.7	3.999466
Tybee hotel, south cupola, 1913, d.	31 59 38.352	1181.2	132 35 37.0	312 34 16.1	Pulaski (U. S. E.).	5441.0	3.735680
			183 27 45.6	3 27 49.4	Tybee L. H....	3087.4	3.489596
Jones I. rear range light (S. C.), 1913, d.	32 02 47.119	1451.4	40 21 28.4	220 18 44.1	Grove.....	12596.2	4.100241
			80 53 31.114	816.2	132 54 46.7	Pulaski (U. S. E.).	5455.3	3.736822
Jones I. front range light (S. C.), 1913, d.	32 02 31.026	955.7	183 36 44.1	3 36 48.1	Tybee L. H....	3120.0	3.494156
			80 52 14.540	381.5	48 47 57.1	Oyster Bed rear light.	888.2	2.948532
Yard, 1913, d. m. ¹	32 05 20.43	629.3	301 42 43.9	121 44 12.2	Tybee L. H....	5135.4	3.710576
			81 05 08.41	220.5	355 11 55.5	Pulaski (U. S. E.).	2107.9	3.323848
Oglethorpe 2, 1913, d. m.	32 04 55.999	1724.8	313 03 29.0	133 04 16.7	Tybee L. H....	3228.8	3.509045
			81 02 10.472	274.6	48 15 11.1	Oyster Bed rear light.	2305.2	3.362705
Bloody Point rear range beacon (S. C.), 1913, d.	32 04 33.525	1032.7	81 15 11.1	261 14 25.1	Tybee L. H....	3228.8	3.509045
			80 51 40.816	1070.5	26 48 45.6	Pulaski (U. S. E.).	6025.4	3.779985
Bloody Point front range beacon (S. C.), 1913, d.	32 03 39.872	1228.2	37 29 35.7	217 28 31.8	Oyster Bed rear light.	5197.0	3.715749
			80 50 49.023	1285.9	346 08 47.7	Tybee L. H....	6156.8	3.789355
Tybee wharf house, north gable, 1913, n. d. ¹	32 01 37.979	1169.9	47 35 11.9	227 33 49.5	Pulaski (U. S. E.).	5522.1	3.742108
			80 51 08.382	219.9	61 21 12.3	Oyster Bed rear light.	5152.9	3.712051
Fig I. front range light, 1913, n. d.	32 04 49.487	1524.2	358 28 36.8	178 28 39.1	Tybee L. H....	4326.8	3.636162
			81 04 02.284	59.9	190 28 36.5	Pulaski (U. S. E.).	3569.1	3.552562
Fig I. rear range light, 1913, n. d.	32 04 50.595	1558.4	812 29 37.5	132 29 50.1	Tybee L. H....	845.0	2.926838
			81 04 50.877	1334.3	239 28 39.7	Shack.....	2211.6	3.344709
Pole (S. C.), 1913, d.	32 05 22.864	704.2	268 04 43.8	86 05 43.3	Oglethorpe (2)	2939.2	3.468433
			81 03 24.427	640.5	281 22 17.0	Coast.....	619.6	2.715676
Screven's chimney (S. C.), 1913, n. d.	32 05 36.546	1125.7	274 22 25.2	94 23 01.3	Coast.....	1789.0	3.252620
			81 03 01.963	51.5	267 43 20.6	Oglethorpe (2).	4210.0	3.624282
Brick chimney (S. C.), 1913, n. d.	32 05 37.052	1141.2	271 31 49.3	91 32 15.1	Fig I. front range light.	1274.9	3.105464
			81 03 56.624	1434.8	274 22 25.2	Coast.....	1789.0	3.252620
Pole (S. C.), 1913, d.	32 05 22.864	704.2	23 09 08.6	203 08 58.8	Coast.....	1229.5	3.089731
			81 03 24.427	640.5	116 23 57.2	Chim.....	957.6	2.981163
Screven's chimney (S. C.), 1913, n. d.	32 05 36.546	1125.7	264 03 10.9	84 03 29.4	Shack.....	917.4	2.962551
			81 03 01.963	51.5	34 39 00.1	Coast.....	1886.4	3.275645
Brick chimney (S. C.), 1913, n. d.	32 05 37.052	1141.2	312 45 44.3	132 46 11.7	Oglethorpe (2).	1839.3	3.264050
			81 03 56.624	1434.8	315 16 05.9	Shack.....	459.5	2.662258
Brick chimney (S. C.), 1913, n. d.	32 05 37.052	1141.2	281 00 44.7	101 01 20.3	Shack.....	1789.7	3.252781
			81 03 56.624	1434.8	294 25 19.6	Oglethorpe (2).	3057.4	3.486357
Brick chimney (S. C.), 1913, n. d.	32 05 37.052	1141.2	347 01 53.0	187 02 00.3	Coast.....	1608.5	3.206434
			81 03 56.624	1434.8	281 00 44.7	Oglethorpe (2).	3057.4	3.486357

¹ No check on this position.

GEOGRAPHIC POSITIONS—Continued.

SAVANNAH RIVER—Continued.

Station.	Latitude and longitude.	Sec onds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Supplementary points—Con.</i>							
Mound, 1913, d. m...	32 05 23.992	739.0	93 52 32.5	273 52 14.5	Shack.....	<i>Meters.</i> 892.1	2.950416
	81 02 15.689	411.4	241 30 04.3	61 30 57.5	Proctor (U. S. E.).	2984.4	3.474861
			350 58 59.6	170 59 02.4	Oglethorpe (2).	873.0	2.941015
Blue (U. S. E.), 1913, n. d.	32 05 16.485	507.8	56 29 33.3	230 29 04.7	Coast.....	1691.8	3.228342
	81 02 49.072	1286.9	177 07 19.5	357 07 19.2	Shack.....	291.8	2.465142
			301 56 04.0	121 56 24.5	Oglethorpe (2).	1192.8	3.076583
Savannah, Catholic Cathedral, north spire, 1913, n. d.	32 04 24.000	739.2	237 45 52.8	57 47 02.0	Savannah, S. base.	4038.9	3.606268
	81 05 28.642	751.2	245 24 03.7	65 25 28.2	Shack.....	4585.9	3.661426
			259 10 57.4	79 12 42.1	Fort Jackson (3).	5265.5	3.721441
Savannah, Catholic Cathedral, south spire, 1913, n. d.	32 04 23.461	722.6	237 35 54.0	57 37 03.3	Savannah, S. base.	4051.4	3.607606
	81 05 28.805	755.5	245 14 06.4	65 15 31.0	Shack.....	4596.7	3.662448
			259 00 51.2	79 02 36.0	Fort Jackson (3).	5272.8	3.722045
Savannah, stand-pipe, 1913, n. d.	32 05 15.954	491.4	263 09 13.3	83 10 46.8	Savannah, S. base.	4652.1	3.667648
	81 06 14.502	380.3	266 42 20.1	86 44 08.9	Shack.....	5381.2	3.730876
			282 58 58.5	103 00 19.0	Coast.....	4081.3	3.610797
Savannah, wireless tower, 1913, n. d.	32 05 13.512	416.2	262 16 33.1	82 18 07.1	Savannah, S. base.	4685.8	3.670786
	81 06 15.432	404.7	265 55 29.9	85 57 19.2	Shack.....	5410.3	3.733224
			281 52 43.7	101 54 04.7	Coast.....	4088.9	3.611608
Savannah, electric light plant chimney, 1913, n. d.	32 05 01.070	38.0	265 16 30.3	75 17 28.3	Savannah, S. base.	3982.8	3.600190
	81 05 45.250	1186.7	260 32 24.2	80 33 57.5	Shack.....	4668.7	3.669198
			278 07 57.9	98 09 02.9	Coast.....	3242.4	3.510871
Savannah, post office tower, 1913, n. d.	32 04 40.322	1242.0	236 03 33.4	56 04 25.7	Chimney.....	3110.0	3.492755
	81 05 35.530	931.8	245 20 05.8	65 21 32.7	Savannah, S. base.	3957.9	3.597463
			286 30 30.4	86 31 30.2	Coast.....	2960.4	3.471347
Savannah, Weather Service tower, 1913, n. d.	32 04 44.873	1382.1	237 11 33.6	57 12 23.8	Chimney.....	2946.0	3.469229
	81 05 31.564	827.8	246 36 05.3	66 37 16.1	Savannah, S. base.	3806.0	3.580469
			269 11 41.6	89 12 39.3	Coast.....	2851.2	3.455021
Proctor Place light (S. C.), 1913, n. d.	32 06 07.090	218.4	47 28 41.7	227 27 53.4	Fort Jackson (3).	3237.5	3.510212
	81 00 40.443	1060.4	69 29 86.1	249 28 47.5	Shack.....	3616.7	3.558317
			232 32 42.8	52 32 45.4	Proctor (U. S. E.).	158.1	2.198976
Fertilizer tank, 1913, n. d.	32 04 26.451	814.7	149 07 33.3	329 07 08.3	Levee.....	2403.1	3.380769
	81 03 47.779	1253.1	173 31 45.3	353 31 40.3	Chimney.....	2177.2	3.337895
			250 21 53.9	70 22 45.7	Oglethorpe (2)	2709.4	3.432681
Oglethorpe range front light, 1913, n. d. ¹	32 05 27.95	860.9	62 14 46	242 14 08	Fort Jackson (3).	2110.4	3.324366
	81 01 00.21	5.5	73 13 06	253 11 40	Coast.....	4455.3	3.648875
			63 20 51	243 19 36	Fort Jackson (3).	4156.7	3.618641
Oglethorpe range rear light (S. C.), 1913, n. d. ¹	32 05 56.58	1742.7	70 28 33	250 26 29	Coast.....	6485.0	3.811907
	80 59 49.81	1306.0	170 07 43	350 07 36	Levee.....	1964.6	3.293278
			197 43 40	17 43 53	Chimney.....	2137.9	3.329985
Savannah, Square tank, 1913, n. d. ¹	32 04 30.57	941.6	192 49 13	12 49 21	Levee.....	1822.1	3.260572
	81 04 21.96	576.0	216 33 15	36 33 43	Chimney.....	2337.4	3.368729
			65 10 20	245 09 46	Fort Jackson (3).	1853.4	3.267962
Mackey Point light (old), 1913, n. d. ¹	32 05 21.31	656.4	75 08 57	255 07 34	Coast.....	4221.0	3.625413
	81 01 07.29	191.2					

¹ No check on this position.

GEOGRAPHIC POSITIONS—Continued.
SAVANNAH RIVER TO SAPELO SOUND.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Principal points.</i>							
Tybee L. H., 1851, n. d., r. '02.	32 01 19.447 80 50 44.040	599.0 1171.5	165 55 06.69	345 53 50.85	Cooper.....	Meters. 15375.61	4.1868323
Savannah Exchange, 1850, d. m.	32 04 51.475 81 05 28.310	1585.5 742.4	246 38 07.15 285 40 04.98	66 42 41.07 105 47 53.92	Cooper..... Tybee L. H....	21154.30 24084.60	4.3253986 4.3817376
Viele (S. C.), 1866, n. d., r. '70.	32 03 58.434 80 56 57.933	1799.8 1519.6	96 59 45.91	276 55 14.90	Savannah Exchange. Cooper..... Tybee L. H....	13485.1 11698.15 10949.78	4.1296616 4.0681170 4.0394055
Mungen (S. C.), 1854, d. m., r. '94.	32 04 50.587 80 52 27.075	1558.1 710.0	337 32 28.57 77 16 41.83	167 33 22.93 257 14 18.00	Tybee L. H.... Viele.....	7036.73 7283.35	3.847371 3.862331
Fort Pulaski flag-staff, 1866, n. d.	32 01 36.804 80 53 26.792	1133.6 703.0	128 14 12.32 194 42 06.77 277 08 56.37	308 12 20.28 14 42 38.45 97 10 22.36	Viele..... Mungen..... Tybee L. H....	7050.69 6170.94 4288.60	3.848244 3.790351 3.632316
Long, 1866, n. d., r. '70	32 02 52.083 80 56 16.668	1604.2 437.2	152 05 38.5 238 45 47.8 288 06 35.5 297 28 17.1	332 05 16.5 58 47 49.7 108 09 31.6 117 29 47.2	Viele..... Mungen..... Tybee L. H.... Fort Pulaski flagstaff.	2312.7 7042.1 9107.4 5024.2	3.364116 3.847702 3.962244 3.701071
Wilmington, 1857, d. m., r. d. '02.	32 00 33.647 80 57 06.859	1036.4 180.0	197 09 38.9 222 49 31.8 251 22 08.0 261 58 00.4	17 10 05.5 42 52 00.3 71 24 04.7 82 01 23.0	Long..... Mungen..... Fort Pulaski flagstaff. Tybee L. H....	4462.7 10794.1 6004.1 10129.7	3.649602 4.033187 3.784912 4.005598
Petit Chou, 1857, d. m., l. '97.	31 56 40.653 80 55 14.531	1252.1 381.6	157 40 03.2 219 30 27.4	337 39 03.7 39 32 50.3	Wilmington.... Tybee L. H....	7758.8 11132.9	3.889793 4.046610
Red house, cupola, 1857, d. m., l. '89.	31 57 15.667 81 01 02.570	482.6 67.5	225 24 14.5 276 42 12.1	45 26 19.3 96 46 16.3	Wilmington.... Petit Chou....	8687.9 9204.0	3.938916 3.963976
South Wassaw, 1857, d. m., l. '02.	31 52 08.069 80 59 52.876	248.5 1389.9	169 03 58.3 221 02 20.5	349 03 21.5 41 04 47.6	Red house, cupola. Petit Chou....	9649.5 11134.4	3.984504 4.046670
Skidaway, 1857, d. m., l. '13.	31 53 41.557 81 02 42.619	1280.0 1120.0	201 43 20.4 302 49 39.2	21 44 13.3 122 51 08.8	Red house cupola. South Wassaw	7099.1 5309.8	3.851206 3.725076
Raccoon Key, 1857, d. m., p. l. '89.	31 51 42.036 81 02 56.849	1296.3 1494.4	185 48 09.5 260 35 24.5	5 48 17.0 80 37 01.6	Skidaway..... South Wassaw	3698.7 4901.8	3.568051 3.690360
North Ossabaw, 1857, d. m., l. '02.	31 48 51.601 81 02 14.135	1589.3 373.1	167 56 36.7 211 32 23.9	347 56 14.2 31 33 38.4	Raccoon Key. South Wassaw	5369.5 7100.9	3.729930 3.851313
Morell, 1857, d. m., r. d. '13.	31 50 26.550 81 05 26.969	817.8 709.7	239 28 15.2 299 57 49.2	59 29 34.4 119 59 30.8	Raccoon Key. North Ossabaw.	4581.5 5852.8	3.661007 3.767361
Green I., 1857, d. m., l. '02.	31 53 11.892 81 04 42.646	366.3 1120.8	314 50 23.0 12 53 25.1	134 51 18.9 192 53 01.7	Raccoon Key. Morell.....	3922.2 5224.2	3.593535 3.718017
Little Buzzard, 1857, d. m., p. l. '02.	31 51 41.359 81 07 41.026	1273.9 1078.5	239 14 45.0 269 48 26.4 303 09 52.8	59 16 19.2 89 50 56.4 123 11 03.5	Green I..... Raccoon Key. Morell.....	5455.2 7470.5 4210.8	3.736807 3.873349 3.624367
Cane Patch, 1858, d. m., r. d. '02.	31 50 36.720 81 06 26.932	1131.0 708.1	135 37 46.4 209 49 49.2	315 37 07.3 29 50 44.3	Little Buzzard Green I.....	2785.4 5509.7	3.444893 3.741131
Sigma, 1858, d. m., r. d. '02.	31 51 20.814 81 09 59.187	641.1 1556.0	247 37 30.0 260 06 26.1 283 39 45.5	67 40 17.2 80 07 39.1 103 41 37.5	Green I..... Little Buzzard Cane Patch....	8996.3 3680.8 5743.4	3.954064 3.566649 3.759167
Palmetto, 1857, d. n. m.	31 54 43.728 81 07 38.155	1346.8 1002.4	301 30 32.1 346 10 16.5 00 46 11.3 30 40 52.0	121 32 04.9 166 10 54.2 180 46 09.8 210 39 37.5	Green I..... Cane Patch.... Little Buzzard Sigma.....	5410.2 7834.9 5617.6 7260.3	3.733216 3.894031 3.749547 3.861311

GEOGRAPHIC POSITIONS—Continued.

SAVANNAH RIVER TO SAPELO SOUND—Continued.

Station.	Latitude and longitude.	Sec-onds in meters.	Azimuth.	Back azimuth.	To station.	Dis-tance.	Loga-rithm of distance.
<i>Principal points—Continued.</i>							
Ogeechee, 1857, d. m., r. '69.	31 53 20.480 81 10 23.857	630.8 621.7	239 27 52.4 271 39 56.2 305 31 22.1 309 09 33.4 350 05 57.0	59 29 19.8 91 42 50.2 125 32 48.0 129 02 38.3 170 06 09.9	Palmetto..... Green I..... Little Buzzard Cane Patch..... Sigma.....	<i>Meters.</i> 5043.5 8905.9 6252.9 8010.2 3741.4	3.703162 3.952592 3.720399 3.903042 3.573038
Buck Head, 1858, d. m., r. d. m. '02.	31 47 04.460 81 08 23.383	137.4 615.2	162 18 30.7 205 05 40.0	342 17 40.2 25 06 41.4	Sigma..... Cane Patch....	8288.0 7219.5	3.918449 3.858507
Stevensons Point, 1858, d. m., r. d. '04.	31 46 16.067 81 12 27.859	494.8 733.1	202 36 21.3 256 56 10.9	22 37 39.7 76 58 19.7	Sigma..... Buok Head....	10168.2 6603.0	4.007243 3.819743
Newell, 1858, d. m., r. '04.	31 44 45.542 81 09 06.718	1402.6 176.8	117 47 27.3 173 32 09.2 194 55 15.3	297 45 41.4 353 31 41.6 14 55 38.1	Stevensons Point. Sigma..... Buck Head....	5982.9 12252.3 4428.0	3.776909 4.088218 3.640207
Yellow Bluff, 1858, d. m., r. d. m., '13.	31 42 37.789 81 14 18.570	1163.8 488.8	203 25 37.7 244 22 11.4	23 26 35.9 64 24 55.4	Stevensons Point. Newell.....	7327.3 9104.0	3.864945 3.959231
Walburg, 1858, d. m., l. '02.	31 41 42.320 81 09 14.475	1303.4 381.2	102 03 55.7 148 53 27.8 182 04 19.6	282 01 15.9 328 51 46.1 2 04 23.7	Yellow Bluff. Stevensons Point. Newell.....	8187.9 9849.0 5646.9	3.913175 3.893391 3.751808
English Cut, 1858, d. m., r. '04.	31 38 10.799 81 11 04.440	609.8 117.2	147 15 06.5 204 54 15.9	327 13 24.0 24 55 13.0	Yellow Bluff.. Walburg.....	9449.0 8577.4	3.975387 3.837425
John Thomas, 1858, d. m., r. d. m. '02.	31 38 27.346 81 15 18.831	842.2 490.2	191 37 25.5 237 56 28.7 271 58 01.7	11 37 57.1 57 59 40.0 92 00 15.1	Yellow Bluff.. Walburg..... English Cut...	7875.1 11321.9 6707.2	3.896258 4.053920 3.826544
Barbours I., 1856, d. m., l. '02.	31 34 26.952 81 14 35.104	830.1 925.6	171 09 15.7 217 44 08.5	351 08 52.8 37 45 58.9	John Thomas. English Cut...	7493.1 9070.0	3.874060 3.957009
St. Catherine, 1856, d. m., l. '02.	31 33 50.785 81 10 59.308	1564.1 1564.1	101 05 26.0 141 14 52.6 179 03 49.4	281 03 33.0 321 12 36.6 359 03 46.7	Barbours I... John Thomas. English Cut...	5798.7 10925.0 8280.5	3.763328 4.039423 3.918369
Cedar Hummock, 1856, d. m., r. '13.	31 33 17.623 81 14 56.740	542.8 1490.7	194 57 49.7 230 43 09.0	14 58 01.0 80 45 13.3	Barbours I... St. Catherine..	2210.2 6344.8	3.344433 3.802417
Sapelo I., north base, 1856, d. m., r. d. '02.	31 31 42.859 81 14 11.451	1320.0 302.1	157 44 25.5 172 57 53.1 232 07 29.1	337 44 01.8 352 57 40.6 52 09 09.6	Cedar Hum-mock. Barbours I... St. Catherine..	3153.7 5092.2 6419.5	3.498821 3.706906 3.807501
Black Beard, 1856, d. m., l. '02.	31 31 58.332 81 11 13.114	1796.7 346.0	84 13 45.3 130 41 00.1 186 00 04.5	264 12 12.1 310 39 14.4 6 00 11.7	Sapelo I., north base. Barbours I... St. Catherine..	4728.88 7023.8 3482.5	3.674758 3.846572 3.541894
Dog I., 1856, d. m., r. d. '02.	31 31 55.652 81 16 00.721	1714.0 19.0	205 50 55.3 213 45 19.4 277 46 30.9	25 51 40.2 33 45 52.0 97 47 28.0	Barbour's I... Cedar Hum-mock. Sapelo I., N. base.	5178.1 3036.7 2909.5	3.714174 3.482395 3.463819
Sapelo I., S. base, 1856, d. m., l. '01.	31 30 53.997 81 14 41.472	1663.0 1064.2	132 15 04.9 174 47 47.1 181 28 00.1 207 45 25.0	312 14 23.5 354 47 39.2 1 28 03.3 27 45 40.7	Dog I..... Cedar Hum-mock. Barbour's I... Sapelo I., N. base.	2824.5 4441.8 6560.9 1700.8	3.450934 3.647560 3.816963 3.230604
Moss I., 1856, d. m., r. '69.	31 37 36.021 81 12 57.676	1109.4 1520.0	335 48 16.0 23 48 27.3	155 47 18.0 203 47 36.3	St. Catherine.. Barbour's I...	7606.6 6364.4	3.881190 3.803757
Johns Hummock, 1856, d. m., r. d. '02.	31 54 22.058 81 00 24.214	679.4 636.2	348 42 43.1 71 04 41.0 169 19 55.1	168 42 59.7 251 03 27.9 349 19 34.9	South Wassaw Sklaway..... Red house cu-pola.	4208.3 2844.9 5441.3	3.624107 3.584880 3.735705

GEOGRAPHIC POSITIONS—Continued.

SAVANNAH RIVER TO SAPELO SOUND—Continued. •

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Principal points—Continued.</i>							
Cabbage I., 1855, d. m., l. '02.	31 56 21.884	674.0	111 07 00.3	291 05 33.9	Red house cupola.	<i>Meters.</i> 4600.63	3.682817
	80 58 19.150	503.8	193 44 54.0	13 45 32.3	Wilmington...	7983.42	3.902189
			263 11 15.1	83 12 52.9	Petit Chou....	4883.4	3.688720
Romerly Marshes, S. base, 1855, d. m., l. '02.	31 55 21.208	653.2	304 42 39.8	124 43 32.7	Johns Hummock.	3198.78	3.504985
	81 02 04.289	112.7	18 10 06.3	198 09 46.1	Skidaway....	3230.3	3.509243
Romerly Marshes, N. base, 1855, d. m., l. '89.	31 56 06.915	213.0	328 37 09.0	148 37 48.6	Johns Hummock.	3782.8	3.577808
	81 01 39.180	1029.3	339 12 01.0	159 12 57.3	South Wassaw	7869.0	3.895919
			20 25 25.2	200 24 51.8	Skidaway....	4777.3	3.679178
			25 06 21.7	205 06 08.4	Romerly Marshes, S. base.	1554.63	3.191626
Romerly Marsh, 1855, d. m.	31 56 01.143	35.2	26 32 12.1	206 31 41.4	Johns Hummock.	3411.1	3.532897
	80 59 26.213	688.6	73 30 42.5	253 29 18.9	Romerly marshes, S. base.	4330.9	3.636574
			92 55 24.0	272 54 13.7	Romerly Marshes, N. base.	3497.2	3.543722
			132 12 47.4	312 11 56.5	Red house cupola.	3416.5	3.533584
			250 04 01.9	70 04 37.4	Cabbage I....	1873.8	3.272717
Great Wassaw, 1857, d. m.	31 54 44.474	1369.6	115 43 34.3	295 41 55.5	Romerly Marsh.	5443.3	3.735866
	80 56 19.528	613.1	122 04 55.1	302 02 25.4	Red house cupola.	8772.0	3.943142
			133 40 59.2	313 39 55.9	Cabbage I....	4344.7	3.637962
			205 30 10.4	25 30 44.8	Petit Chou....	3964.9	3.598228
			215 50 08.0	25 53 05.3	Tybee L. H....	15010.8	4.176405
Cedar Hummock (2), 1902, d. m.	31 33 17.625	542.8	337 44 04.0	157 44 27.7	Sapelo I., n. base.	3153.8	3.498829
	81 14 56.746	1496.6	33 45 50.8	213 45 17.3	Dog I.....	3036.7	3.482404
St. Catherine (2), 1902, d. m.	31 33 50.790	1564.3	52 09 13.9	232 07 33.4	Sapelo I., n. base.	6419.9	3.807528
	81 10 59.292	1563.6	65 59 03.8	245 56 26.0	Dog I.....	8705.6	3.939800
			80 45 12.9	260 43 08.6	Cedar Hummock (2).	6345.2	3.802445
Sap, 1902, d. m.	31 31 45.051	1387.5	96 29 52.1	276 28 55.2	Dog I.....	2888.6	3.460688
	81 14 11.928	314.7	157 28 57.2	337 28 33.8	Cedar Hummock (2).	3086.5	3.489470
			232 40 24.3	52 42 05.1	St. Catherine (2).	6388.7	3.805414
Shell, 1902, d. m., l. '13.	31 33 26.910	828.8	29 45 38.4	209 45 02.8	Sap.....	2613.6	3.557936
	81 13 03.938	103.9	58 59 01.4	238 54 28.8	Dog I.....	5444.6	3.735966
			84 31 05.2	264 30 06.2	Cedar Hummock (2).	2988.9	3.475512
			267 22 46.6	77 23 51.8	St. Catherine (2).	3368.6	3.527453
Beard, 1902, d. m.	31 31 37.986	1169.9	92 21 04.0	272 19 18.3	Sap.....	5337.8	3.727364
	81 10 49.769	1313.0	115 14 24.9	295 12 15.9	Cedar Hummock (2).	7201.4	3.857419
			133 28 38.7	313 27 28.5	Shell.....	4876.4	3.688102
		176 29 14.6	356 29 09.8	St. Catherine (2).	4097.9	3.612564	
Hum, 1902, d. m., l. '13.	31 34 55.699	1715.4	351 19 54.2	171 20 00.3	St. Catherine (2).	2022.2	3.305820
	81 11 10.847	286.0	47 29 21.3	227 28 22.1	Shell.....	4046.2	3.607051

GEOGRAPHIC POSITIONS—Continued.

SAVANNAH RIVER TO SAPELO SOUND—Continued.

Station.	Latitude and longitude.	Sec-onds in meters.	Azimuth.	Back azimuth.	To station.	Dis-tance.	Loga-rithm of distance.
<i>Principal points—Continued.</i>							
High, 1902, d. m., p. r. '13.	31 34 42.348	1304.2	22 25 39.7	202 24 52.0	Beard.....	Meters. 6142.5	3.788344
	81 09 20.963	552.8	58 31 42.4	238 30 50.9	St. Catherine (2).	3040.9	3.483007
				68 27 26.6 98 05 00.5	248 25 29.8 278 04 03.0	Shell..... Hum.....	6322.9 2026.9	3.800919 3.466410
Oak, 1902, d. m., l. '12.	31 33 04.148	127.7	13 12 45.2	193 12 32.8	Beard.....	2725.8	3.435404
	81 10 26.154	689.8	67 40 12.5	247 44 14.5	Sap.....	6454.6	3.808521
			99 34 25.6	279 33 03.0	Shell.....	4220.2	3.625328
Benn, 1902, d.....	31 31 09.720	299.4	242 12 49.7	62 13 42.9	Dog I.....	3035.3	3.482205
	81 17 42.511	1121.6	258 54 11.7	78 56 01.9	Sap.....	5661.4	3.752924
			347 09 41.2	167 10 03.6	Marsh.....	5086.0	3.706376
Bluff, 1902, d. m.....	31 32 53.175	1037.7	263 56 34.0	83 58 55.1	Cedar Hum- mock (2).	7159.4	3.854877
	81 19 26.681	703.7	288 02 43.9	108 04 31.6	Dog I.....	5714.5	3.756890
			319 12 56.7	139 13 51.2	Benn.....	4207.6	3.624036
Hunter, 1902, d.....	31 30 55.681	1714.9	237 56 40.3	57 57 38.7	Dog I.....	3480.9	3.541692
	81 17 52.550	1386.6	255 20 38.8	75 22 34.1	Sap.....	6016.2	3.779320
			342 52 09.8	102 52 37.3	Marsh.....	4736.5	3.675460
Barbours I. (2), 1902, d. m.	31 34 28.958	830.3	307 33 45.9	127 34 33.6	Shell.....	3033.2	3.481899
	81 14 35.102	925.6	14 58 07.7	194 57 40.4	Cedar Hum- mock (2).	2210.3	3.344454
Tree, 1902, n. d.....	31 31 31.455	968.8	147 30 36.2	327 29 55.1	Cedar Hum- mock (2).	3876.9	3.588484
	81 13 37.787	996.9	194 05 36.1	14 05 53.8	Shell.....	3666.2	3.564221
			267 23 23.1	87 24 51.0	Beard.....	4437.3	3.647122
Palm, 1902, d. m.....	31 29 50.748	1563.0	133 52 35.1	313 51 31.2	Tree.....	4475.7	3.650861
	81 11 35.502	936.9	140 12 37.8	320 10 52.6	Cedar Hum- mock (2).	8293.7	3.918748
			200 04 03.0	20 04 26.9	Beard.....	3516.3	3.546088
Os, 1904, d. n. m., l. '13.	31 43 21.634	666.3	81 51 18.2	261 48 10.5	Yellow Bluff..	9501.3	3.977783
	81 08 21.366	562.5	165 12 31.2	335 12 07.4	Newell.....	2846.8	3.454354
Cat, 1904, d. n. m., l. '13.	31 42 05.784	178.1	96 10 24.8	276 07 22.2	Yellow Bluff..	9203.9	3.963971
	81 08 31.050	817.6	169 11 51.5	349 11 32.8	Newell.....	5009.3	3.699776
			186 13 37.7	6 13 42.8	Os.....	2350.0	3.371069
Water, 1904, n. d.....	31 42 14.345	441.8	87 33 19.7	207 31 17.3	Os.....	6138.9	3.788093
	81 04 38.137	1004.2	109 26 20.8	289 24 23.5	Os.....	6232.3	3.794650
Black, 1904, d. m., l. '13.	31 39 50.960	1569.5	174 06 22.2	354 06 08.8	Os.....	6523.1	3.814456
	81 07 55.925	1473.3	229 41 47.7	49 43 31.5	Water.....	6829.3	3.834379
North, 1904, d. m....	31 45 10.150	312.0	341 21 06.9	161 21 43.4	Water.....	6714.6	3.756984
	81 05 47.529	1250.9	18 59 14.9	198 58 07.5	Black.....	10395.9	4.016894
			37 10 41.5	217 09 15.7	Cat.....	7125.6	3.852824
Medway, 1858, d. n. m., r. '69.	31 43 11.436	352.2	240 13 56.3	60 15 37.7	Newell.....	5840.4	3.766446
	81 12 19.332	508.9	299 24 14.3	119 25 51.5	Walburg.....	5588.1	3.747207
			347 36 32.6	167 37 12.0	English Cut..	9196.2	3.963610
Shell Bank, 1858, d. n. m.	31 45 36.628	1134.3	304 37 17.1	124 38 02.9	Newell.....	2779.7	3.444000
	81 10 33.626	885.0	343 54 05.6	211 50 51.1	Walburg.....	7517.3	3.876062
			31 51 40.7	51 47 13.0	Medway.....	5272.1	3.721981
		231 46 04.4		Buck Head....	4362.4	3.639723	
Harris, 1858, n. d....	31 44 08.314	256.1	209 11 00.9	119 13 41.5	Walburg.....	9215.2	3.964504
	81 14 19.977	525.8	222 09 06.7	42 09 45.1	Hart.....	2871.0	3.458207
			245 23 40.8	65 25 39.9	Shell Bank....	6561.7	3.816355
		298 52 16.2	118 53 19.6	Medway.....	3627.2	3.559566	
Hart, 1858, n. d.....	31 45 17.414	536.4	261 33 00.4	81 34 21.0	Shell Bank....	4074.5	3.610069
	81 13 06.769	178.2	342 09 27.2	162 09 52.2	Medway.....	4078.1	3.610240
Loan, 1858, n. d.....	31 44 03.979	122.6	243 18 11.6	63 19 41.6	Hart.....	5036.5	3.702128
	81 15 57.737	1519.6	267 01 24.2	87 02 15.7	Harris.....	2576.9	3.411096

GEOGRAPHIC POSITIONS—Continued.

SAVANNAH RIVER TO SAPELO SOUND—Continued.

Station.	Latitude and longitude.	Sec-onds in meters.	Azimuth.	Back azimuth.	To station.	Dis-tance.	Loga-rithm of distance.
<i>Principal points—Continued.</i>							
Pine, 1858, n. d.....	31 45 49.438	1522.7	285 44 42.9	105 45 52.8	Hart.....	<i>Meters.</i> 3632.5	3.560205
	81 15 19.612	516.2	333 14 59.2	153 15 30.6	Harris.....	3487.7	3.542541
Drop, 1913, n. d.....	31 52 11.021	339.4	69 55 05.5	197 09 54.1	Loan.....	3399.5	3.531419
	80 59 52.628	1383.4	121 58 57.8	301 57 28.0	Morell.....	9360.2	3.971286
			168 22 48.1	348 22 31.4	Skidaway.....	5206.5	3.721526
Ruin, 1913, n. d.....	31 51 14.792	455.6	66 57 36.8	246 56 26.7	John's Hum- mock.	4120.5	3.614946
	81 03 14.152	372.1	190 23 15.2	301 57 28.0	Morell.....	3795.0	3.579212
			251 52 55.7	10 23 31.8	Skidaway.....	4595.7	3.662355
Land, 1913, n. d.....	31 49 21.324	656.8	117 31 05.6	71 54 42.1	Drop.....	5573.6	3.746132
	81 03 00.257	6.8	174 01 57.7	297 29 48.2	Morell.....	4349.8	3.638466
			183 18 34.2	354 01 50.4	Ruin.....	3513.9	3.545788
<i>Supplementary points.</i>			223 19 53.9	3 18 43.5	Skidaway.....	8028.6	3.904641
				43 21 32.9	Drop.....	7187.1	3.856556
Hospital, north chim- ney, 1902, d., r. '16.	31 31 57.615	1774.5	82 40 12.9	262 39 13.3	Sap.....	3029.6	3.481389
	81 12 18.030	475.0	89 25 35.6	269 23 30.0	Dog I.....	5875.1	3.769015
Ton, 1902 d.....			156 14 17.5	336 13 53.5	Shell.....	3005.0	3.477840
			210 46 55.7	30 47 36.9	St. Catherine (2).	4057.5	3.608256
North, 1902, d. m. ¹ ...	31 33 16.670	513.4	269 08 09.3	89 08 48.2	Cedar Hum- mock (2).	1963.2	3.292960
	81 16 11.171	294.7	311 53 10.7	131 54 13.1	Sap.....	4225.6	3.625890
			353 41 41.7	173 41 47.2	Dog I.....	2510.4	3.399746
North, 1902, d. m. ¹ ...	31 36 30.82	949.4	21 42 35	201 41 24	Beard.....	9707.0	3.987085
	81 08 33.67	887.5	51 32 22	231 30 00	Shell.....	9103.1	3.959190
Creighton, 1902, d. n. m. ¹	31 32 00.24	7.4	155 35 52	335 35 18	Bluff.....	1790.3	3.252920
	81 18 58.63	1546.8	271 42 04	91 44 18	Dog I.....	4695.6	3.671693
Three, 1902, d.....	31 30 25.700	701.5	17 34 41.8	197 34 19.4	Marsh.....	3779.6	3.577441
	81 16 18.466	434.2	188 31 19.5	8 31 27.7	Dog I.....	2801.3	3.447366
			233 20 55.6	53 22 00.7	Sap.....	4094.9	3.612245
One, 1902, d.....	31 29 39.968	1231.0	211 05 05.0	31 05 54.9	Dog I.....	4879.9	3.688412
	81 17 36.226	956.0	234 26 04.0	54 27 50.8	Sap.....	6625.8	3.821237
			336 16 52.7	156 17 12.0	Marsh.....	2397.1	3.379684
Front range, 1902, n. d. ¹	31 31 24.61	757.9	231 44 52	51 46 19	Cedar Hum- mock (2).	5623.6	3.750016
	81 17 44.19	1165.7	250 41 18	70 42 12	Dog I.....	2892.3	3.461238
Chocolate, 1902, n. d..	31 30 03.631	111.8	86 23 39.0	266 21 18.8	Cook.....	7094.2	3.850905
	81 15 17.932	473.2	161 52 59.2	341 52 36.9	Dog I.....	3630.1	3.559920
Magnetic azimuth mark, 1902, d. n. m.	31 29 49.018	1509.7	236 46 45.7	56 48 43.7	Dog I.....	7121.9	3.862597
	81 19 46.583	1228.8	266 20 53.0	86 23 13.3	Chocolate.....	7103.5	3.851475
			299 18 21.7	119 19 48.8	Marsh.....	5051.2	3.703398
Kollock's house, west gable, 1856, n. d.	31 36 10.086	310.6	4 00 28.3	184 00 22.3	St. Catherine..	4300.8	3.633550
	81 10 47.909	1263.0	51 01 35.2	230 59 24.9	Cedar Hum- mock.	8441.8	3.926436
			127 44 38.8	307 43 25.8	Moss I.....	4224.8	3.635968
Pryor, 1857, d. n. m... Little Buzzard	31 55 07.675	236.4	33 34 23.8	213 32 59.0	Palmetto.....	7625.9	3.882291
	81 05 00.605	15.9	79 54 29.6	259 53 06.3	Little Buzzard	4204.4	3.623709
Possum Island, 1857, d. n. m.	31 55 16.300	502.1	276 56 53.4	96 57 37.2	Pryor.....	2194.2	3.341266
	81 06 23.510	617.6	17 06 32.9	197 05 51.9	Little Buzzard	6926.6	3.840519
			62 54 47.1	242 54 07.6	Palmetto.....	2202.8	3.342978

¹ No check on this position.

GEOGRAPHIC POSITIONS—Continued.

SAVANNAH RIVER TO SAPELO SOUND—Continued.

Station.	Latitude and longitude.	Sec-onds in meters.	Azimuth.	Back azimuth.	To station.	Dis-tance.	Loga-rithm of distance.
<i>Supplementary points—Con.</i>							
Call, 1857, n. d.....	31 51 30.282	1117.5	151 58 22.5	331 57 48.1	Ogeechee.....	3635.9	8.560608
	81 09 18.648	490.2	176 25 47.1	356 25 44.3	Coffee.....	2165.9	8.335646
Coffee, 1857, n. d.....	31 52 46.468	1431.2	226 08 47.6	46 11 03.8	Pryor.....	9401.1	8.973177
	81 09 23.780	625.0	266 30 22.0	86 31 13.5	Little Buzzard	2571.1	3.410114
			123 39 22.3	303 38 50.7	Ogeechee.....	1990.5	3.276570
			217 32 06.9	37 33 02.7	Palmetto.....	4555.0	3.658492
Shad's E. end gable of barn, 1857, n. d.	32 00 55.464	1708.5	256 49 46.4	76 51 42.6	Fort Pulaski..	5905.2	3.771237
	80 57 06.347	166.6	265 45 15.6	85 48 38.0	Tybee L. H.....	10044.4	4.001926
			339 29 00.8	159 30 00.1	Petit Chou....	8379.4	3.923214
Roger's (C) ho. N. chy., 1858, n. d.	31 47 23.348	719.1	275 29 47.3	95 31 48.0	Buck Head...	6055.6	3.782155
	81 12 12.498	328.5	314 49 18.0	134 50 55.8	Newell.....	6983.5	3.839441
			321 34 58.5	141 35 50.5	Shell Bank....	4187.0	3.621902
Adams chimney, 1857, n. d.	31 53 32.966	1015.4	346 59 33.1	166 59 49.0	Raccoon Key..	3505.0	3.544692
	81 03 26.859	705.8	347 33 41.3	167 34 19.7	North Ossa-baw.	8874.2	3.948129
			28 48 53.4	208 47 50.2	Morell.....	6552.5	3.816406
			62 47 23.6	242 45 09.4	Little Buzzard	7513.0	3.875812
Beaulieu chimney, 1857, n. d.	31 55 54.293	1672.2	10 02 53.5	190 02 25.8	Green I.....	2094.8	3.321138
	81 06 48.515	1274.5	30 53 04.5	210 57 38.3	Little Buzzard	7911.7	3.898272
			50 02 57.8	230 01 04.2	Palmetto.....	2534.7	3.403919
Brown's house chim-ney, 1857, n. d.	31 55 35.102	1031.2	803 22 49.3	123 23 15.1	Ogeechee.....	7375.4	3.867787
	81 05 49.402	1297.8	22 10 34.9	202 09 35.9	Pryor.....	1535.2	3.186175
			60 06 13.3	240 03 48.4	Little Buzzard	7774.0	3.890646
Screven's house chimney, 1858, n. d.	31 46 02.195	67.6	61 01 46.1	241 00 48.6	Ogeechee.....	8313.8	3.919800
	81 16 45.104	1186.8	279 54 02.6	99 54 47.6	Palmetto.....	3266.0	3.514017
			283 28 55.3	103 80 50.2	Pine.....	2283.8	3.358055
Sunbury, tall west chimney, E. end of house, 1858, n. d.	31 45 57.128	1759.6	312 33 00.2	132 34 16.6	Hart.....	5909.0	3.771515
	81 16 47.842	1259.0	275 49 07.9	130 44 42.5	Harris.....	5185.8	3.714812
			310 43 24.7	159 16 36.8	Harris.....	5185.8	3.714812
Baker's house, N. chimney, 1858, n. d.	31 43 57.445	1769.2	153 10 34.4	333 10 31.1	Pine.....	2333.8	3.368068
	81 14 13.646	356.5	153 15 04.9	333 14 30.1	Harris.....	5135.9	3.710617
			215 30 25.7	35 31 00.8	Loan.....	3720.1	3.571284
			242 06 49.3	62 08 45.0	Harris.....	2333.8	3.368068
			285 13 30.7	115 14 30.8	Hart.....	3025.9	3.480851
			297 50 06.5	117 52 43.8	Shell Bank....	6547.9	3.816104
Cheves (Dr.) mill chimney, 1857, n. d.	31 55 18.067	556.4	334 23 43.1	154 25 22.7	Medway.....	3324.0	3.521658
	81 12 36.721	964.7	277 39 26.1	97 42 03.9	Walburg.....	8906.0	3.949712
			312 37 50.1	132 39 32.1	English Cut...	11530.4	4.061843
Pole, 1858, n. d.....	31 56 36.638	1128.4	312 37 50.1	132 39 32.1	Palmetto.....	7015.0	3.896451
	80 55 32.618	856.8	315 59 58.3	130 01 08.7	Coffee.....	6892.5	3.838376
			255 24 19.0	130 01 08.7	Ogeechee.....	5034.0	3.701913
Cedar Tuft, 1858, n. d.	31 57 50.991	1570.4	75 24 28.6	199 37 39.4	Petit Chou....	490.9	2.690975
	80 55 53.598	1407.4	84 04 50.7	264 03 22.6	Great Wassaw.	3067.9	3.564419
			334 39 28.0	154 39 45.6	Cabbage I....	4397.6	3.643211
Sunbury, tall chim-ney without house, 1858, n. d.	31 45 59.534	1833.7	186 28 21.0	186 45 35.3	Pole.....	2397.1	3.379681
	81 16 45.613	1200.4	6 45 49.1	234 18 41.3	Pole.....	2355.5	3.372076
			34 19 58.3	234 18 41.3	Great Wassaw.	5785.1	3.762310
			277 49 03.4	97 49 48.7	Cabbage I....	4705.8	3.672636
Sunbury, church spire, 1858, n. d.	31 45 57.434	1768.9	102 42 36.6	131 47 50.8	Pine.....	2284.4	3.358770
	81 16 52.479	1381.0	282 40 41.5	102 42 36.6	Hart.....	5903.5	3.771111
			311 46 34.2	131 47 50.8	Harris.....	5140.7	3.711019
		340 30 01.4	160 30 26.5	Loan.....	3775.5	3.576976	
		303 03 29.9	123 07 30.9	Walburg.....	14391.4	4.158102	
		309 55 45.9	129 57 06.2	Harris.....	5235.1	3.718921	
		337 35 19.3	157 35 48.1	Loan.....	3779.8	3.577462	

GEOGRAPHIC POSITIONS—Continued.

SAVANNAH RIVER TO SAPELO SOUND—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Supplementary points—Con.</i>							
Brinson, 1913, d. m.	31 29 30.956	953.4	144 00 33.3	323 58 52.7	Cedar Hummock (2).	<i>Meters.</i> 8629.6	3.935991
	81 11 44.469	1173.6	168 54 35.5	348 54 18.0	Hospital, N. chimney.	4602.9	3.663029
			190 58 57.2	19 59 23.6	Wind.....	3900.5	3.591123
High (2), 1913, d. m.	31 34 42.374	1305.1	45 03	225 03	High.....	1.145	0.0588
	81 09 20.932	551.9					
Half tide rock, 1912, n. d.	31 33 30.874	950.9	83 18 58.6	263 17 47.6	Cedar Hummock (2).	3500.7	3.544158
	81 12 44.917	1184.6	257 34 27.5	77 35 22.8	St. Catharine (2).	2852.4	3.455205
Quarantine stack, 1912, n. d.	31 32 14.278	439.7	116 01 48.5	296 00 29.2	Cedar Hummock (2).	4447.6	3.648122
	81 12 25.220	665.3	167 34 54.4	347 34 44.1	Half tide rock.	2415.6	3.383026
			217 19 06.8	37 19 51.8	St. Catharine (2).	3737.9	3.572033
Wind, 1912, n. d., r. '13,	31 31 29.975	923.2	119 32 40.3	299 31 52.6	Quarantine stack.	2767.7	3.442114
	81 10 53.946	1423.3	141 50 08.1	321 49 10.0	Half tide rock.	4736.4	3.675448
			178 08 16.8	358 08 14.0	St. Catharine (2).	4339.2	3.637410
Bank, 1912, n. d.	31 31 26.894	828.3	109 37 33.4	289 37 28.1	Wind.....	282.6	2.451104
	81 10 43.858	1157.1	140 06 11.4	320 05 07.9	Half tide rock.	4977.7	3.697032
			174 45 09.6	354 45 01.6	St. Catharine (2).	4450.5	3.648406
Quarantine flagstaff, 1912, n. d.	31 31 58.221	1793.1	120 05 39.5	300 04 15.7	Cedar Hummock (2).	4878.9	3.688322
	81 12 16.696	440.5	165 22 55.0	345 22 40.2	Half tide rock.	2949.1	3.469890
			210 29 15.2	30 29 55.7	St. Catharine (2).	4023.5	3.604602
Tall pine tree, 1912, n. d.	31 33 51.570	1588.3	14 46 37.0	194 46 14.2	Wind.....	4510.0	3.654180
	81 10 10.345	272.8	81 07 28.1	261 06 07.2	Half tide rock.	4128.0	3.615532
			88 56 15.5	268 55 49.9	St. Catharine (2).	1291.0	3.110942
Cat (2), 1913, d.	31 42 04.235	130.4	96 36 12.1	276 33 13.2	Yellow Bluff..	9020.6	3.955235
	81 08 38.256	1007.4	171 25 30.4	351 25 15.4	Newell.....	5024.4	3.701084
Os (2), 1913, d.	31 43 21.431	660.0	10 43 29.1	190 43 20.1	Cat (2).....	2419.9	3.383789
	81 08 21.155	557.0	81 53 49.7	261 50 41.8	Yellow Bluff..	9505.9	3.977994
			156 09 36.7	335 09 12.7	Newell.....	2854.8	3.455573
Cat (3), 1913, d.	31 41 53.684	1653.4	112 52 53.1	292 52 37.7	Cat (2).....	835.815	2.922110
	81 08 09.014	237.4	163 59 23.9	343 58 53.5	Newell.....	5506.9	3.740905
			173 15 15.8	353 15 09.4	Os (2).....	2721.4	3.434792
Rauer, 1913, d. m.	31 41 52.685	1622.6	175 22 53.2	355 22 48.8	Os (2).....	2742.2	3.438102
	81 08 12.768	336.2	252 43 06.1	72 43 08.1	Cat (3).....	103.551	2.015153
North (2), 1913, d. m.	31 45 09.902	305.0	31 34 43.6	211 33 29.4	Cat (3).....	7093.0	3.850833
	81 05 47.965	1262.4	38 06 28.8	218 04 59.2	Cat (2).....	7266.3	3.861312
Black (2), 1913, d. m.	31 39 50.880	1566.4	174 48 50.4	354 48 43.5	Cat (3).....	3798.444	3.579606
	81 07 55.970	1474.7	198 55 27.1	18 56 34.4	North (2).....	10388.3	4.016546
Coon, 1916, n. d.	31 51 09.799	801.8	331 04 33.5	151 05 10.5	Land.....	3817.0	3.581724
	81 04 10.453	274.8	56 29 45.9	236 29 05.5	Morell.....	2412.8	3.382523
Wassaw, 1916, n. d. ...	31 51 59.680	1838.1	45 11 39.7	225 10 01.2	Land.....	6919.5	3.840076
	80 59 53.580	1408.5	71 54 12.0	251 51 16.0	Morell.....	9222.3	3.964538
			77 12 06.1	257 09 50.5	Coon.....	6925.4	3.840442
Wassaw (S. C.), 1917, d. m.	32 06 40.364	1243.3	15 52 30.5	195 51 33.6	Tybee L. H. ..	10276.2	4.011832
	80 48 57.524	1508.2	37 20 20.8	217 17 57.6	Fort Pulaski..	11668.3	4.067008
			47 38 02.3	227 38 35.6	Bloody Point rear beacon.	5796.8	3.763152

GEOGRAPHIC POSITIONS—Continued.

SAPELO SOUND TO ST. SIMON SOUND.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Principal points.</i>							
Jullenton, 1856, d. m., l. '01.	31 33 25.734	792.6	251 18 46.1	71 20 36.7	Barbours I....	5889.3	3.770061
	81 18 06.668	175.9	272 50 28.6	92 52 08.0	Cedar Hummock.	5015.8	3.702296
			309 51 23.0	129 52 29.0	Dog I.....	4328.8	3.636317
			297 02 04.3	117 04 07.3	Sapelo I., N. base.	6966.7	3.843030
			310 47 25.6	130 49 12.9	Sapelo I., S. base.	7151.8	3.864388
Marsh, 1858, d. m., r. '02.	31 28 28.710	884.2	189 04 19.6	349 03 44.6	Jullenton.....	9317.0	3.969277
	81 16 59.098	1575.8	193 43 06.0	13 43 36.9	Dog I.....	6560.8	3.819857
			219 10 45.0	39 11 57.2	Sapelo I., S. base.	5773.2	3.761418
			216 34 58.3	36 36 26.2	Sapelo I., N. base.	7447.7	3.872021
Cook, 1858, d. m., r. d. '02.	31 29 49.067	1511.2	236 44 55.1	56 46 53.0	Dog I.....	7118.4	3.852076
	81 19 46.212	1219.6	248 20 05.4	68 22 59	Sapelo I., N. base.	9503.0	3.977862
			256 00 47.2	76 03 26.5	Sapelo I., S. base.	8286.5	3.918373
			299 22 19.3	119 23 46.3	Marsh.....	5043.9	3.702767
Fox, 1859, d. m., r. d. '01.	31 25 37.342	1150.0	200 58 09.9	20 50 08.7	Cook.....	8303.0	3.919234
	81 21 38.803	1024.8	234 22 14.1	54 24 39.6	Marsh.....	9004.5	3.957342
Spalding, 1859, d. m., p. r. '08.	31 24 19.598	603.6	110 15 58.0	290 13 49.9	Fox.....	6918.4	3.840004
	81 17 33.065	873.4	160 54 01.1	340 52 51.6	Cook.....	10738.8	4.030956
			186 32 57.2	6 33 14.6	Marsh.....	7722.6	3.887766
My Hall, 1859, d. m., l. '96.	31 21 54.082	1665.6	199 50 11.8	19 51 00.7	Fox.....	7310.0	3.863917
	81 23 12.726	336.3	243 26 22.9	63 29 19.8	Spalding.....	10031.4	4.001360
Thalla, 1859, d. m....	31 19 25.903	797.8	114 47 42.5	294 44 27.9	My Hall.....	10893.0	4.037148
	81 16 58.540	1547.9	174 14 35.8	354 14 17.8	Spalding.....	9091.0	3.958614
Butler, 1859, d. m., r. '72.	31 17 39.330	1211.3	154 08 57.4	334 07 42.6	My Hall.....	8718.9	3.940463
	81 20 48.875	1292.6	202 45 39.9	22 47 21.7	Spalding.....	13369.8	4.126124
			241 39 50.6	61 41 50.3	Thalla.....	6918.8	3.840030
Troup, 1859, d. m....	31 17 41.810	1287.7	198 46 14.4	18 47 06.3	My Hall.....	8206.2	3.914141
	81 24 52.644	1392.3	270 39 39.9	90 41 46.5	Butler.....	6447.5	3.809394
Bank, 1859, d. m., r. '09.	31 16 10.082	310.5	125 42 22.9	305 41 05.7	Troup.....	4841.6	3.684989
	81 22 23.992	634.7	173 04 06.9	353 03 41.6	My Hall.....	10672.4	4.028264
			222 27 45.7	42 28 35.1	Butler.....	3726.2	3.571270
Brown, 1860, d. m....	31 15 40.349	1242.8	198 09 16.6	18 09 40.7	Troup.....	3938.7	3.595135
	81 25 39.023	1032.4	259 55 20.2	79 57 01.4	Bank.....	5240.3	3.719358
West Point, 1859, d. m.	31 14 07.595	233.9	131 09 40.6	311 08 36.5	Brown.....	4340.9	3.637577
	81 23 35.499	939.4	162 48 55.9	342 48 15.9	Troup.....	6905.7	3.839209
			206 37 53.0	26 38 30.1	Bank.....	4220.2	3.625330
Duck, 1860, d. m., r. d. '99.	31 13 06.493	200.0	205 24 02.6	25 24 46.7	Brown.....	5245.7	3.719801
	81 27 04.071	107.8	251 09 40.8	71 11 28.9	West Point...	5832.1	3.765824
Hamilton, 1856, d. m., r. d. '72.	31 09 51.236	1578.1	149 03 44.2	329 02 33.7	Duck.....	7011.5	3.845809
	81 24 47.887	1268.2	172 49 41.1	352 49 14.5	Brown.....	10836.5	4.034889
			193 38 18.7	13 38 56.2	West Point...	8124.3	3.909787
Curlew, 1860, d. m., p. l. '94.	31 08 16.161	497.8	197 05 57.2	17 06 51.0	Duck.....	9355.2	3.971052
	81 28 47.992	1271.4	245 15 43.0	65 17 47.2	Hamilton.....	7001.5	3.845189
Brunswick Point, 1856, d. m.	31 06 39.557	1218.3	138 04 25.2	318 03 33.1	Curlew.....	8999.2	3.601976
	81 27 07.122	188.7	211 59 20.8	32 00 32.8	Hamilton.....	6960.7	3.842655
Cedar Hummock, 1856, d. m.	31 06 11.747	361.8	177 24 07.7	357 24 04.3	Curlew.....	3835.5	3.583821
	81 28 41.430	1098.0	251 04 36.6	71 05 25.3	Brunswick Point.	2841.8	3.421903
Jekyl Creek, 1856, d. m., p. l. '94.	31 05 13.330	410.5	117 08 38.6	297 07 30.2	Cedar Hummock.	3944.5	3.595996
	81 26 28.978	768.1	159 09 42.8	339 09 22.6	Brunswick Point.	2841.4	3.453530

GEOGRAPHIC POSITIONS—Continued.

SAPELO SOUND TO ST. SIMON SOUND—Continued.

Station.	Latitude and longitude.	Sec-onds in meters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Principal points—Continued.</i>							
Jekyl North, 1856, d. m., p. l. '94.	° ' " 31 07 11.383 81 25 04.281	350.5 113.4	° ' " 31 41 40.8 73 15 03.2	° ' " 211 41 03.0 253 13 59.7	Jekyl Creek... Brunswick Point.	<i>Meters.</i> 4272.7 3399.3	3.630698 3.531395
Plantation Creek, 1856, d. m., p. l. '94.	31 07 59.504 81 26 09.334	1832.5 247.3	310 41 08.0 5 48 31.6 31 52 51.3	130 41 41.6 185 48 21.4 211 52 21.4	Jekyl North... Jekyl Creek... Brunswick Point.	2273.1 5143.9 2899.4	3.356611 3.711289 3.462301
St. Simon I., W. base, 1855, d. m.	31 08 30.994 81 24 51.153	954.5 1355.1	8 04 30.6 64 54 51.4	188 04 23.8 244 54 11.0	Jekyl North... Plantation Creek.	2476.3 2286.9	3.393806 3.359255
St. Simon I., E. base, 1855, d. m.	31 08 08.589 81 24 08.095	264.5 214.4	40 12 01.1 121 10 25.4	220 11 32.0 301 10 03.1	Jekyl North... St. Simon I., W. base.	2306.5 1333.1	3.362946 3.124887
Alkens, 1901, d. m...	31 24 17.558 81 22 29.951	540.7 791.2	208 47 53.8 269 31 08.7	28 48 20.4 89 33 43.4	Fox... Spalding...	2804.2 7843.0	3.447805 3.894483
Sapelo lighthouse (old tower), 1856, n. d., r. '01.	31 23 27.843 81 17 08.942	857.5 236.3	100 15 24.7 119 14 45.2 158 12 31.9	280 12 37.4 299 12 24.0 338 12 19.3	Alkens... Fox... Spalding...	8617.8 8188.4 1716.6	3.935394 3.912137 3.234675
Grass, 1901, d. m.....	31 20 16.263 81 22 13.497	500.9 356.8	176 39 09.3 224 39 32.1 233 44 04.0	356 39 00.7 44 41 58.1 53 46 42.5	Alkens... Spalding... Sapelo L. H. (old tower).	7444.0 10539.5 9979.8	3.871807 4.022821 3.999121
Rokenbaugh's mill chimney, 1901, d. m.	31 21 51.210 81 24 58.475	1577.2 1545.3	221 02 07.5 248 44 44.9 256 28 38.9 303 49 58.5	41 03 24.8 68 48 30.7 76 32 43.3 123 51 24.3	Alkens... Spalding... Sapelo L. H. (old tower). Grass...	5976.2 12625.0 12759.1 5250.4	3.776426 4.101230 4.105819 3.720189
Butler's rice mill chimney, 1858, n. d., r. d. '01.	31 21 15.778 81 26 45.286	485.9 1197.0	248 51 25.7 255 00 22.1 284 17 33.4	68 52 21.3 75 05 22.0 104 19 54.8	Rokenbaugh's mill chimney. Sapelo L. H. (old tower). Grass...	3026.6 15764.1 7414.4	3.480948 4.197869 3.870075
Dennis Folly, 1856, d. m., p. l. '94.	31 07 30.847 81 29 17.087	950.1 452.8	294 37 51.5 338 47 53.3	114 38 58.7 158 48 11.7	Brunswick Point. Cedar Hummock.	3788.6 2612.8	3.578482 3.417109
Jointer, 1856, d. m...	31 07 06.956 81 30 31.075	214.2 823.3	249 25 22.9 300 19 40.4	69 26 01.1 120 20 37.0	Dennis Folly.. Cedar Hummock.	2093.9 3366.4	3.320956 3.527164
Brandy Point, 1856, d. m.	31 07 56.967 81 29 58.773	1754.5 1504.1	307 24 59.1 30 32 51.4	127 25 19.6 210 32 33.7	Dennis Folly.. Jointer.....	1323.8 1788.3	3.121833 3.252460
Buzzards Roost, 1856, d. m.	31 08 47.668 81 31 02.597	1468.2 333.7	307 51 15.5 340 28 11.2	127 51 54.7 160 28 32.7	Brandy Point. Jointer.....	2544.1 3290.9	3.405542 3.517312
Colonels I., 1856, d. m.	31 08 11.900 81 31 41.894	366.5 1109.9	215 09 52.8 279 22 09.6 316 49 26.7	35 10 07.9 99 23 03.9 136 50 03.3	Buzzards Roost. Brandy Point. Jointer.....	1347.5 2822.6 2742.4	3.129524 3.450652 3.438125
St. Simon L. H., 1872, n. d., r. '99.	31 08 02.003 81 23 37.508	61.7 993.7	6 05 04.4 149 45 33.9	186 04 28.0 329 43 47.0	Little Cumber- land I. L. H. Duck.....	17807.7 10856.1	4.245702 4.035674
Mud (2), 1898, d. m., l. '05.	31 04 47.555 81 29 48.591	1464.7 1288.1	195 49 18.9 238 38 01.1 325 16 49.5	15 50 44.0 58 41 12.8 145 19 24.6	Duck..... St. Simon L.H. Little Cumber- land I. L. H.	15971.7 11513.5 14012.2	4.203350 4.061207 4.146507
Spot, 1898, d. m., r. m. '13.	31 08 29.383 81 26 14.049	905.0 372.2	171 10 52.6 281 28 55.2 39 46 56.4	351 10 26.8 101 30 16.2 219 45 05.5	Duck..... St. Simon L.H. Mud (2).....	8636.3 4231.8 8887.6	3.936330 3.626528 3.948786

GEOGRAPHIC POSITIONS—Continued.

SAPELO SOUND TO ST. SIMON SOUND—Continued.

Station.	Latitude and longitude.	Sec-onds in meters.	Azimuth.	Back azimuth.	To station.	Dis-tance.	Loga-rithm of distance.
<i>Principal points—Continued.</i>							
	° ' "		° ' "	° ' "		Meters.	
Dune, 1899, d. m.	31 07 15.442 81 24 54.097	475.6 1433.4	59 45 19.4 137 04 37.1 162 20 57.4 234 44 49.9	239 42 47.3 317 03 55.8 342 19 50.2 54 45 29.5	Mud (2)..... Spot..... Duck..... St. Simon L.H.	9038.2 3110.0 11346.0 2484.7	3.955987 3.492757 4.054943 3.395271
Col, 1898, d. m., r. '11.	31 07 15.050 81 30 52.005	463.6 1378.0	252 42 40.3 262 48 33.2 328 57 39.7	72 45 04.0 82 52 17.8 149 00 48.4	Spot..... St. Simon L.H. Little Cum-berland I. L. H.	7711.5 11602.1 18741.7	3.887140 4.064536 4.272809
Duck (2), 1899, d. m. .	31 13 06.529 81 27 04.642	201.1 122.9	274 09 47.8	94 09 48.1	Duck.....	15.16	1.18081
Ham, 1898, d. m., r. '11.	31 05 58.600 81 28 33.700	1804.6 993.2	122 43 38.2 218 32 20.8 244 08 26.6 247 51 15.7 336 22 53.9	302 42 26.7 38 33 32.9 64 10 59.0 67 53 09.1 156 24 50.3	Col..... Spot..... St. Simon L.H. Dune..... Little Cum-berland I. L. H.	4358.0 5937.6 8720.0 6282.0 14959.6	3.639090 3.773608 3.940515 3.798098 4.174921
			42 13 17.3	222 12 38.5	Mud (2).....	2954.1	3.470431
Brunswick tank tower, 1898, n. d.	31 09 02.576 81 29 50.262	79.3 1331.3	280 40 18.0 340 17 45.5 26 17 30.0	100 43 29.4 160 18 25.8 206 16 58.7	St. Simon L.H. Ham..... Col.....	10048.9 6018.0 3693.4	4.002119 3.779453 3.567423
Brunswick Acad-emy, 1865, n. d., r. '08.	31 08 50.876 81 29 27.990	1567.0 741.5	279 10 58.9 37 01 45.2	.99 14 00.2 217 01 01.8	St. Simon L.H. Col.....	9405.7 3696.3	3.973389 3.567772
Buz, 1898, d. m., r. d. '05.	31 08 44.453 81 31 11.701	1369.2 810.0	255 29 20.3 265 52 25.1	75 30 01.8 85 53 18.7	Brunswick tank tower. Brunswick Academy.	2228.2 2754.3	3.347963 3.440009
			320 39 01.0 349 16 00.0	140 40 22.7 109 16 10.8	Ham..... Col.....	6604.1 2802.3	3.819812 3.447518
Brunswick Bar, W. base, 1898, d. m., r. '13.	31 08 10.758 81 24 08.481	331.3 224.7	288 11 15.5 35 21 22.8 59 56 28.5 99 47 53.1	108 11 31.5 215 20 59.2 239 54 11.5 279 46 28.1	St. Simon L.H. Dune..... Ham..... Spot.....	863.7 2088.7 8121.0 3375.5	2.936361 3.319875 3.906808 3.528339
Brunswick Bar, E. base, 1898, d. m., l. '17.	31 08 00.063 81 23 24.333	1.9 644.7	59 59 12.2 99 43 04.9 105 43 55.3	239 58 25.8 279 42 58.1 285 43 32.5	Dune..... St. Simon L.H. Brunswick Bar, W. base.	2746.7 354.1 1251.1	3.438808 2.549139 3.084587
Jekyl, 1899, d. m.	31 06 38.900 81 24 22.742	1200.0 602.7	187 36 43.8 205 08 22.9 211 46 43.4	7 36 51.0 25 06 46.3 31 47 13.6	Brunswick Bar, W. base. St. Simon L.H. Brunswick Bar, E. base.	2852.2 2824.4 2938.3	3.455181 3.450019 3.468991
Bly, 1898, d. m., r. '05.	31 11 11.478 81 32 16.125	353.5 427.0	314 11 16.8 315 46 18.7	134 12 43.8 135 47 34.2	Brunswick Academy. Brunswick tank tower.	6211.0 5539.0	3.793158 3.743434
			328 32 20.9 339 20 56.1 342 58 47.4	148 34 16.0 159 21 29.5 162 59 30.9	Ham..... Buz..... Col.....	11204.2 4838.7 7614.5	4.052857 3.694720 3.881639
Dennis, 1898, d. m., r. d. '05.	31 07 30.291 81 29 16.323	933.0 432.5	338 11 47.6 79 31 03.7 126 46 34.0	158 12 09.6 259 30 14.2 306 45 84.3	Ham..... Col..... Buz.....	3041.3 2578.2 3815.7	3.483055 3.411316 3.581569
Quarantine, 1906, d. m.	31 06 48.610 81 28 03.196	1435.6 84.7	28 40 09.2 124 46 33.4	208 39 53.4 304 45 55.6	Ham..... Dennis.....	1685.1 2358.8	3.226676 3.372695
Tank, 1906, d. m.	31 21 50.799 81 24 59.127	1564.5 1562.5	256 26 24.8 303 36 49.1 68 58 45.0	76 30 29.5 123 38 15.3 248 57 50.4	Sapelo L. H. (old tower). Grass..... Butler's rice-mill chimney.	12778.8 6257.7 3005.9	4.106491 3.720792 3.477979

GEOGRAPHIC POSITIONS—Continued.

SAPELO SOUND TO ST. SIMON SOUND—Continued.

Station.	Latitude and longitude.	Secs. in meters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
	° ' "		° ' "	° ' "		Meters.	
<i>Principal points— Continued.</i>							
Altamaha, 1906, d. m.	31 19 56.982 81 25 13.226	1755.0 349.7	134 55 34.1	314 54 46.2	Butler's rice- mill chim- ney.	3436.7	3.536138
			186 04 04.8 243 03 45.3	6 04 12.1 63 07 57.3	Tank. Sapelo L. H. (old tower).	3525.0 14352.3	3.547165 4.156922
			262 51 49.0	82 53 22.4	Grass.	4788.3	3.680185
Reach, 1906, d. m.	31 20 56.795 81 24 57.405	1749.2 1519.4	12 45 13.0 101 35 55.5	192 45 04.8 281 34 59.4	Altamaha, '06. Butler's rice- mill chim- ney.	1888.7 2909.5	3.276158 3.463816
			178 28 42.9 249 22 25.1	358 28 42.0 69 26 28.9	Tank. Sapelo L. H. (old tower).	1663.8 13226.3	3.221098 4.121438
			286 03 20.1	106 04 45.4	Grass.	4510.3	3.654203
Sapelo Lighthouse (new), 1906, d.	31 23 32.838 81 17 02.511	1011.4 66.3	53 38 46.8 62 53 45.1 69 04 57.3 76 01 25.8	233 36 04.8 242 49 29.7 249 00 50.0 255 57 17.6	Grass. Altamaha, '06. Reach. Tank.	10207.8 14573.5 13439.6 12980.4	4.008932 4.163555 4.123937 4.113287
North Side of Sound, 1859, n. d.	31 33 36.099 81 12 48.291	1111.8 1273.6	32 10 26 80 28 27	212 09 42 260 27 20	Sapelo I., N. base. Cedar Hum- mock.	4120.1 3435.3	3.61491 3.53597
Pea, 1859, d. m.	31 31 33.960 81 13 48.457	1045.9 1278.4	150 34 21 202 52 14	330 33 45 22 52 45	Cedar Hum- mock. North Side of Sound.	3665.8 4082.8	3.56417 3.61096
Bayonet, 1859, d. m., r. '08.	31 31 04.702 81 12 49.430	144.8 1304.4	120 03 39 180 22 10	300 03 08 0 22 10	Pea. North Side of Sound.	1799.2 4662.9	3.25507 3.66806
Fisherman, 1858, d. m.	81 29 34.131 81 12 43.876	1051.2 1168.0	155 13 09 176 59 22	335 12 35 350 59 19	Pea. Bayonet.	4065.0 2793.3	3.60906 3.44612
Oyster, 1858, d. m.	31 29 39.637 81 13 32.101	1220.8 847.2	277 35 11 173 00 48 203 15 09	97 35 36 353 00 39 23 15 30	Fisherman. Pea. Bayonet.	1284.0 3547.3 2851.6	3.10857 3.54990 3.45508
Palm, 1859, d. m.	31 28 53.45 81 13 28.319	1646.2 694.7	173 52 36 221 47 50	353 52 33 41 48 12	Oyster. Fisherman.	1430.7 1680.7	3.15554 3.22549
Moss, 1858, d. m., r. '08	31 28 45.393 81 12 54.614	1398.0 1441.5	106 31 07 149 22 03 194 41 33	286 30 51 329 21 44 14 41 39	Palm. Oyster. Fisherman.	872.9 1941.6 1627.6	2.94095 3.28817 3.18401
Otter, 1859, d. m.	31 28 03.796 81 13 38.571	110.9 1013.3	191 56 30 222 09 56	11 56 37 42 10 19	Palm. Moss.	1563.1 1728.5	3.19398 3.23767
Scrub, 1858, d. m., r. '08	31 28 08.624 81 13 19.234	265.6 507.7	73 45 44 172 17 12 209 51 00	253 45 34 352 17 09 29 51 13	Otter. Palm. Moss.	531.7 1393.2 1305.7	2.72567 3.14401 3.11583
Sand Hill, 1859, d. m., r. '08.	31 27 23.557 81 13 23.677	725.5 625.1	162 23 50 184 49 49	342 23 42 4 49 51	Otter. Scrub.	1300.2 1393.0	3.11401 3.14394
Sedge, 1859, d. m.	31 27 25.395 81 13 57.483	782.1 1617.7	217 10 34 273 37 42	37 10 54 93 38 00	Scrub. Sand Hill.	1671.0 894.4	3.22298 2.95151
Caberita, 1859, d. m., l. '08.	31 26 38.253 81 13 51.281	1178.1 1354.1	173 33 55 207 34 46	353 33 52 27 35 01	Sedge. Sand Hill.	1461.1 1574.2	3.16409 3.19706
Chaparral, 1859, d. m.	31 26 26.447 81 14 23.891	814.5 895.0	207 53 53 252 05 20	27 54 12 72 05 42	Sedge. Caberita.	2054.3 1182.4	3.31267 3.07278
Lowe, 1859, d. m., r. '08.	31 25 49.568 81 14 30.940	1526.6 817.1	176 04 31 211 31 40 214 55 50	356 04 30 31 32 16 34 56 11	Chaparral. Sand Hill. Caberita.	1138.5 3396.2 1828.6	3.05632 3.53099 3.26220

GEOGRAPHIC POSITIONS—Continued.

SAPELO SOUND TO ST. SIMON SOUND—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
	° ' "		° ' "	° ' "		Meters.	
<i>Principal points—Continued.</i>							
Gripe, 1859, d. m.	31 30 27.073 81 13 38.874	833.8 1025.8	228 22 41 318 19 22 353 01 31 173 00 08	48 23 07 138 19 51 173 01 30 353 00 03	Bayonet..... Fisherman..... Oyster..... Pea.....	1744.9 2182.9 1471.9 2075.5	3.24178 3.33904 3.10787 3.31713
Beacon No. 8 (Alta-maha Sound), 1859, d. m., r. '72.	31 19 56.882 81 19 29.695	1751.9 785.0	283 25 01.3 26 18 21.9	103 26 19.9 206 17 40.7	Thalia..... Butler.....	4108.4 4725.4	3.613076 3.674438
Egg Island, 1859, d. m., r. '69.	31 18 28.208 81 17 55.151	868.8 1458.4	137 32 12.4 220 06 17.2	317 31 23.2 40 06 40.6	Beacon No. 8.. Thalia.....	3702.3 2323.2	3.568471 3.366091
Cooper's (J.) house chimney lightning rod, 1859, d. m.	31 17 13.266 81 19 35.829	408.6 947.7	146 28 06.8 168 11 02.7 181 50 35.2 193 52 24.0 229 04 22.5 225 30 19.8	326 26 13.5 348 09 58.3 1 50 38.4 13 53 27.0 49 05 14.8 45 31 41.5	My Hall..... Fox..... Beacon No. 8. Spalding..... Egg Island..... Thalia.....	10377.0 15801.0 5041.6 13525.1 3523.7 5829.8	4.016070 4.200331 3.702567 4.131141 3.547002 3.765650
Holly, 1859, d. n. m., r. '69.	31 16 47.478 81 18 20.783	1462.2 549.7	111 48 39.3	291 48 00.3	Cooper's (J.) house chimney lightning rod. Egg Island....	2138.0 3175.4	3.330005 3.501802
Fly, 1859, d. m.	31 15 55.700 81 20 13.155	1715.5 348.1	202 27 16.0	22 27 35.4	Cooper's (J) house chimney lightning rod. Holly.....	2584.8 3373.4	3.412430 3.528062
Snake, 1859, d. m.	31 14 27.437 81 19 21.840	845.0 577.9	153 27 43.2 200 31 44.4	333 27 16.6 20 32 16.1	Fly..... Holly.....	3038.5 4605.5	3.482660 3.663277
Terrapin, 1859, d. m., r. '69.	31 14 15.690 81 20 45.332	483.2 1199.6	195 26 58.9 260 41 41.9	15 27 15.0 80 42 25.2	Fly..... Snake.....	3195.6 2238.9	3.504546 3.350031
Jack, 1859, d. m., l. '69.	31 12 33.891 81 20 04.388	1043.8 116.2	160 56 04.5 197 50 49.9	340 65 43.3 17 51 12.0	Terrapin..... Snake.....	3317.1 3673.7	3.520762 3.565108
Wyly, 1859, d. m., r. '69.	31 12 51.913 81 21 29.208	1598.8 773.1	204 13 42.1 228 52 45.5 283 52 44.1	24 14 04.8 48 53 51.5 103 63 28.0	Terrapin..... Snake..... Jack.....	2829.4 4474.1 2312.8	3.451691 3.650709 3.364143
Thomas, 1859, d. m., r. '69.	31 11 36.664 81 21 47.614	1129.2 1258.0	191 48 36.1 237 08 55.1	11 48 45.6 57 09 48.5	Wyly..... Jack.....	2367.6 3249.0	3.374304 3.511824
Single tree, 1859, d. m., p. l. '94.	31 10 50.862 81 21 05.326	1566.4 141.0	141 37 37.0 170 22 32.9 206 56 50.5	321 37 15.1 350 22 20.5 26 57 22.0	Thomas..... Wyly..... Jack.....	1799.3 3903.5 3559.6	3.255105 3.477634 3.551400
Gould, 1859, d. m., l. '69.	31 10 11.518 81 22 28.125	354.7 744.8	202 17 42.5 241 04 05.9	22 18 03.5 61 04 48.8	Thomas..... Single tree....	2834.2 2505.1	3.452427 3.398831
Princess, 1859, d. m., r. '72.	31 09 25.539 81 21 57.365	786.6 1519.4	150 05 20.8 183 41 43.0 207 40 19.0	330 05 04.9 3 41 48.0 27 40 45.9	Gould..... Thomas..... Single tree....	1633.6 4046.7 2967.1	3.213154 3.607098 3.472338
St. Simon Main, 1856, d. m., r. '59.	31 08 16.881 81 22 45.049	519.9 1193.4	187 14 05.4 210 50 56.4	7 14 14.2 30 51 21.1	Gould..... Princess.....	3558.8 2463.0	3.551304 3.391463
St. Simon, 1856, d. m., r. d. '59.	31 07 59.334 81 23 31.413	1827.3 832.2	223 10 21.6 246 14 56.7	43 11 10.3 66 15 20.7	Princess..... St. Simon Main.	3640.7 1341.9	3.561184 3.127718
Jekyl Main, 1856, d. m., p. l. '94.	31 05 58.699 81 24 08.631	1807.7 228.7	18012 14.2	0 12 14.5	St. Simon, E. base. St. Simon..... St. Simon Main.	4000.2 3843.8 4797.3	3.602081 3.584760 3.680997
Dubignon, 1856, d. m.	31 07 11.821 81 24 30.959	364.1 820.3	167 37 34.4 199 06 35.8 227 09 01.2	347 37 24.0 19 06 47.6 47 09 31.9	St. Simon, W. base. St. Simon, E. base. St. Simon.....	2496.3 1850.2 2151.7	3.397290 3.267227 3.332786

GEOGRAPHIC POSITIONS—Continued.

SAPELO SOUND TO ST. SIMON SOUND—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Principal points—Continued.</i>							
	° ' "		° ' "	° ' "		<i>Meters.</i>	
Pond, 1859, d. m., r. d. '69.	31 17 16.815 81 17 41.542	617.9 1098.7	170 42 16 195 57 25	350 42 09 15 57 48	Egg Island..... Thalia.....	2228.0 4135.0	3.347914 3.616473
Altamaha, 1859, d. n. m.	31 17 12.550 81 16 36.403	386.5 962.8	94 21 53 138 12 55 171 53 12	274 21 19 318 12 14 351 53 02	Pond..... Egg Island..... Thalia.....	1727.9 3125.2 4148.5	3.337520 3.494874 3.617889
Sea, 1859, d. n. m.....	31 15 37.329 81 16 53.436	1149.7 1413.6	157 26 54.0 188 44 02.2	337 26 29.0 8 44 11.0	Pond..... Altamaha.....	3317.7 2967.0	3.520834 3.472312
Winter, 1859, d. m., l. '69.	31 13 24.400 81 19 14.678	751.6 388.5	123 21 58.8 161 38 00.6 174 25 20.1	303 21 11.8 341 37 30.3 354 25 22.4	Terrapin..... Fly..... Snake.....	2872.5 4909.8 1950.6	3.458261 3.691067 3.290164
Jim, 1859, d. m.....	31 14 25.786 81 18 03.076	794.2 81.4	45 04 20.7 91 24 11.2	225 03 43.6 271 23 30.4	Winter..... Snake.....	2076.7 2084.9	3.427803 3.319090
Mess, 1859, d. m., r. '69.	31 12 50.584 81 18 28.931	1557.9 765.8	130 42 05.6 193 08 07.6 154 51 20.0	310 41 41.9 13 08 21.0 334 50 52.6	Winter..... Jim..... Snake.....	1597.1 3010.7 3295.1	3.203334 3.478672 3.517872
Kyl, 1913, d. m.....	31 07 17.094 81 24 45.472	526.4 1204.8	133 29 53.3 232 28 03.8	313 29 07.5 52 28 39.0	Spot..... St. Simon L.H.	3234.7 2270.5	3.509830 3.356123
N. B. R. (U. S. E.), 1913, n. d.	31 08 22.702 81 24 18.501	699.2 490.1	300 24 36.8 19 28 41.4 93 51 12.7	120 24 58.0 199 28 27.5 273 50 13.0	St. Simon L.H. Kyl..... Spot.....	1259.2 2143.2 3067.8	3.100109 3.331055 3.480833
Sand Fly (U. S. E.), 1913, d. m.	31 06 50.615 81 24 26.557	1558.8 703.7	148 25 33.9 184 18 12.8 210 35 02.8	328 25 24.1 4 18 16.9 30 35 28.2	Kyl..... N. B. R. (U. S. E.) St. Simon L.H.	957.2 2844.0 2553.9	2.980992 3.453932 3.407203
New Jekyl (U. S. E.), 1913, d. m.	31 05 30.847 81 24 06.183	950.0 163.9	167 36 20.8 189 16 06.8	347 36 10.3 9 16 21.7	Sand Fly (U. S. E.) St. Simon L.H.	2515.2 4716.7	3.400573 3.673638
Now A (U. S. E.), 1913, d. m.	31 08 37.784 81 22 32.445	1163.6 859.5	23 20 37.3 42 29 53.8 57 24 46.6 80 37 13.5	203 19 48.8 222 28 54.8 237 24 13.0 260 36 18.7	New Jekyl (U. S. E.) Sand Fly (U. S. E.) St. Simon L.H. N. B. R. (U. S. E.)	6269.9 4476.8 2045.7 2847.0	3.797204 3.650872 3.310845 3.454475
Postell, 1913, d. m...	31 09 18.968 81 22 02.603	584.2 68.9	31 50 02.2 46 41 31.3	211 55 46.7 226 40 42.2	New A (U. S. E.) St. Simon L.H.	1494.5 3455.2	3.174495 3.538470
Dundy, 1912, n. d....	31 21 36.267 81 20 17.790	1117.0 470.2	235 09 29.4 235 26 06.8 277 35 32.3	55 11 11.0 55 27 45.1 97 37 12.5	Sapelo L. H. (new). Sapelo (old tower). Wolf I. L. H....	6286.2 6059.0 5134.5	3.798390 3.782400 3.710498
Alt, 1912, n. d.....	31 17 24.434 81 17 11.298	752.5 298.8	147 34 04.9 180 19 06.9 181 17 52.2 181 10 19.6	327 32 27.9 0 19 08.2 1 17 55.4 1 10 24.2	Dundy..... Sapelo (old tower). Wolf I. L. H.... Sapelo L. H. (new).	9190.5 11192.4 7078.1 11348.4	3.963340 4.048922 3.849916 4.054935
<i>Supplementary points.</i>							
Cane Creek tank, 1901, d.	31 24 22.051 81 19 33.753	679.1 891.6	29 09 31.6 88 18 32.5 271 20 50.0 293 33 56.0	209 08 07.9 268 17 00.7 91 21 58.9 113 35 11.4	Grass..... Aikens..... Spalding..... Sapelo L. H. (old tower).	8667.2 4656.0 3189.0 4174.1	3.937881 3.668072 3.503861 3.620563
Signal tree, 1901, n. d.	31 23 29.177 81 18 36.405	898.6 961.8	103 35 34.7 227 08 04.0 271 00 44.9	283 33 33.1 47 08 37.0 91 01 30.5	Aikens..... Spalding..... Sapelo L. H. (old tower).	6347.3 2282.8 2311.2	3.802592 3.358474 3.363834

GEOGRAPHIC POSITIONS—Continued.

SAPELO SOUND TO ST. SIMON SOUND—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Supplementary points—Con.</i>							
	° ' "		° ' "	° ' "		<i>Meters.</i>	
Doboy I. stack, 1901, d. m.	31 23 55.673 81 19 41.167	1714.6 1087.6	257 42 26.2 282 01 11.1	77 43 32.9 102 02 30.4	Spalding..... Sapelo L. H. (old tower). Grass..... Aikens.....	3463.4 4112.0 7865.6 4509.5	3.539507 3.614058 3.895731 3.654131
Wolf I. front range beacon, 1902, n. d.	31 21 11.037 81 16 53.928	339.9 1425.4	122 55 31.3 169 54 20.3 174 37 18.5	302 52 36.3 349 53 59.9 354 37 10.8	Aikens..... Spalding..... Sapelo L. H. (old tower).	10575.3 6898.6 4232.0	4.024291 3.770751 3.626542
Union I. chimney, 1901, d. m.	31 24 18.704 81 23 12.012	576.0 317.3	289 47 57.6 271 49 11.7 279 14 55.2	89 50 54.2 91 49 33.6 99 18 04.4	Spalding..... Aikens..... Sapelo L. H. (old tower).	8953.9 11116.5 9718.9	3.952011 3.045968 3.987610
Channel range N. rear, 1901, d. n. m.	31 21 46.307 81 17 28.398	1426.2 697.6	69 56 47.6 120 10 06.4 177 51 49.0 188 23 23.7	249 54 18.2 300 07 28.3 357 51 45.5 8 23 32.9	Grass..... Spalding..... Spalding..... Sapelo L. H. (old tower).	8079.5 9275.2 4724.3 3160.9	3.907382 3.967324 3.674338 3.499815
Channel range S. rear, 1901, d. n. m.	31 21 43.328 81 17 28.524	1334.4 700.9	70 33 08.5 120 39 59.7 177 56 37.9 188 12 43.4	250 30 39.1 300 37 21.7 357 50 34.5 8 12 52.0	Grass..... Aikens..... Spalding..... Sapelo L. H. (old tower).	8045.3 9275.2 4816.9 3252.2	3.905543 3.969360 3.682677 3.512178
Channel range N. front, 1901, d. n. m.	31 21 45.883 81 16 54.746	1413.1 1446.8	71 53 03.7 167 55 50.8 173 11 20.2	251 50 17.8 347 55 30.8 353 11 12.8	Grass..... Spalding..... Sapelo L. H. (old tower).	8865.8 4841.1 3162.5	3.947719 3.684948 3.500028
Channel range S. front, 1901, d. n. m.	31 21 42.925 81 16 54.775	1322.0 1447.6	72 26 38.7 168 09 39.2 173 23 33.8	252 23 52.9 348 09 19.3 353 23 26.4	Grass..... Spalding..... Sapelo L. H. (old tower).	8837.2 4930.1 3252.9	3.946314 3.692856 3.512265
Signal, 1901, d. m.	31 23 21.392 81 18 18.577	658.8 490.8	104 37 01.9 213 50 52.9 263 49 52.8	284 34 50.9 33 51 16.0 83 50 29.1	Aikens..... Spalding..... Sapelo L. H. (old tower).	6862.6 2158.5 1850.5	3.836489 3.334158 3.267296
Clubhouse, 1912, n. d., r. '16.	31 19 18.275 81 17 07.942	562.8 210.0	102 29 17.9 181 02 54.7	282 26 39.0 1 02 57.5	Grass..... Sapelo L. H. (new).	8273.3 7841.3	3.017677 3.894388
Sim, 1916, d. m.	31 17 18.967 81 17 47.388	584.1 1253.4	127 49 48.3 185 52 44.6 195 50 45.1	307 47 30.0 5 53 08.0 15 51 05.6	Grass..... Sapelo L. H. (new). Clubhouse.....	8906.6 11576.3 3819.6	3.949714 4.063533 3.582015
Palm, 1916, d. m.	31 12 56.24 81 18 55.16	1732.0 1460.0	39 32 46 59 07 47	219 30 20 239 02 24	St. Simon L.H. Terminal Tank	11748.1 19266.6	4.069966 4.284804
Rack, 1916, d. m.	31 33 12.907 81 10 42.024	397.5 1108.8	91 15 27.3 158 40 45.8	271 13 14.0 338 40 36.8	Cedar Hummock (2). St. Catharine (2).	6719.8 1252.5	3.827356 3.097770
Swamp, 1916, n. d.	31 31 31.284 81 13 36.964	963.5 975.2	147 17 05.3 224 03 32.1 235 50 27.4	827 16 13.6 44 04 44.6 55 51 58.9	Cedar Hummock (2). St. Catharine (2). Rack.....	3893.0 5979.8 5576.0	3.590280 3.770687 3.746322
Neck, 1916, d. m.	31 27 45.980 81 13 15.183	1416.1 400.8	175 15 57.0 197 41 23.3 201 51 31.8	355 15 46.2 17 42 34.4 21 52 51.9	Swamp..... St. Catharine (2). Rack.....	6062.8 11793.9 10849.7	3.847782 4.071657 4.035417

1 No check on this position.

GEOGRAPHIC POSITIONS—Continued.

SAPELO SOUND TO ST. SIMON SOUND—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.	
<i>Supplementary points—Con.</i>								
Pine, 1916, d. m.	31 41 56.339	1735.2	291 55 21.3	111 55 25.3	Cat (3).....	<i>Meters.</i> 219.0	2.340500	
	81 08 16.729	440.5	317 10 18.0	137 10 20.9	Rauer.....	153.4	2.185961	
			351 56 52.3	171 57 03.2	Black (2).....	3903.1	3.591413	
Middle, 1916, d. m. l. .	31 37 49.82	1534.4	191 56 01	11 56 33	Pine.....	7760.6	3.889893	
	81 09 17.67	465.7	209 59 40	30 00 23	Black (2).....	4304.8	3.633952	
Brunswick City Hall spire, 1898, n. d.	31 08 45.256	1393.9	1 38 52.9	181 38 48.8	Mud (2).....	7323.4	3.864710	
	81 29 40.640	1076.7	34 14 26.1	214 13 49.2	Col.....	3360.3	3.526374	
			89 25 08.0	269 24 20.9	Buz.....	2412.1	3.382396	
			137 34 19.7	317 32 59.5	Bly.....	6101.9	3.785463	
			275 05 21.7	95 07 08.5	Spot.....	5404.5	3.739925	
			276 61 38.6	96 54 30.4	Brunswick Bar, W. base.	8863.1	3.947584	
			277 51 26.7	97 54 34.5	St. Simon L. H.	9711.5	3.987288	
			340 65 48.5	160 56 23.1	Ham.....	5430.3	3.734825	
	Brunswick water tower, 1898, n. d.	31 08 59.483	1832.1	27 20 06.4	207 19 34.0	Col.....	3620.3	3.558747
		81 29 49.263	1304.9	136 10 33.0	316 15 17.0	Bly.....	5625.9	3.750193
			279 13 13.1	99 15 04.5	Spot.....	5775.7	3.761601	
			279 24 47.9	99 27 44.3	Brunswick Bar, W. base.	9151.1	3.961472	
			280 09 49.0	100 13 01.4	St. Simon L. H.	10005.6	4.000244	
			292 15 38.3	112 18 11.0	Dune.....	8450.5	3.926881	
St. Simon range beacon, 1898, n. d.	31 07 56.649	1744.6	65 52 42.0	245 50 03.8	Ham.....	8888.2	3.948814	
	81 23 27.606	731.4	102 53 24.9	282 53 58.8	Spot.....	4523.1	3.655437	
			122 09 17.9	302 09 12.8	St. Simon L. H.	309.9	2.491174	
			219 30 23.7	39 30 25.3	Brunswick Bar, E. base.	136.3	2.134416	
Brunswick Baptist Church spire, 1898, n. d.	31 08 47.729	1470.0	36 26 40.7	216 25 59.6	Col.....	3547.8	3.549963	
	81 29 32.462	859.9	87 48 32.9	267 47 41.0	Buz.....	2030.7	3.420072	
			276 07 16.7	96 08 59.3	Spot.....	5296.1	3.723138	
			277 32 01.5	97 34 49.1	Brunswick Bar, W. base.	8657.5	3.937394	
			278 29 30.8	98 32 34.4	St. Simon L. H.	9507.8	3.978079	
			291 03 23.3	111 05 47.3	Dune.....	7903.3	3.897806	
Hamilton white chimney, 1860, n. d.	31 10 26.814	825.9	139 35 29.9	319 34 08.0	Duck.....	6459.4	3.810190	
	81 24 25.879	685.3	168 40 03.1	348 39 25.2	Brown.....	9848.1	3.993354	
			191 05 38.2	11 06 04.4	West Point...	6928.9	3.840667	
Shines mill chimney, 1860, n. d.	31 22 06.561	202.1	313 36 20.6	133 39 10.4	Butler.....	11927.8	4.076562	
	81 26 15.443	408.1	330 60 49.4	150 52 49.7	Bank.....	12569.1	4.099305	
			344 57 58.8	164 58 42.0	Troup.....	8442.5	3.926469	
B. N. rear, 1898, n. d.	31 06 26.615	819.8	19 59 20.7	199 58 59.0	Mud (2).....	3246.1	3.511367	
	81 29 06.729	178.3	118 08 30.8	268 07 36.4	Col.....	3163.4	3.500148	
			142 03 16.6	322 02 12.0	Buz.....	5383.6	3.731071	
			314 35 04.1	134 35 21.2	Ham.....	1229.0	3.089560	
B. N. front, 1898, n. d.	31 06 33.323	1026.4	318 05 44.2	138 06 02.9	Ham.....	1836.7	3.157377	
	81 29 09.908	262.6	17 28 28.3	197 29 08.3	Mud (2).....	2414.8	3.533362	
			115 24 56.2	295 24 03.4	Col.....	2995.0	3.476398	
Tree, 1899, n. d.	31 07 30.829	949.4	338 22 54.7	158 23 16.7	Ham.....	3055.2	3.485037	
	81 29 16.172	428.5	79 10 21.5	259 09 32.0	Col.....	2585.2	3.412495	
			126 32 24.9	306 31 25.2	Buz.....	3809.0	3.580808	
Brunswick Court-house cupola, 1899, n. d.	31 08 53.727	1654.7	80 49 05.4	210 48 29.9	Col.....	3538.4	3.548804	
	81 29 43.571	1164.2	83 01 48.5	263 01 02.9	Buz.....	2351.4	3.271331	
			136 24 46.8	316 23 27.8	Bly.....	5857.9	3.767745	
Cohels I. front range beacon, 1899, n. d.	31 08 31.842	980.7	100 44 06.3	280 43 26.3	Buz.....	2086.0	3.319322	
	81 29 54.329	1439.3	335 38 20.4	155 39 02.1	Ham.....	5180.4	3.714360	
			241 01 51.3	140 52 30.9	Col.....	860.3	2.934043	

1 No check on this position.

GEOGRAPHIC POSITIONS—Continued.

SAPELO SOUND TO ST. SIMON SOUND—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Supplementary points—Con.</i>							
	° ' "		° ' "	° ' "		<i>Meters.</i>	
Brunswick brewery chimney, 1898, n. d.	31 08 23.205	714.7	10 37 42.3	190 37 18.1	Mud (2).....	6757.1	3.829760
	81 29 01.576	41.8	54 21 03.8	234 20 06.7	Col.....	3600.7	3.556386
			267 31 59.3	87 33 25.9	Spot.....	4441.9	3.647571
			287 38 16.8	107 40 24.7	Dune.....	6880.6	3.837627
			350 34 52.2	170 35 06.7	Ham.....	4514.2	3.654580
Shore, 1899, d. m....	31 08 10.167	313.1	38 11 10.2	218 10 27.1	Jekyl.....	3573.3	3.558069
	81 22 59.377	1573.0	64 47 45.6	244 47 32.7	Brunswick Bar, E. base.	730.7	2.868747
			76 01 34.4	256 01 14.7	St. Simon L.H.	1041.0	3.017442
Brunswick Bar outer station, 1899, n. d.	31 05 21.112	650.3	108 05 09.4	288 02 46.1	Jekyl.....	7730.9	3.888228
	81 19 45.413	1203.6	126 52 10.9	306 49 55.0	Brunswick Bar, W. base.	8711.4	3.940088
			128 52 23.6	308 50 23.7	St. Simon L.H.	7897.8	3.807508
			130 10 27.6	310 08 34.5	Brunswick Bar, E. base.	7590.4	3.880265
			135 22 57.6	315 21 17.4	Shore.....	7315.9	3.864267
Brunswick Bar inner station, 1899, n. d.	31 05 49.156	1513.9	103 45 13.9	283 43 11.6	Jekyl.....	6450.0	3.810168
	81 20 25.983	688.6	126 30 20.6	308 28 25.7	Brunswick Bar, W. base.	7333.1	3.865289
			128 53 17.9	308 51 39.0	St. Simon L.H.	6518.7	3.814160
			130 28 45.1	310 27 13.0	Brunswick Bar, E. base.	6211.8	3.793216
			136 54 21.2	316 53 02.0	Shore.....	5948.0	3.774372
Jekyl I. rear range beacon, 1898, n. d.	31 05 13.752	423.5	77 24 26.3	257 23 16.0	Mud (2).....	3697.6	3.567915
	81 27 32.454	860.2	125 15 05.1	305 13 22.1	Col.....	6474.5	3.811206
			130 23 52.1	310 23 20.6	Ham.....	2131.3	3.328939
			199 01 14.7	19 01 55.3	Spot.....	6872.9	3.804338
			224 44 30.3	44 46 15.9	Brunswick Bar, W. base.	7676.6	3.885166
Brunswick mill chimney, 1898, n. d.	31 09 08.781	270.5	25 26 33.4	205 26 00.8	Col.....	3378.6	3.528670
	81 29 49.118	1300.9	71 05 57.5	251 05 14.8	Buz.....	2312.2	3.364032
			134 09 22.8	314 08 06.7	Bly.....	5425.4	3.734428
Jekyl I. front range beacon, 1898, n. d.	31 05 36.941	1137.8	70 39 58.7	250 38 34.3	Mud (2).....	4591.2	3.661927
	81 27 05.184	136.6	105 52 22.2	285 51 36.5	Ham.....	2439.7	3.387328
			116 42 02.1	296 40 04.9	Col.....	6728.1	3.827860
			194 18 04.1	14 18 30.5	Spot.....	5480.5	3.738823
			224 38 56.6	44 40 27.9	Brunswick Bar, W. base.	6660.0	3.823472
Plantation Creek rear range light (old), 1898, n. d.	31 08 24.360	750.3	85 33 08.7	215 31 35.6	Mud (2).....	8205.3	3.914096
	81 26 48.604	1287.5	71 42 08.6	251 40 02.7	Col.....	6792.6	3.832033
			260 24 19.8	80 24 37.6	Spot.....	928.4	2.967725
		275 37 41.6	95 39 04.4	Brunswick Bar, W. base.	4262.5	3.629662	
Colonels I. rear range beacon, 1905, n. d.	31 07 46.636	1436.4	205 08 30.3	25 08 46.6	Buz.....	1967.0	3.293797
	81 31 43.249	1145.8	277 21 27.1	97 22 43.1	Dennis.....	3925.1	3.593852
			305 36 58.0	125 37 22.5	Col.....	1670.2	3.222773
Brunswick Harbor front range light, 1905, n. d.	31 09 05.456	168.0	20 55 19.3	200 54 54.0	Col.....	3640.0	3.561107
	81 30 02.946	78.0	70 27 07.1	250 26 31.6	Buz.....	1832.7	3.266157
			137 44 48.8	317 43 39.9	Bly.....	5244.2	3.719680
Brunswick Harbor rear range light, 1905, n. d.	31 09 43.238	1331.7	11 53 25.6	191 53 06.9	Col.....	4663.7	3.668733
	81 30 15.738	416.8	39 18 49.2	219 18 20.3	Buz.....	2339.8	3.369181
			130 27 14.3	310 26 12.0	Bly.....	4189.0	3.622112
Brunswick Stack E. of wharf, 1905, n. d.	31 07 47.17	1452.7	65 14 54	245 14 12	Col.....	2362.0	3.373275
	81 29 31.05	822.7	323 06 21	145 06 29	Dennis.....	649.9	2.812862
Quarantine wharf pile, 1905, n. d.	31 06 49.72	1531.5	282 28 13	108 28 21	Quarantine....	443.6	2.646954
	81 28 19.54	517.8	13 24 27	193 24 19	Ham.....	1618.4	3.209096
Darlen Episcopal Church cross, 1906, n. d.	31 22 04.924	151.6	299 32 46.2	119 34 42.2	Grass.....	6783.0	3.831422
	81 25 56.716	1498.8	323 15 20.2	143 15 51.0	Reach.....	2618.3	3.418027
			343 43 58.9	163 44 21.5	Altamaha, '06.	4104.6	3.613267

GEOGRAPHIC POSITIONS—Continued.

SAPELO SOUND TO ST. SIMON SOUND—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Supplementary points—Con.</i>							
	° ' "		° ' "	° ' "		<i>Meters.</i>	
Darion Methodist Church spire, 1906, n. d.	31 22 07.492	230.7	299 44 14.0	119 46 11.9	Grass.....	6902.7	3.839019
	81 26 00.225	5.9	310 27 58.1	130 28 00.0	Darion Episcopal Church cross.	121.9	2.085885
			322 41 25.2	142 41 57.9	Reach.....	2737.3	3.437325
			342 49 19.3	162 49 43.8	Altamaha, '06.	4207.0	3.623972
Darion, S. base, 1906, d. n. m.	31 22 05.765	177.6	151 00 02	331 00 01.1	Darion Methodist Church spire.	60.81	1.783998
	81 25 59.109	1562.1			Darion Episcopal Church spire.	68.33	1.834630
			292 16 36	112 16 37			
Darion, N. base, 1906, d. n. m.	31 22 07.040	216.8	336 36 42	156 36 43	Darion Episcopal Church spire.	70.99	1.851202
	81 25 57.783	1526.9			Darion, S. base.	52.63	1.721200
			41 45 48	221 45 48	Darion Methodist Church spire.	66.02	1.819638
			102 11 04	282 11 03			
Darion proposed longitude station, 1906, d. m.; r. d. '07.	31 22 05.587	172.1	97 55 51	277 55 50	Darion, S. base.	39.65	1.598280
	81 25 57.623	1522.8	130 28 12	310 28 10	Darion Methodist Church spire.	90.38	1.956059
			174 36 34	354 36 33	Darion, N. base.	44.92	1.652475
			310 27 26	130 27 26	Darion Episcopal Church cross.	31.49	1.498158
Butler large house E. gable, 1906, n. d.	31 21 18.083	556.9	250 06 37	70 07 32	Tank.....	2962.7	3.471685
	81 26 44.543	1177.3	283 02 02	103 02 58	Reach.....	2905.4	3.463211
			315 58 18	135 59 06	Altamaha, '06.	3473.5	3.540769
Darion First Baptist Church spire, 1906, n. d.	31 22 15.423	475.0	325 41 18	145 41 51	Reach.....	2931.6	3.467100
	81 25 59.973	1584.9	343 50 06	163 50 31	Altamaha, '06.	4439.1	3.647293
Cooper's barn S. gable, 1859, n. d.	31 15 30.558	941.2	235 36 50.0	55 37 58.2	Holly.....	4195.6	3.022792
	81 20 31.679	838.2	271 00 11.2	91 01 03.5	Coon.....	2743.5	3.438303
			316 26 43.9	136 27 20.1	Snake.....	2682.1	3.428482
			8 54 21.9	188 54 14.8	Terrapin.....	2333.9	3.368077
Postell's house E. chimney, d. m.	31 09 31.305	964.1	197 57 14.1	17 57 21.9	Gould.....	1301.8	3.114560
	81 22 43.279	1146.2	200 55 39.2	20 56 07.9	Thomas.....	4133.5	3.616315
			278 18 14.1	98 18 37.8	Princess.....	1229.0	3.098537
			1 10 20.4	181 10 19.4	St. Simon Main	2292.5	3.360309
Callope, 1859, d. n. m.	31 23 12.809	394.5	73 03 32.0	253 00 55.4	My Hall.....	8310.4	3.919624
	81 18 11.916	314.8	129 10 39.8	309 08 51.9	Fox.....	7048.6	3.848103
			206 30 57.9	26 31 18.0	Spalding.....	2298.9	3.361512
			344 29 07.3	164 29 45.5	Thalia.....	7252.3	3.860474
Citadel, 1859, d. m. . .	31 25 57.279	1764.1	8 59 31.8	188 59 16.0	Callope.....	5128.4	3.709978
	81 17 41.579	1098.1	84 25 11.7	264 23 08.0	Fox.....	6295.0	3.798999
			193 20 07.8	13 20 29.7	Marsh.....	4793.1	3.680617
Gould's cotton house south gable, 1859, n. d.	31 11 07.885	242.8	353 35 10.2	173 35 17.1	Princess.....	3171.8	3.501303
	81 22 10.742	284.6	9 47 28.5	189 47 10.7	St. Simon Main	5344.2	3.727883
			14 51 07.5	194 50 58.5	Gould.....	1795.9	3.254292
Clubhouse tower, 1898, n. d.	31 03 32.206	991.8	108 05 43.5	288 03 25.1	Mud (2).....	7478.7	3.873827
	81 25 20.408	541.1	128 00 30.3	307 57 39.1	Col.....	11150.8	4.047307
			131 21 31.3	311 19 51.7	Ham.....	6824.8	3.834090
			171 10 29.0	351 10 01.4	Spot.....	9261.7	3.966893
Dubignon's old house E. chimney, 1898, n. d.	31 06 05.564	171.4	72 58 49.6	252 56 16.9	Mud (2).....	8197.8	3.913697
	81 24 52.870	1401.2	87 55 00.7	207 53 08.8	Ham.....	5856.2	3.767619
			102 41 65.2	282 38 49.7	Col.....	9754.2	3.989192
			154 06 12.4	334 06 30.5	Spot.....	4923.8	3.692298
			165 00 13.5	344 59 05.8	Duck.....	13420.9	4.127783
Craighton I., 1856, d. n. m., l. '02.	31 32 01.030	31.9	209 01 15.6	29 01 44.3	Jullenton.....	2983.2	3.474886
	81 19 01.542	40.7	271 58 40.3	92 00 14.9	Dog I.....	4773.1	3.678802

GEOGRAPHIC POSITIONS—Continued.

SAPELO SOUND TO ST. SIMON SOUND—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Supplementary points—Con.</i>							
Sutherland, 1856, d. m., 1, '02.	31 32 53.430	1645.6	244 05 25.8	64 06 06.4	Jullenton.....	<i>Meters.</i> 2277.4	3.357435
	81 19 24.338	642.0	288 18 55.5	108 20 42.0	Dog I.....	6658.3	3.752685
			339 33 38.8	159 33 50.6	Creighton I....	1722.1	3.236047
Creighton I. overseer's, house W. chimney, 1856, d. m.	31 31 59.875	1844.1	158 24 48.9	338 24 36.0	Sutherland....	1773.8	3.248915
	81 18 59.596	1572.2	207 49 43.2	27 50 10.8	Jullenton.....	2090.2	3.475705
			271 33 57.6	91 35 31.2	Dog I.....	4720.7	3.674006
Doboy I. red chimney, 1856-9, n. d.	31 23 52.209	1608.0	8 44 43.6	188 44 08.9	Butler.....	11621.8	4.065275
	81 19 42.061	1111.2	56 49 33.0	236 47 43.4	My Hall.....	6651.6	3.822924
			136 22 42.9	316 21 42.1	Fox.....	4469.2	3.650225
			179 25 43.8	359 25 41.6	Cook.....	10988.1	4.040921
			256 08 11.4	76 09 18.6	Spalding.....	3509.9	3.545294
			332 12 41.7	152 14 06.8	Thalia.....	9273.3	3.967233
Doboy I., white chimney, 1859, n. d.	31 23 47.726	1469.9	9 28 50.8	189 28 13.7	Butler.....	11502.7	4.060800
	81 19 37.235	983.7	58 26 15.5	238 24 23.5	My Hall.....	6683.7	3.825017
			136 26 29.9	316 25 26.6	Fox.....	4659.3	3.668320
			253 19 54.2	73 20 58.9	Spalding.....	3424.0	3.534537
			332 30 31.0	152 31 53.6	Thalia.....	9089.1	3.958519
Cooper's (W.) house E. chimney, 1859, n. d.	31 14 51.556	1587.9	251 14 02.0	71 15 08.6	Coon.....	3585.0	3.554490
	81 20 56.297	1489.6	286 32 39.5	106 33 28.5	Snake.....	2607.5	3.416232
			313 40 41.7	133 41 58.9	Mess.....	5393.6	3.731879
			342 02 29.0	162 02 56.7	Jack.....	4456.7	3.649018
Coon, 1859, d. m., r. '69.	31 15 28.987	892.8	25 17 08.0	205 16 51.2	Snako.....	2096.4	3.321476
	81 18 48.001	1270.0	53 59 16.4	233 58 15.4	Terrapin.....	3838.5	3.584167
			110 04 00.7	290 03 16.5	Fly.....	2398.4	3.379920
			158 30 02.9	338 29 38.1	Cooper's (J.) house chimney lightning rod.	3451.7	3.538035
					Holly.....	2522.3	3.401793
Wylly's house chimney, 1859, n. d.	31 12 51.910	1598.8	228 52 37.6	48 53 43.6	Snake.....	4474.1	3.65070
	81 21 29.202	773.0	283 52 40.8	103 53 24.7	Jack.....	2312.6	3.364109
			350 22 28.1	170 22 41.7	Single tree....	3781.1	3.577023
Wolf I. rear range lighthouse, 1901, n. d.	31 21 14.200	437.3	77 40 14.8	257 37 34.5	Grass.....	8341.6	3.921247
	81 17 05.232	138.3	123 22 24.8	309 19 35.6	Alkons.....	10271.9	4.011049
			172 39 44.9	353 39 30.4	Spalding.....	5757.0	3.760199
			178 38 08.8	358 38 06.9	Sapelo L. H....	4117.1	3.614590
Wolf I. clubhouse, 1901, d., r. '06.	31 19 18.855	580.7	102 07 48.4	282 05 06.3	Grass.....	8429.2	3.925788
	81 17 01.756	46.4	136 42 29.9	316 39 39.1	Alkons.....	12643.6	4.101870
			174 53 50.1	354 53 33.0	Spalding.....	9296.1	3.968441
			178 34 54.1	358 34 50.5	Sapelo L. H....	7670.6	3.884831
Brunswick, Helm's mill chimney, 1859, n. d.	31 07 51.130	1574.6	300 17 46.2	120 18 59.7	Brunswick Point.	5651.4	3.752155
	81 29 29.449	780.2	332 19 48.5	152 19 54.9	Dennis Folly..	705.3	2.848380
			50 12 14.6	230 11 42.8	Jointer.....	2125.3	3.327411
Forman's house, E. chimney, 1860, n. d.	31 16 20.906	643.0	201 02 32.5	21 03 50.1	My Hall.....	10995.0	4.041194
	81 25 42.107	1113.8	207 42 01.7	27 42 27.4	Troup.....	2814.3	3.446364
			273 37 29.9	93 39 12.9	Bank.....	5251.6	3.720291
			320 46 42.2	140 47 47.9	West Point....	5298.9	3.724185
Troup's house cupola, 1859, n. d.	31 12 41.134	1286.9	247 20 13.9	67 22 18.9	West Point....	6915.6	3.839923
	81 27 36.641	970.0	319 29 32.1	139 30 59.5	Hamilton.....	6880.6	3.837625
			13 02 29.8	103 01 53.0	Curlew.....	8376.3	3.923051
Frederika house chimney, 1860, n. d.	31 13 25.057	771.8	16 05 53.5	196 05 16.3	Hamilton.....	6853.3	3.835920
	81 23 36.130	956.4	84 05 03.6	204 03 15.8	Duck.....	5533.4	3.742995
			142 02 12.0	322 01 08.9	Brown.....	5285.5	3.723083
Turn, 1899, n. d.....	31 07 54.28	1671.8	355 27 29	175 27 31	Col.....	1212.1	3.083524
	81 30 55.63	1473.8	164 35 33	344 35 25	Buz.....	1602.7	3.204842
Darien longitude station, 1907, d. m.	31 22 05.670	174.6					
	81 25 57.630	1522.9					

GEOGRAPHIC POSITIONS—Continued.

SAPELO SOUND TO ST. SIMON SOUND—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Supplementary points—Con.</i>							
Plantation Creek front range light, 1808, n. d., r. '13.	31 08 17.138	527.8	40 12 10.3	220 11 00.0	Ham.....	<i>Meters.</i> 5585.3	3.747040
	81 26 17.680	467.8	194 13 58.5	14 14 00.3	Spot.....	389.1	2.590011
			276 15 27.7	96 16 50.4	St. Simon L.H.	4268.2	3.630247
Plantation Creek rear range light, 1913, n. d.	31 08 23.523	724.4	32 48 36.1	212 47 40.0	Ham.....	5309.8	3.725080
	81 26 45.136	1195.7	257 38 14.0	77 38 30.0	Spot.....	843.0	2.925852
			277 34 52.2	97 30 29.1	St. Simon L.H.	5014.5	3.700230
St. Simon front range, 1913, n. d.	31 07 53.742	1655.1	62 43 30.8	242 42 48.1	Kyl.....	2462.4	3.391354
	81 23 22.870	605.9	103 37 07.8	233 35 39.3	Spot.....	6465.7	3.668921
			123 16 11.9	303 16 04.4	St. Simon L.H.	463.8	2.666333
Jekyl Creek Jetty front range light, 1913, n. d.	31 05 19.928	613.7	109 49 03.2	289 47 58.8	Ham.....	3514.4	3.545852
	81 26 28.943	767.1	183 52 05.2	3 52 12.9	Spot.....	5847.9	3.767002
			211 32 33.1	31 33 40.5	N. B. R. (U. S. E.).	6605.4	3.819897
Jekyl Creek Jetty rear range light, 1913, n. d.	31 05 15.295	471.0	112 00 52.4	291 59 48.1	Ham.....	3559.2	3.551358
	81 26 29.190	773.7	183 50 20.3	3 50 28.1	Spot.....	5990.7	3.774748
			210 57 18.4	30 53 25.9	N. B. R. (U. S. E.).	6730.7	3.828003
St. Simon Hotel tank, 1913, n. d.	31 08 32.16	990.4	41 31 14	221 30 20	Sand Fly (U. S. E.)	4176	3.620790
	81 22 42.08	1114.7	57 41 28	237 41 00	St. Simon L.H.	1737	3.239897
			215 57 13	35 57 34	Postell.....	1781	3.250638
St. Simon Mills spire, 1913, n. d.	31 10 18.785	578.5	296 22 08.5	116 23 21.1	Postell.....	4146.2	3.617646
	81 24 22.855	605.2	344 04 55.9	164 05 19.4	St. Simon L.H.	4380.3	3.641507
			41 09 54.3	221 08 56.3	Spot.....	4475.0	3.650790
Quarantine stack, 1911, n. d.	31 06 52.438	1614.9	290 03 25.3	110 03 34.9	Quarantine...	522.8	2.718348
	81 28 21.728	575.7	10 50 07.7	190 50 01.5	Ham.....	1688.1	3.227404
			99 55 50.3	279 54 32.6	Col.....	4042.4	3.606634
Terminal tank, 1911, n. d.	31 07 24.830	1072.7	306 20 49.8	126 21 29.2	Quarantine...	2505.0	3.398802
	81 29 19.333	512.2	337 48 00.7	157 48 24.3	Ham.....	3200.7	3.505250
			76 04 25.6	256 03 37.7	Col.....	2529.8	3.403084
Terminal chimney, 1911, n. d.	31 07 36.367	1120.0	307 35 25.3	127 36 04.1	Quarantine...	2511.4	3.399918
	81 29 18.292	484.6	338 34 10.5	158 34 33.5	Ham.....	3234.4	3.509807
			75 11 47.9	255 10 59.4	Col.....	2568.2	3.409637

ST. SIMON SOUND TO ST. MARYS RIVER.

<i>Principal points.</i>							
Raft, 1860, d. m., r. '68.	31 05 43.289	1333.1	137 02 52.4	317 01 26.9	Curlew.....	6433.5	3.808448
	81 28 02.515	66.6	194 30 40.9	14 31 19.5	Hamilton.....	7887.7	3.896953
Mud, 1860, d. m., r. '68.	31 04 47.642	1467.2	194 02 46.4	14 03 17.7	Curlew.....	6619.7	3.820840
	81 29 48.640	1289.3	254 01 36.4	74 03 33.2	Raft.....	6233.7	3.794746
Oak, 1860, d. m., p. l. '05.	31 01 53.503	1647.8	187 31 40.0	7 31 53.8	Mud.....	5409.5	3.733156
	81 30 15.375	407.8	223 25 56.8	43 28 07.3	Raft.....	9747.8	3.988906
Cemetery, 1860, d. m., l. '05.	31 01 18.971	584.2	99 02 01.9	278 59 51.6	Oak.....	6786.3	3.831033
	81 26 02.663	70.6	137 01 11.0	316 59 14.4	Mud.....	8786.3	3.943808
			180 01 39.8	0 01 39.9	Raft.....	8140.0	3.910626
Dover, 1860, d. m., l. '05.	30 58 43.983	1354.5	168 31 39.3	348 31 16.3	Oak.....	5955.5	3.774920
	81 29 30.711	814.9	229 07 57.8	49 09 45.0	Cemetery.....	7296.9	3.863140
Deformed, 1860, d. m., l. '05.	30 57 23.427	721.4	118 55 28.8	298 54 02.7	Dover.....	5131.1	3.710213
	81 26 41.463	1100.5	188 04 28.8	8 04 48.8	Cemetery.....	7326.5	3.864896
Mound, 1860, d. m., l. '05.	30 55 29.717	915.2	194 56 21.8	14 56 52.7	Dover.....	6102.0	3.791830
	81 30 30.867	819.5	240 05 00.4	60 06 58.4	Deformed.....	7024.8	3.846632

GEOGRAPHIC POSITIONS—Continued.

ST. SIMON SOUND TO ST. MARYS RIVER—Continued.

Station.	Latitude and longitude.	Sec-onds in meters.	Azimuth.	Back azimuth.	To station.	Dis-tance.	Loga-rithm of distance.
<i>Principal points—Continued.</i>							
Bat, 1860, d. m., r. d. '05.	30 52 54.694	1684.3	140 35 56.8	320 34 40.9	Mound.....	6179.1	3.790924
	91 28 03.142	83.5	167 48 37.8	347 47 52.7	Dover.....	11004.9	4.041688
			194 40 44.0	14 41 26.0	Deformed.....	8555.2	3.932232
Delaroché, 1860, d. m., r. d. '05.	30 50 58.909	1814.1	184 50 12.4	4 50 26.0	Mound.....	8309.5	3.922698
	81 30 57.446	1526.4	232 23 27.9	52 24 57.3	Bat.....	5944.4	3.766738
Stafford, 1860, d. m., r. d. '05.	30 49 13.500	415.8	127 42 53.1	307 41 32.1	Delaroché.....	5307.7	3.724910
	81 28 19.425	516.3	183 37 58.9	3 38 07.3	Bat.....	6825.4	3.834131
Forsaken, 1860, d. m., p. l. '05.	30 47 35.446	1091.5	175 52 57.3	355 52 48.6	Delaroché.....	6281.9	3.798090
	81 30 40.471	1076.0	231 08 37.3	51 09 49.5	Stafford.....	4814.1	3.682518
Nightingale, 1860, d. m., l. '05.	30 46 03.378	104.0	125 50 49.1	805 49 33.5	Forsaken.....	4842.6	3.685082
	81 28 12.826	341.2	178 17 02.9	358 16 59.5	Stafford.....	5857.4	3.767708
Camden, 1860, d. m., r. d. '05.	30 45 30.345	934.4	175 01 35.3	355 01 28.8	Forsaken.....	3867.0	3.587379
	81 30 27.861	741.1	254 10 30.9	74 11 40.0	Nightingale...	3732.5	3.572002
Sector, 1860, d. m., l. '05.	30 44 14.605	449.7	134 23 20.5	314 22 34.7	Camden.....	3334.6	3.523048
	81 28 58.263	1550.0	199 50 08.7	19 50 31.9	Nightingale...	3661.0	3.561570
Point Peter, 1855, d. m., r. d. '05.	30 43 37.744	1162.3	187 00 06.0	7 00 14.2	Camden.....	3493.6	3.543270
	81 30 43.873	1167.2	247 59 34.8	68 00 28.8	Sector.....	3030.2	3.481472
Tiger I., N. base (Fla.), 1855, d. m., r. '60.	30 42 29.718	915.1	125 50 47.1	305 49 51.4	Point Peter...	3577.8	3.553619
	81 28 54.864	1459.9	178 23 47.0	358 23 45.3	Sector.....	3231.2	3.509306
Cumberland, 1856, d. m.	30 43 22.700	699.1	47 22 10.8	227 21 36.8	Tiger I., N. base.	2408.8	3.381804
	81 27 48.263	1284.1	95 40 30.9	275 39 01.2	Point Peter...	4695.1	3.671642
Tiger I., S. base (Fla.), 1855, d. m.	30 41 41.733	1285.1	134 59 00.7	314 57 52.0	Point Peter...	5054.6	3.703688
	81 28 29.402	784.8	155 26 40.1	335 26 27.1	Tiger I., N. base.	1624.05	3.210761
			109 25 56.2	19 26 17.2	Cumberland..	3297.1	3.518135
Hammock, 1905, d. m.	30 44 13.530	416.6	8 40 26.4	188 40 17.9	Tiger I., N. range rear	2952.2	3.470145
	81 28 57.922	1541.0	68 39 12.6	248 38 18.5	L. H. Point Peter...	3026.4	3.480931
			134 41 01.0	314 40 15.1	Camden.....	3364.3	3.526890
Spar, 1860, d. n. m...	30 59 55.221	1700.6	159 34 57.4	330 33 52.3	Mud.....	9609.7	3.982710
	81 27 42.169	1118.7	131 52 56.7	311 51 37.8	Oak.....	5457.4	3.736988
			225 39 21.5	45 40 12.8	Cemetery.....	3690.5	3.567080
			340 58 53.5	160 59 24.8	Deformed.....	4944.4	3.694115
Board, 1860, d. m., l. '68.	31 01 04.529	139.5	14 38 41.8	194 38 07.3	Deformed....	7037.6	3.847422
	81 25 34.425	913.2	57 48 13.5	237 47 07.7	Spar.....	4004.9	3.602591
Little Cumberland I. L. H., 1860, n. d.	30 58 33.472	1030.8	54 25 49.6	234 24 51.2	Deformed....	3707.5	3.569086
	81 24 47.839	1269.5	118 34 15.0	208 32 45.2	Spar.....	5268.3	3.721502
			158 43 32.2	338 42 53.7	Cemetery.....	5469.6	3.737950
			165 07 29.2	345 07 05.2	Board.....	4813.4	3.682449
			172 21 40.8	352 20 30.5	Duck.....	27127.3	4.433407
		26 26 29.0	206 24 48.7	Bat.....	11650.3	4.066338	
Shoal, 1905, d. m., r. d. '13.	30 57 14.808	456.0	231 39 13.6	51 40 13.0	Little Cum- berland I.	3905.4	3.591665
	81 26 43.263	1148.3	14 50 10.1	104 49 29.1	L. H. Bat.....	8286.4	3.918366
Floyd, 1905, d. m....	30 55 29.775	917.0	241 49 26.4	61 51 23.3	Shoal.....	6853.9	3.835839
	81 30 30.889	820.1	320 35 03.1	140 36 19.0	Bat.....	6180.8	3.791048
Crooked, 1905, d. m..	30 50 58.351	1797.0	184 48 28.2	4 48 41.8	Floyd.....	8388.2	3.923667
	81 30 57.369	1524.4	232 14 44.1	52 16 13.5	Bat.....	5853.3	3.767399
			307 33 30.6	127 34 51.5	Stafford.....	5295.6	3.723919

GEOGRAPHIC POSITIONS—Continued.

ST. SIMON SOUND TO ST. MARYS RIVER—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Principal points— Continued.</i>							
	° ' "		° ' "	° ' "		<i>Meters.</i>	
Satilla, 1905, d. m., l. '13.	30 58 49.127	1512.9	273 39 41.8	93 42 07.2	Little Cum- berland I.	7508.0	3.875526
	81 29 30.198	801.3			L. II.		
			303 14 19.5	123 15 45.4	Shoal.....	5207.6	3.724072
			14 42 26.7	194 41 55.7	Floyd.....	6347.1	3.802574
Pivot, 1905, d. m., r. d. '13.	31 01 00.763	23.5	337 28 15.6	157 28 52.1	Little Cum- berland I.	4910.6	3.691130
	81 25 58.742	1558.2			L. H.		
			9 38 17.2	189 37 54.2	Shoal.....	7058.0	3.848684
			54 09 44.6	234 07 55.7	Satilla.....	6921.3	3.840189
Horse, 1860, d. m., r. '68.	30 57 31.344	965.3	33 27 54.8	213 27 06.9	Mound.....	4489.6	3.652206
	81 28 57.621	1529.3	158 34 11.7	338 33 54.7	Dover.....	2403.2	3.380783
			204 18 40.6	24 19 19.3	Spar.....	4862.2	3.686832
			213 30 00.2	33 31 30.3	Cemetery.....	8407.6	3.924674
			253 52 57.3	73 55 05.8	St. Andrews L. H.	6899.4	3.838814
				273 61 00.1	93 52 10.2	Deformed.....	3622.0	3.558952
Crab, 1860, d. n. m....	30 56 45.743	1408.7	74 01 11.5	253 58 33.3	Mound.....	8493.0	3.929059
	81 25 23.346	619.7	103 53 06.2	283 51 15.9	Horse.....	5858.3	3.767769
			119 14 27.3	299 13 47.1	Deformed.....	2376.1	3.375870
			147 44 37.8	327 43 26.2	Spar.....	6900.8	3.838898
			172 56 06.3	352 55 46.1	Cemetery.....	8478.8	3.928332
Club, 1860, d. m.	30 55 51.138	1574.7	128 07 30.7	308 06 14.4	Horse.....	4096.6	3.608932
	81 26 29.436	781.6	173 35 30.6	353 35 24.4	Deformed.....	2860.0	3.450362
			226 12 36.7	46 13 10.7	Crab.....	2430.2	3.386645
Conch, 1860, d. n. m. .	30 57 10.334	318.2	50 18 33.7	230 17 36.8	Club.....	3818.2	3.581855
	81 24 38.768	1028.9	97 04 03.2	277 03 00.1	Deformed.....	3281.5	3.516066
			01 45 53.8	181 45 51.0	Hog.....	4682.6	3.670489
Hog, 1860, d. m.	30 54 38.351	1181.0	148 31 33.9	328 30 33.6	Deformed.....	5961.1	3.775327
	81 24 44.200	1173.7	165 09 53.9	345 09 33.8	Crab.....	4058.6	3.608362
Trout, 1860, d. m.	30 54 20.096	618.9	149 10 55.3	329 09 50.1	Deformed.....	6574.7	3.817876
	81 24 34.557	917.7	177 24 49.1	357 24 42.3	Little Cum- berland I.	7810.8	3.892698
					L. H.		
			178 46 42.6	358 46 40.4	Conch.....	5243.8	3.719642
Dungeness house, S. E. chimney, 1860, n. d.	30 44 53.320	1042.0	13 07 16.8	193 06 57.0	Tiger I., N. base.	4540.7	3.657122
	81 28 16.127	429.0			Sector.....	1636.4	3.213883
			43 14 07.2	223 13 45.7	Point Peter...	4567.7	3.659692
			59 22 42.8	239 21 27.3	Camden.....	3684.6	3.566396
			108 02 04.9	288 00 57.5			
Rest, 1860, d. m.	30 44 47.665	1467.8	63 19 09.2	243 18 30.3	Sector.....	2266.9	3.355441
	81 27 42.119	1120.4	66 00 28.0	245 58 55.1	Point Peter...	5292.8	3.723685
			100 53 56.7	280 53 39.3	Dungeness house, S. E. chimney.	921.2	2.964342
Pelican, 1860, d. m. .	30 46 13.631	419.8	2 41 08.7	182 41 06.4	Rest.....	2650.3	3.423298
	81 27 37.448	995.9					
Porpoise, 1860, d. m. .	30 47 50.787	1564.0	11 57 26.3	191 57 14.1	Pelican.....	3058.3	3.485477
	81 27 13.622	362.2					
Shark, 1860, d. m.	30 50 16.703	514.4	22 42 31.8	202 41 55.6	Porpoise.....	4871.0	3.687616
	81 26 02.890	76.8					
Mullet, 1860, d. m. .	30 51 24.350	749.8	27 02 40.9	207 02 20.4	Shark.....	2338.9	3.369015
	81 25 22.871	607.7					
Palmetto, 1860, d. m. .	30 52 42.690	1314.6	17 00 00.0	196 59 45.8	Mullet.....	2522.7	3.401869
	81 24 55.110	1463.9	190 18 45.2	10 18 55.8	Trout.....	3048.8	3.484127
Dufour, 1856, d. m., l, '71.	30 43 14.209	437.6	258 51 35.3	78 52 46.0	Point Peter...	3764.4	3.574536
	81 33 02.330	62.0	281 44 11.1	101 46 17.5	Tiger I., N. base.	6725.7	3.827730
			319 44 43.7	139 45 43.4	Martins I.....	4810.7	3.682209

GEOGRAPHIC POSITIONS—Continued.

ST. SIMON SOUND TO ST. MARYS RIVER—Continued.

Station.	Latitude and longitude.	Sec-onds in meters.	Azimuth.	Back azimuth.	To station.	Dis-tance.	Loga-rithm of distance.
<i>Principal points—Continued.</i>							
Tilla, 1913, d. m.	30 59 31.118 81 28 39.515	958.3 1048.6	286 05 30.2	106 07 29.4	Little Cumber-land I. L. H. Shoal.....	Meters. 6398.48 5209.46	3.806077 3.716793
Pivot reference, 1913, d. m.	31 01 00.933 81 26 00.073	28.7 1.9	323 40 46.1 337 06 53.4	143 41 45.9 157 07 30.6	Little Cumber-land I. L. H. Shoal.....	4929.03 7057.39 5053.80	3.692761 3.848644 3.703618
Bunkley, 1913, d. m.	30 54 52.933 81 24 22.414	1630.1 595.2	139 27 09.5 141 28 44.7 174 19 37.5	189 20 31.0 236 48 24.2	Shoal..... Tilla..... Little Cumber-land I. L. H.	5750.73 10952.60 6825.12	3.759723 4.039519 3.834110
<i>Supplementary points.</i>							
Greyfields windmill, 1905, n. d.	30 46 43.108 81 28 07.764	1327.5 206.2	16 09 29.9 36 02 41.3 58 59 15.0	196 09 04.2 216 01 21.5 238 58 03.9	Hammock Point Peter... Camden.....	4795.6 7058.8 4347.8	3.680843 3.848730 3.638272
St. Andrews Sound light (old), 1905, n. d.	30 59 32.301 81 25 13.138	994.7 348.6	29 27 56.8 78 59 15.9 156 03 29.7	209 27 10.4 258 57 03.5 330 03 06.2	Shoal..... Satilla..... Pivot.....	4863.0 6949.0 2980.8	3.686903 3.841624 3.474333
Cabin Bluff sawmill stack, 1905, n. d. ¹	30 52 58.00 81 30 59.39	1804.6 1577.5	189 13 52 271 27 36	9 14 07 91 29 07	Floyd..... Bat.....	4716.5 4683.0	3.673624 3.670522
Beach, 1905, d. m.	30 43 07.170 81 28 03.775	220.9 100.4	65 07 06.7	245 06 30.5	Tiger I., N. range rear L. H. Point Peter...	2079.0 4362.37	3.317855 3.639722
Dungeness house cupola, 1905, d.	30 44 53.736 81 28 16.481	1655.0 438.4	41 40 56.0 59 10 47.8 107 53 24.1	221 40 34.8 239 09 32.6 267 62 16.9	Hammock.... Point Peter... Camden.....	1657.8 4566.2 3671.74	3.219522 3.659551 3.564872
Dungeness water tower, 1905, d.	30 44 49.812 81 28 10.929	1533.9 290.6	48 12 53.3 61 24 01.0 108 55 30.3	228 12 29.3 241 22 42.9 268 54 28.3	Hammock.... Point Peter... Camden.....	1676.7 4634.6 3850.1	3.224444 3.666015 3.585474
Dubignon's house S. chimney, 1860, n. d.	31 03 57.090 81 25 27.358	1758.2 725.3	25 39 01.2 102 41 10.9 146 20 02.0	205 37 51.5 282 38 56.1 326 18 18.5	Spar..... Mud..... Curlew.....	8262.2 7099.2 9587.9	3.917098 3.851210 3.981723
Floyd's house N. chimney, 1860, n. d.	30 56 58.804 81 30 35.683	1810.9 947.2	183 23 46.6 208 01 26.7 220 16 09.5 222 05 56.1 248 56 08.9	3 23 57.0 28 02 00.1 40 17 38.7 42 08 10.7 68 56 59.4	Oak..... Dover..... Spar..... Cemetery..... Horse.....	9091.5 3699.5 7121.7 10801.4 2789.0	3.958637 3.564802 3.852581 4.033482 3.445452
St. Marys shop iron chimney, 1866, n. d.	30 43 12.524 81 32 51.605	385.7 1372.9	75 57 09.8 100 18 23.8 257 07 05.1 322 02 51.2	255 56 00.3 280 18 18.2 77 08 10.2 142 03 45.4	Roses Bluff... Dufour..... Point Peter... Martins I....	3731.5 290.0 3486.0 4590.4	3.571885 2.462478 3.542328 3.661861
St. Marys market house bell tower staff, 1866, n. d.	30 43 11.928 81 32 55.806	367.3 1484.6	75 48 15.2 112 01 45.2 257 13 46.5 320 49 14.2	255 47 07.9 292 01 41.8 77 14 53.9 140 50 10.5	Roses Bluff... Dufour..... Point Peter... Martins I....	3018.6 187.3 3599.1 4645.8	3.558543 2.272438 3.559191 3.670750
Downes southernmost Negro house chimney, 1860, n. d.	30 53 53.729 81 26 40.605	1654.6 1078.5	50 20 10.6 51 44 33.0 115 49 04.0	230 19 28.2 231 42 21.2 295 47 06.6	Bat..... Delaroche... Mound.....	2947.9 8691.0 6791.4	3.454529 3.939072 3.831959
Old house S. chimney, 1860, n. d.	30 48 03.258 81 31 06.187	100.3 164.5	182 27 31.2 243 58 37.2 308 40 43.3	2 27 35.7 64 00 02.6 128 42 12.1	Delaroche.... Stauford.... Nightingale..	5414.2 4932.4 5905.0	3.733532 3.693002 3.771266

¹ No check on this position.

GEOGRAPHIC POSITIONS—Continued.

ST. SIMON SOUND TO ST. MARYS RIVER—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Con.</i>	° ' "		° ' "	° ' "		<i>Meters.</i>	
St. Marys Presby- terian church, 1856, n. d.	30 43 29.912 81 32 53.543	921.1 1424.6	25 48 17.7 68 00 25.5 265 59 30.1 295 20 53.8 325 19 20.6	205 48 13.2 247 59 17.1 86 00 36.4 115 23 08.7 145 20 15.8	Dufour..... Roses Bluff... Point Peter... Tiger I., S. base. Martins I.....	5371.3 3848.4 3458.3 7776.0 6052.0	3.730076 3.585281 3.538860 3.890756 3.703514
North River mill iron chimney, 1856, n. d.	30 44 05.272 81 32 23.206	162.4 617.3	287 46 41.5 294 45 50.6 305 23 18.7 338 29 06.6	107 47 32.3 114 48 17.1 125 25 18.1 158 29 46.3	Point Peter... Sand Hill (2)... Tiger I., S. base. Martins I.....	2775.3 8405.0 7829.6 5638.9	3.443304 3.924540 3.882501 3.751041
St. Marys mill brick chimney, 1856, n. d.	30 43 12.225 81 33 06.009	376.5 159.9	74 30 56.6 258 15 02.2 318 23 24.2	254 29 54.5 78 16 14.8 138 24 25.7	Roses Bluff... Point Peter... Martins I.....	3358.5 3862.4 4828.7	3.526150 3.586860 3.683829
North River second mill iron chimney, 1856, n. d.	30 44 19.150 81 32 20.423	589.8 702.9	297 05 31.7 295 02 34.2 339 12 47.2	117 07 59.9 115 03 26.6 159 13 28.5	Sand Hill (2)... Point Peter... Martins I.....	8668.9 3011.4 6066.4	3.937966 3.478771 3.782930
Carnegie, 1915, d. m.	30 49 05.62 81 26 50.00	173.1 1329.0	.....	.....	.....	.....	.....
Lee, 1915, d. m.	30 53 55.838 81 24 44.312	1719.5 1176.8	198 17 55.9	18 18 07.1	Bunkley.....	1851.9	3.267629
Beacon in cove, 1913, n. d.	30 57 24.204 81 29 39.133	745.4 1038.6	202 01 59.5 221 02 07.1 273 32 05.3	22 02 30.2 41 03 59.8 93 33 35.8	Tilla..... Pivot reference Shoal.....	4216.5 8850.4 4670.9	3.624950 3.946965 3.669956
Beacon 1, 1913, n. d.	30 59 52.494 81 27 02.032	1616.6 53.9	354 08 33.7 75 43 36.5 217 56 38.0	174 08 43.3 255 42 46.3 37 57 09.8	Shoal..... Tilla..... Pivot refer- ence.	4881.5 2968.7 2872.8	3.688558 3.426310 3.426959
Beacon 2, 1913, n. d.	31 00 17.646 81 26 20.940	546.5 555.5	6 00 13.3 68 40 30.1 202 35 43.4	186 00 01.8 248 39 18.8 22 35 54.1	Shoal..... Tilla..... Pivot refer- ence.	5664.8 3946.9 1440.6	3.753184 3.596251 3.158543
Beacon 4, 1913, n. d.	30 58 53.696 81 28 08.607	1653.6 228.4	221 01 19.3 323 21 16.7 144 34 02.2	41 02 25.5 143 22 00.6 324 33 46.4	Pivot refer- ence. Shoal..... Tilla.....	5194.4 3795.2 1414.5	3.715535 3.579238 3.150593
Groves, 1915, d. m.	31 02 37.49 81 24 41.35	1154.5 1096.5	.....	.....	.....	.....	.....

SKETCHES.

On the following sketches are shown the location of the triangulation stations. Lost or destroyed stations, marked with an "1" in the list of positions, are not shown on the sketches as they are of no value except for interpreting old surveys. Occupied stations are shown by triangles and unoccupied or intersection stations by circles.

The lines of the main scheme for the primary triangulation are shown in figure 3. Full lines are used when they were observed over from both of the stations connected, and a line broken at one end is shown when it was observed over only from the station at the full end of the line. The lines are omitted from the remainder of the sketches as they were not considered of sufficient importance to justify the extra time and labor which would have been involved in putting them on. The azimuths given in the list of positions will answer the purpose of showing how the stations of the triangulation are related to each other.

The location of a station with reference to the near-by topography can be determined by plotting its position on the United States Coast and Geodetic Survey chart noted at the bottom of the sketch on which the station is shown. Thus, it may be found that a certain station one desires to recover is located at the end of a point on the bank of a river or near the outlet of a small tributary and with this information the locality can be found without any difficulty. This is a very efficient aid in finding an old station and is often of more value than the description itself in determining the location of the station.

Figures 1 and 2 are index maps. The first one shows all the published triangulation in the United States which has been computed on the North American datum and the second one shows on a map of Georgia the area covered by each of the triangulation sketches, figures 3 to 9.

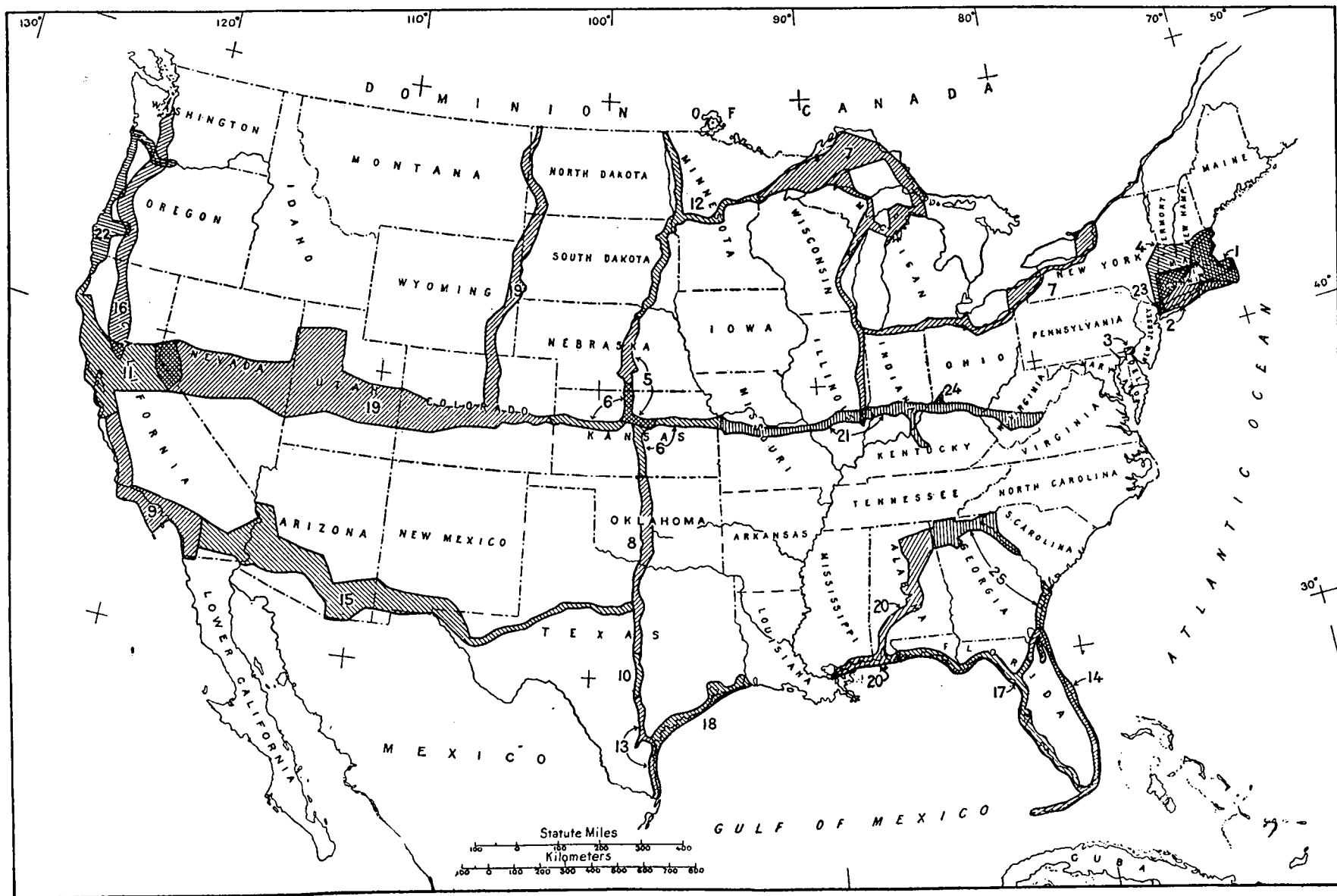


FIG. 1.—INDEX MAP SHOWING AREAS COVERED BY PUBLISHED TRIANGULATION WHICH HAS BEEN RIGIDLY COMPUTED ON THE NORTH AMERICAN DATUM.

1, Appendix 8 Report for 1885; 2, Appendix 8 Report for 1888; 3, Appendix 8 Report for 1893; 4, Appendix 10 Report for 1894; 5, Appendix 6 Report for 1901; 6, Appendix 3 Report for 1902; 7, Appendix EEE Annual Report of the Chief of Engineers, 1902; 8, Appendix 4 Report for 1903; 9, Appendix 9 Report for 1904; 10, Appendix 5 Report for 1905; 11, Appendix 5 Report for 1910; 12, Appendix 4 Report for 1911; 13, Appendix 5 Report for 1911; 14, Appendix 6 Report for 1911; 15, Special Publication No. 11; 16, Special Publication No. 13; 17, Special Publication No. 16; 18, Special Publication No. 17; 19, Special Publication No. 19; 20, Special Publication No. 24; 21, Special Publication No. 30; 22, Special Publication No. 31; 23, Report on the triangulation of Greater New York; 24, Report on a plan of sewerage for the City of Cincinnati; 25, This publication.

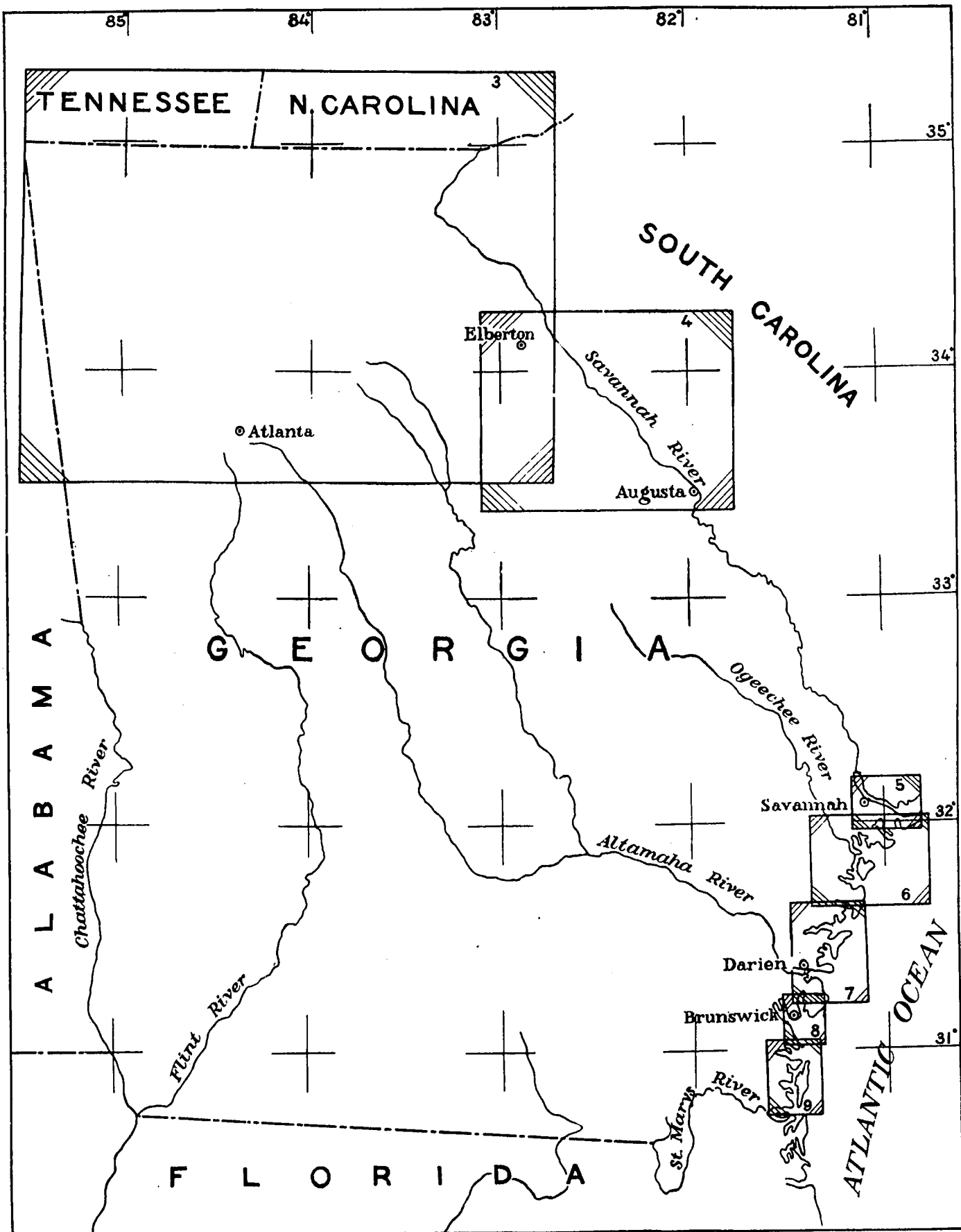


FIG. 2.—INDEX MAP SHOWING THE LIMITS OF EACH OF THE SKETCHES, FIGURES 3 TO 9.

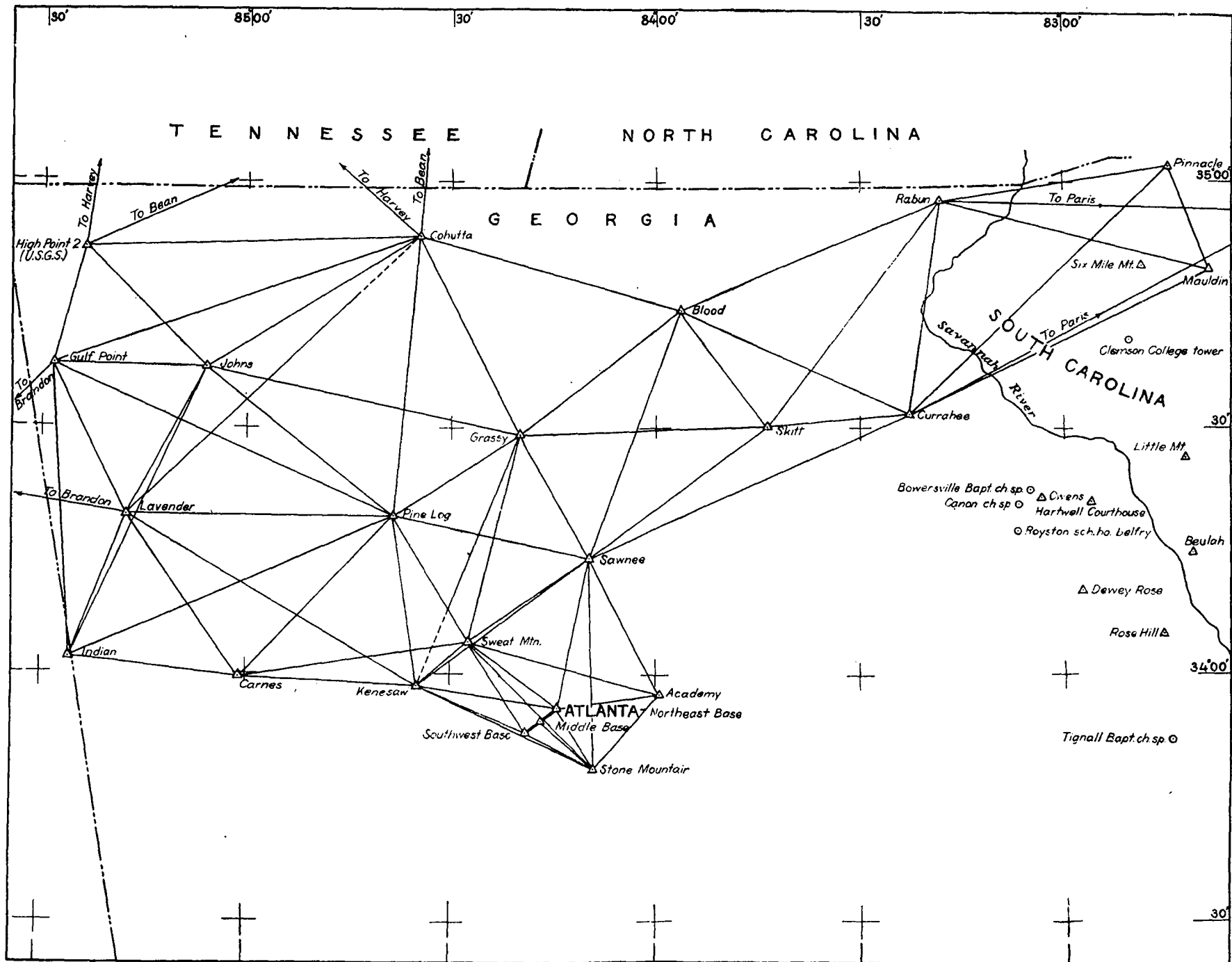


FIG. 3.—PRIMARY TRIANGULATION, SECTION OF THE EASTERN OBLIQUE ARC ACROSS THE NORTHERN PART OF GEORGIA.

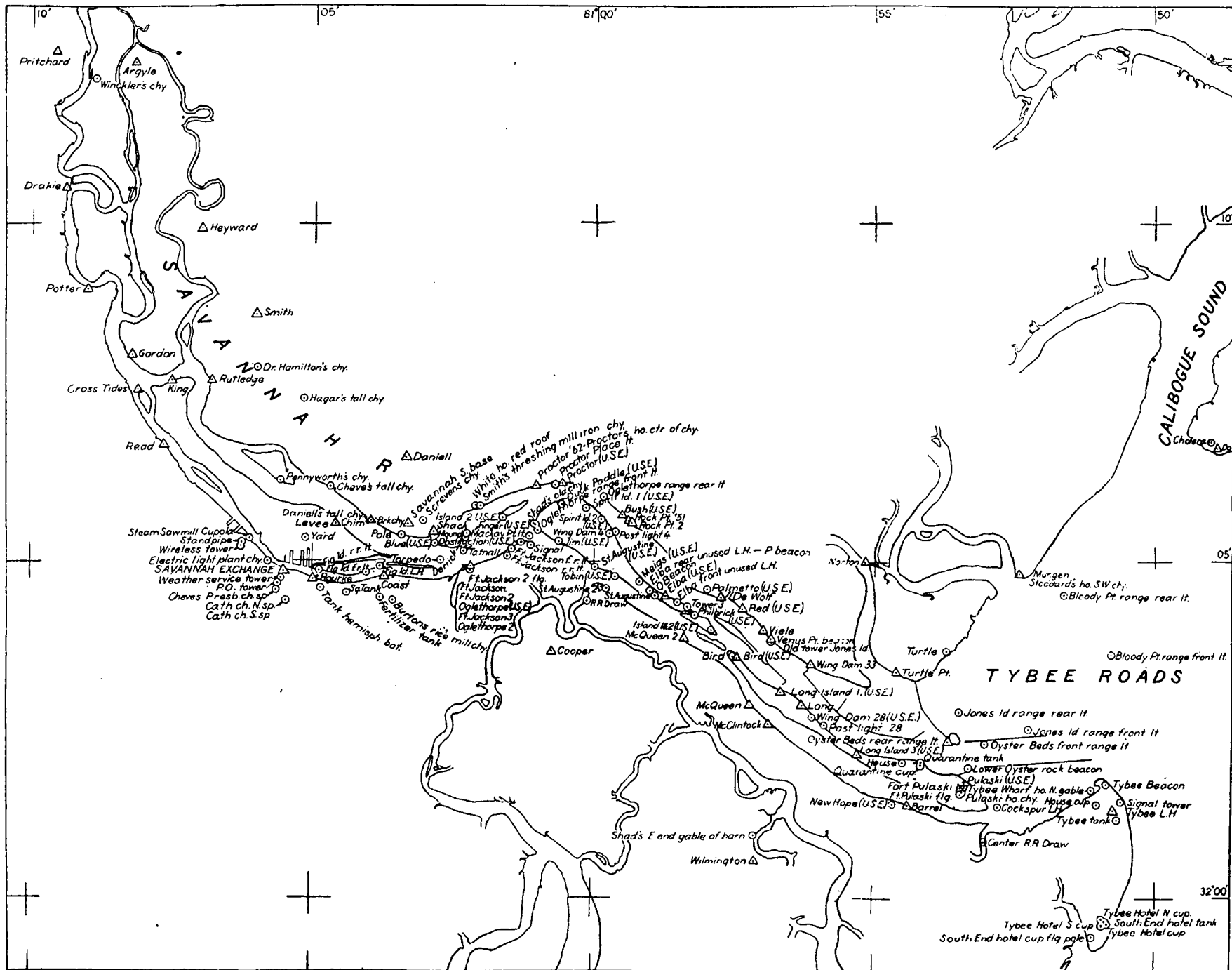


FIG. 5.—TRIANGULATION, LOWER END OF THE SAVANNAH RIVER. (See United States Coast and Geodetic Survey chart No. 156.)

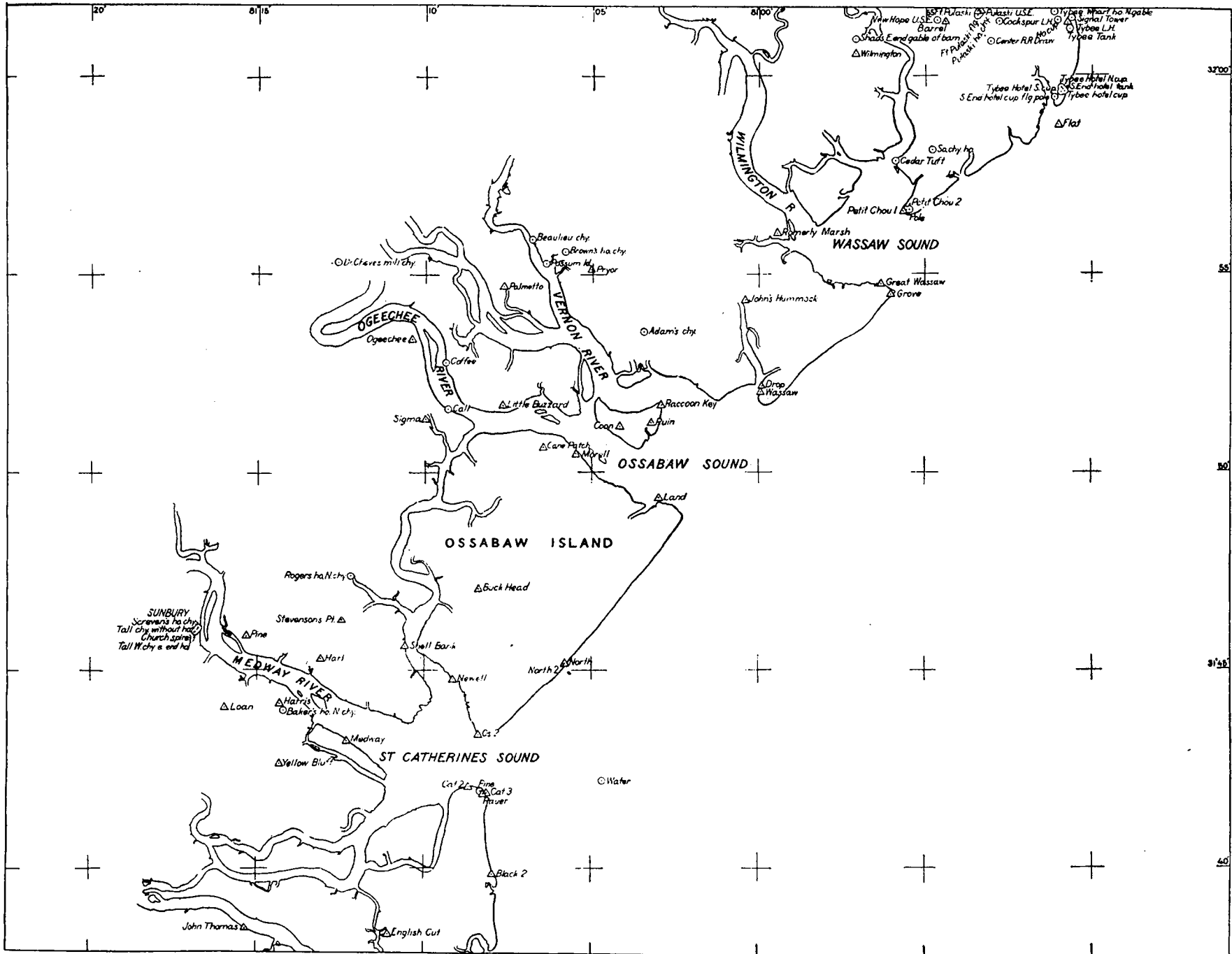


FIG. 6.—TRIANGULATION, SAVANNAH RIVER TO ST. CATHARINES SOUND. (See United States Coast and Geodetic Survey chart No. 156.)

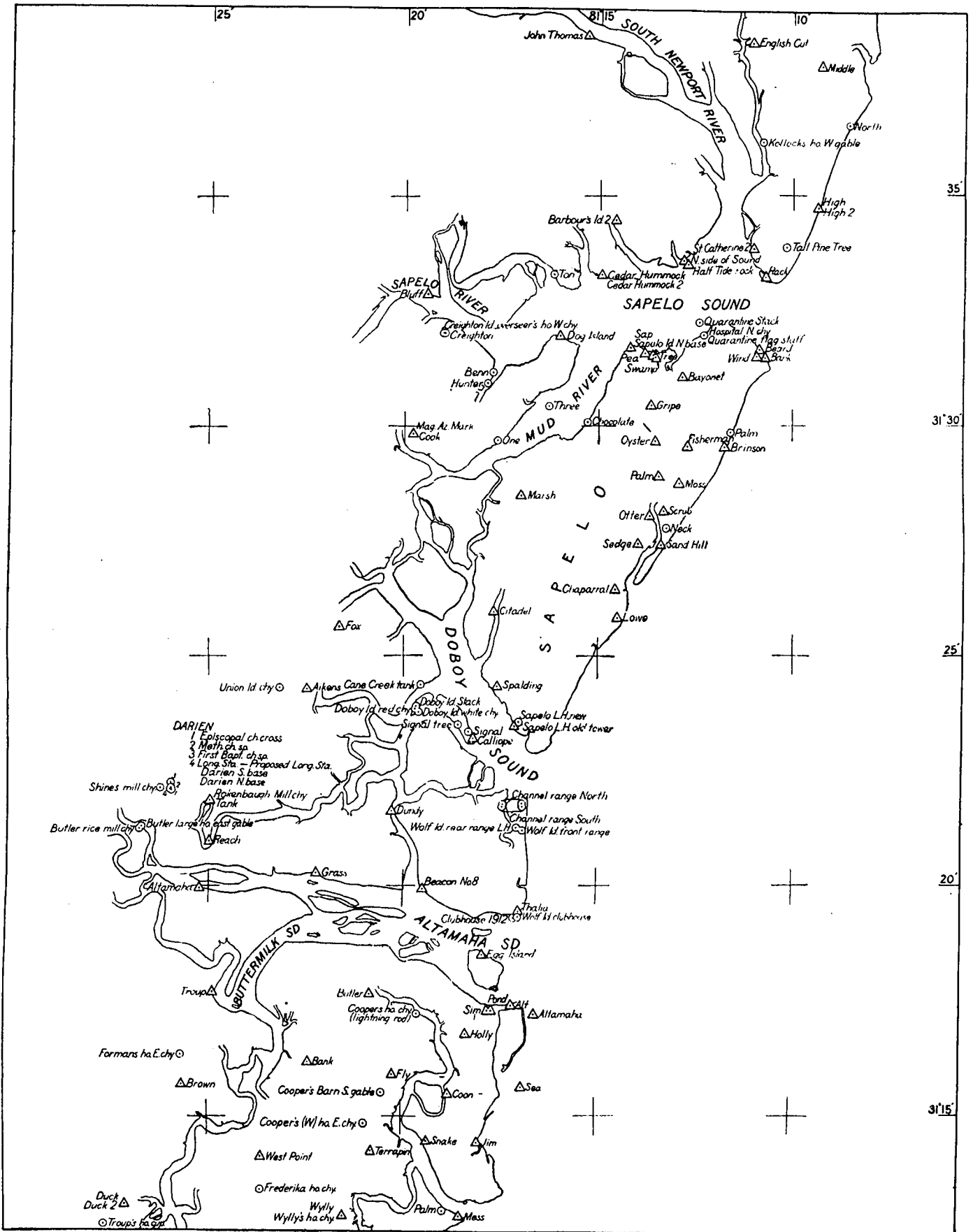


FIG. 7.—TRIANGULATION, SAPELO SOUND TO ST. SIMON ISLAND. (See United States Coast and Geodetic Survey charts Nos. 156 and 157.)

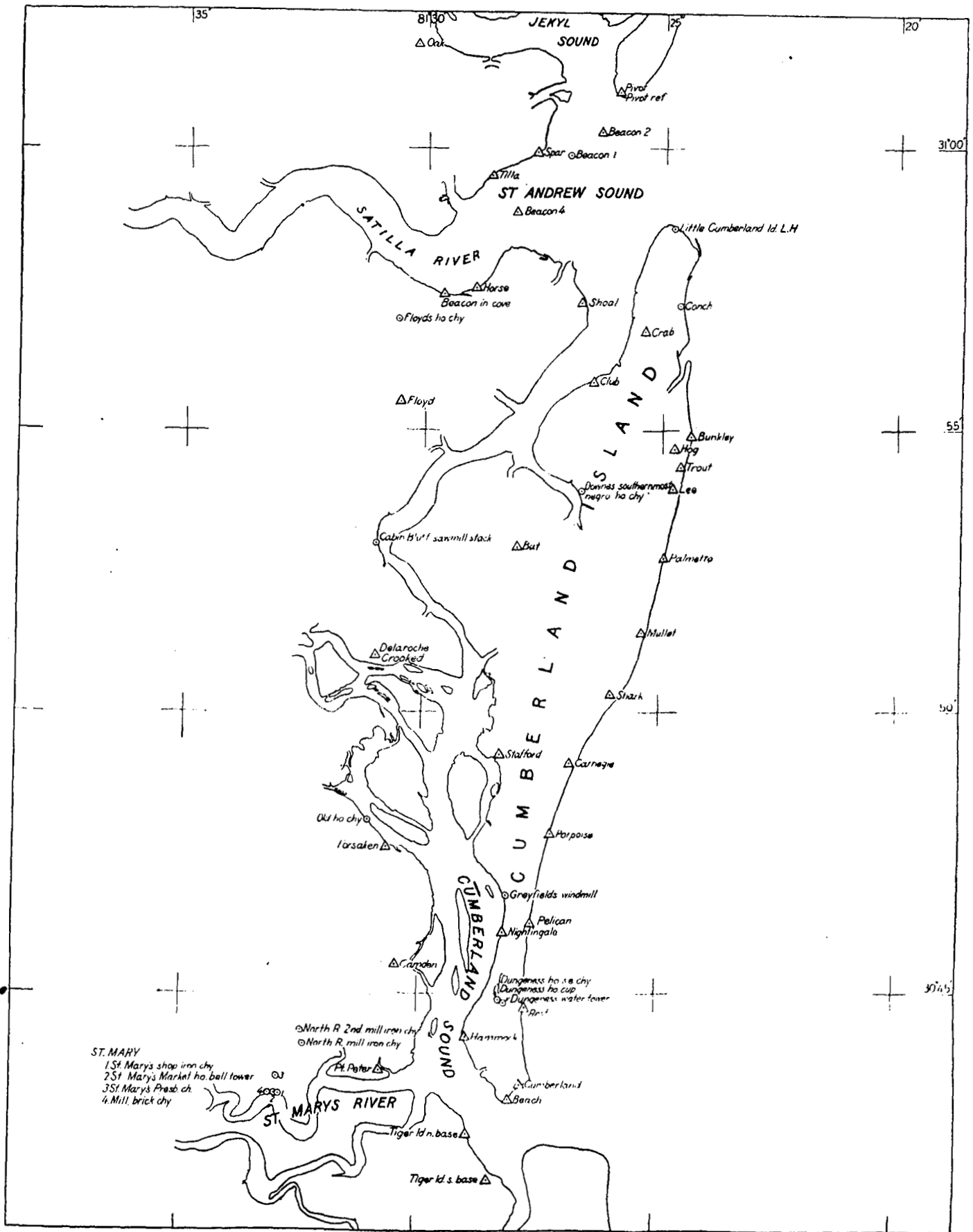


FIG. 9.—TRIANGULATION, ST. ANDREW SOUND TO ST. MARYS RIVER. (See United States Coast and Geodetic Survey chart No. 157.)
 99217°—17. (Follows page 58.) No. 9

INDEX.

Station.	Position.	Sketch.	Station.	Position.	Sketch.
	Page.	No.		Page.	No.
Academy.....	14	3	Blue (U. S. E.).....	29	5
Academy, Brunswick.....	39	8	Bluff.....	33	7
Adams chimney.....	35	6	Bly.....	39	8
Atkens.....	38	7	B. N. front.....	44	.....
All.....	42	7	B. N. rear.....	44	.....
Altamaha, 1859.....	42	7	Board.....	49	.....
Altamaha, 1906.....	40	7	Bon Air Hotel, flagstaff, Augusta.....	17	4
Argyle (S. C.).....	18	5	Bowersville Baptist Church spire.....	16	3
Atlanta:			Brandy Point.....	38	8
Middle base.....	14	3	Brewery chimney, Brunswick.....	45	8
Northeast base.....	14	3	Brick chimney (S. C.).....	28	5
Southwest base.....	14	3	Brinson.....	36	7
Augusta:			Brown.....	37	7
Bon Air hotel, flagstaff.....	17	4	Brown's house, chimney.....	35	6
Christian Church spire.....	17	4	Brunswick:		
Clark Mill Co., water tank.....	16	4	Academy.....	39	8
Cotton mill, chimney.....	17	4	Baptist Church spire.....	44	8
Courthouse, top of dome.....	16	4	Bar, east base.....	39	.....
Enterprise Mill, south cupola.....	17	4	Bar, inner station.....	45	8
Orphan asylum.....	17	4	Bar, outer station.....	45	8
Palme Institute.....	17	4	Bar, west base.....	39	8
Post office.....	15	4	Brewery chimney.....	45	8
Presbyterian Church spire.....	16	4	City Hall spire.....	44	8
St. Patrick's Catholic Church spire.....	16	4	Courthouse cupola.....	44	8
St. Paul's Episcopal Church spire.....	16	4	Harbor, front range light.....	45	8
Stibley Mills, obelisk chimney.....	17	4	Harbor, rear range light.....	45	8
Summerville standpipe.....	16	4	Helms mill, chimney.....	47	8
U. S. Arsenal flagstaff.....	16	4	Mill chimney.....	45	8
Baker's house, north chimney.....	35	6	Point.....	37	8
Bank (Sapelo Island).....	36	7	Stack east of wharf.....	45	8
Bank (St. Simon Island).....	37	7	Tank tower.....	39	8
Baptist Church spire, Bowersville.....	16	3	Water tower.....	44	8
Baptist Church spire, Brunswick.....	44	8	Buck Head.....	31	6
Baptist Church spire, Elberton.....	16	4	Bunch (S. C.).....	15	4
Barbours Island.....	31	.....	Bunkley.....	51	9
Barbours Island (2).....	33	7	Burton's rice mill, chimney.....	26	5
Bar east base, Brunswick.....	39	.....	Bush (U. S. E.) (S. C.).....	19	5
Bar inner station, Brunswick.....	45	8	Butler.....	37	7
Bar outer station, Brunswick.....	45	8	Butler (S. C.).....	15	4
Bar west base, Brunswick.....	39	8	Butler, large house, east gable.....	46	7
Barrel.....	20	5, 6	Butler rice mill, chimney.....	38	7
Bat.....	49	9	Buz.....	39	8
Bayonet.....	40	7	Buzzards Roost.....	38	8
Beach.....	51	9	Cabbage Island.....	32	.....
Beacon A.....	23	.....	Caberita.....	40	.....
Beacon B.....	23	.....	Cabin Bluff, sawmill stack.....	51	9
Beacon C.....	23	.....	Call.....	35	6
Beacon 1.....	52	9	Callopo.....	46	7
Beacon 2.....	52	9	Camden.....	49	9
Beacon 4.....	52	9	Cane Creek tank.....	42	7
Beacon in cove.....	52	9	Cane Patch.....	30	6
Beacon No. 8.....	41	7	Canon Church spire.....	16	3
Bean (Tenn.).....	14	3	Carnegie.....	52	9
Beard.....	32	7	Carnes.....	14	3
Beaulieu chimney.....	35	6	Cat.....	33	.....
Beech Island (S. C.).....	15	4	Cat (2).....	36	6
Benn.....	33	7	Cat (3).....	36	6
Beulah (S. C.).....	15	3, 4	Catholic Cathedral, north spire, Savannah.....	29	5
Bird.....	26	5	Catholic Cathedral, south spire, Savannah.....	29	5
Bird (U. S. E.).....	19	5	Cedar Hummock (Brunswick River).....	37	8
Black.....	33	.....	Cedar Hummock (Sapelo Sound).....	31	7
Black (2).....	36	6	Cedar Hummock (2).....	32	7
Black Beard.....	31	.....	Cedar Tuft.....	35	6
Blood.....	14	3	Cemetery.....	43	.....
Bloody Point, front range beacon (S. C.).....	28	5	Center railroad draw.....	24	5, 6
Bloody Point, rear range beacon (S. C.).....	28	5	Channel range, north front.....	43	7
			Channel range, north rear.....	43	7
			Channel range, south front.....	43	7

Station.	Position.	Sketch.	Station.	Position.	Sketch.
	Page.	No.		Page.	No.
Harris.....	33	6	Market house bell tower staff, St. Marys.....	51	9
Hart.....	33	6	Marsh.....	37	7
Hartwell courthouse.....	16	3	Mauldin (S. C.).....	15	3
Helm's mill chimney, Brunswick	47	8	M beacon.....	22	
Heyward (S. C.).....	18	5	Medway.....	33	6
Ifigh.....	33	7	Meigs (U. S. E.).....	42	7
Ifigh (2).....	36	7	Mess.....	40	7
High Point 2 (U. S. G. S.).....	14	3	Methodist Church spire, Darien..		
Hog.....	50	9	Methodist Church spire, Elber-	10	4
Holly.....	41	7	ton.....	44	7
Horse.....	50	9	Middle.....	14	3
Hospital, north chimney.....	34	7	Middle base, Atlanta.....	52	9
Hotel cupola, Tybee.....	20	5,6	Mill, brick chimney, St. Marys..	45	8
Hotel, north cupola, Tybee.....	28	5,6	Mill chimney, Brunswick.....	30	6
Hotel, south cupola, Tybee.....	28	5,6	Morell.....	40	7
Hotel tank, St. Simon.....	48	8	Moss.....	31	
Hotel tank, South End.....	25	5,6	Moss Island.....	48	
House.....	27	5	Mound.....	29	5
House cupola.....	24	5,6	Mound.....	48	8
House cupola, Pungeness.....	51	9	Mud.....	38	
House, southeast chimney, P'un-			Mud (2).....	50	9
geness.....	50	9	Mullet.....	30	5
Hum.....	32		Mungen (S. C.).....	37	
Hunter.....	33	7	My Hall.....		
Indian (Ala.).....	14	3	N beacon.....	22	
Island 1 and 2 (U. S. E.).....	22	5	N B R (U. S. E.).....	42	8
Island 2 (U. S. E.).....	21	5	Neck.....	43	8
Jack.....	41		New A (U. S. E.).....	42	8
Jekyl.....	39	8	New Hope (U. S. E.).....	23	5,6
Jekyl:			New Jekyl (U. S. E.).....	42	8
Creek.....	37	8	Newell.....	31	6
Creek Jetty front range light..	48	8	Nightingale.....	49	9
Creek Jetty rear range light..	48	8	North (1902).....	34	7
Island front range beacon.....	45		North (1904).....	33	6
Island rear range beacon.....	45		North (2).....	36	6
Main.....	41	8	North base, Darien.....	40	7
North.....	38		North base, Savannah (S. C.)..	17	
Jim.....	42	7	North Ossabaw.....	30	
Jim (U. S. E.).....	21	5	North River mill, iron chimney..	52	9
Johns.....	14	3	North River, second mill, iron	52	9
Johns Hummock.....	31	6,7	chimney.....	40	7
John Thomas.....	31	8	North side of sound.....	19	
Jointer.....	35	8	Northeast.....	14	3
Jones Island front range light..	28	5	Northeast base, Atlanta.....	17	5
Jones Island rear range light..	28	5	Norton (S. C.).....		
Jullenton.....	37		Oak (1860).....	48	8,9
Kenesaw.....	14	3	Oak (1902).....	33	
King (S. C.).....	18	5	O Beacon.....	22	5
Kollock's house, west gable.....	34	7	Obstruction (U. S. E.).....	21	5
Kyl.....	42	8	Ogeechee.....	31	6
Land.....	34	6	Oglethorpe (U. S. E.).....	19	5
Lavender.....	14	3	Oglethorpe (2).....	28	5
Lee.....	52	9	Oglethorpe range front light..	29	5
Levee.....	20	5	Oglethorpe range rear light (S. C.)	29	5
Lincoln.....	15	4	Oil Mill water tank, Elberton..	16	4
Little Buzzard.....	30	6	Old house, south chimney.....	51	9
Little Cumberland Island light-			Old tower, Jones Island (S. C.)..	20	5
house.....	49	9	One.....	34	7
Little Mountain (S. C.).....	15	3	Orphan asylum, Augusta.....	17	4
Little Tybee Island, south chim-			Os.....	33	
ney of house.....	27	6	Os (2).....	36	6
Loan.....	33	6	Otter.....	40	7
Long.....	30	5	Owens.....	15	3
Long Island (1) (U. S. E.).....	18	5	Oyster.....	40	7
Long Island (3) (U. S. E.).....	18	5	Oyster Beds front range light		
Long Island red beacon.....	23		(S. C.).....	22	5
Longitude station, Darien.....	47	7	Oyster Beds rear range lighthouse	18	5
Lowe.....	40	7	Paine Institute, Augusta.....	17	4
Lower Oyster Rock beacon.....	24	5	Palm.....	43	7
McClintock.....	20	5	Palm, 1859.....	40	7
McKnight.....	15	4	Palm, 1902.....	33	7
McQueen.....	17	5	Palmetto, 1857.....	30	6
McQueen 2.....	10	5	Palmetto, 1860.....	50	9
Mackey Point light (old).....	29	5	Palmetto (U. S. E.) (S. C.).....	25	5
Magnetic azimuth mark.....	34	7	Parsons (S. C.).....	15	4
Mangault's pounding mill ball			P beacon.....	22	5
(S. C.).....	27	(1)	Pea.....	40	7
Mangault's red brick mill chim-			Pelican.....	50	9
ney (S. C.).....	27	(1)	Pennyworth's chimney (S. C.)..	26	5

Station.	Position.	Sketch.	Station.	Position.	Sketch.
	Page.	No.		Page.	No.
Petit Chou	30		St. Augustine (2)	19	5
Petit Chou (1)	27	6	St. Augustine (U. S. E.)	21	5
Petit Chou (2)	28	6	St. Catherine	31	
Philbrick (U. S. E.)	22	5	St. Catherine (2)	32	7
Pine	34	6	St. Marys:		
Pine	44	6	Market house, bell tower staff	51	9
Pine Log	14	3	Mill, brick chimney	52	0
Pivot	50	8, 9	Presbyterian Church	52	9
Pivot reference	51	8, 9	Shop, iron chimney	51	9
Plantation Creek	38	8	St. Patricks Catholic Church		
Plantation Creek front range light	48	8	spire, Augusta	16	4
Plantation Creek rear range light	48	8	St. Pauls Episcopal Church spiro,		
Plantation Creek rear range light (old)	45		Augusta	16	4
Point Peter	49	9	St. Simon	41	8
Pole	35	6	St. Simon:		
Pole (S. C.)	28	5	Front range	48	8
Pond	42	7	Hotel tank	48	8
Porpoise	50	9	Island east base	38	8
Possum Island	34	6	Island west base	38	8
Post Light 4	21	5	Lighthouse	38	8
Post Light 10	22		Main	41	8
Post Light 28	23	5	Mills spire	48	8
Post office, Augusta	15	4	Range beacon	44	
Post office tower, Savannah	29	5	Sand Fly (U. S. E.)	42	8
Postell	42	8	Sand Hill	40	7
Postell's house, east chimney	46	8	Sap	32	7
Potter	18	5	Sapele:		
Prosyterian Church spire, Augusta	16	4	Island north base	31	7
Prosyterian Church, St. Marys	52	9	Island south base	31	
Princess	41	8	Lighthouse (new)	40	7
Fritchard	18	5	Lighthouse (old tower)	38	7
Proctor (S. C.)	17	5	Fatilla	50	
Proctor (U. S. E.) (S. C.)	19	5	Savannah:		
Proctor Place light (S. C.)	29	5	Catholic Cathedral, north spire	29	5
Proctor's house, center of chimney (S. C.)	26	5	Catholic Cathedral, south spire	29	5
Proposed longitude station, Darien	46	7	Cheves Presbyterian Church spire	25	5
Fryor	34	6	Electric-light plant chimney	29	5
Fulaski (U. S. E.)	18	5, 6	Exchange	30	5
Fulaski, house chimney	24	5, 6	North base (S. C.)	17	
Quarantine	39	8	Post office tower	29	5
Quarantine:			South base (S. C.)	17	5
Cupola	24	5	Square tank	29	5
Flagstaff	36	7	Standpipe	29	5
Stack	48	8	Weather-service tower	29	5
Stack	36	7	Wireless tower	29	5
Tank	24	5	Sawnee	14	3
Wharf pile	45	8	Scraven's chimney (S. C.)	28	5
Rabun	14	3	Scraven's house chimney, Sunbury	35	6
Raccoon Key	30	6	Scrub	40	7
Rack	43	7	Sea	42	7
Raft	48	8	Sector	49	
Railroad draw	20	5	Sedge	40	7
Railroad draw, center	24	5, 6	Shack (S. C.)	20	5
Rauer	36	6	Shad's east end gable of barn	35	5, 6
Reach	40	7	Shad's old chimney	27	5
Read	29	5	Shack	50	9
Red (U. S. E.) (S. C.)	19	5	Shell	32	
Red chimney, Doboy Island	47	7	Shell bank	33	6
Red house cupola	30	6	Shine's mill chimney	44	7
Reservoir	15	4	Shop, iron chimney, St. Marys	51	9
Rest	50	9	Shoal	49	9
Rock Point (S. C.)	17	5	Shore	45	8
Rock Point (2) (S. C.)	19	5	Sibley mills obelisk chimney, Augusta	17	4
Roger's (C.) house, north chimney	35	6	Sigma	30	6
Rokenbaugh mill, chimney	38	7	Sigma (Doboy Sound)	25	7
Romerly Marsh	32	6	Sigma (Savannah River)	43	5
Romerly Marshes north base	32		Signal tower	24	5, 6
Romerly Marshes south base	32		Signal tree	42	7
Rose Hill	15	3, 4	Sim	43	7
Rourke	5	3	Single tree	41	8
Royston schoolhouse belfry	16	3	Six Mile Mountain (S. C.)	15	3
Ruhn	34	6	Skidaway	30	
Rutledge (S. C.)	20	5	Skittl	14	3
St. Andrews Sound light (old)	51		Slatted red and white front beacon	23	
St. Augustine	26	5	Slatted red and white rear beacon	23	
			Smith (S. C.)	18	5
			Smith's threshing mill, iron smokepipe (S. C.)	27	5
			Snake	41	

Station.	Position.	Sketch.	Station.	Position.	Sketch.
	<i>Page.</i>	<i>No.</i>		<i>Page.</i>	<i>No.</i>
South base, Darien.....	46	7	Tobin (U. S. E.).....	21	5
South base, Savannah (S. C.).....	17	5	Ton.....	34	7
South chimney of house on Little Tybee Island.....	27	6	Torpedo (S. C.).....	26	5
South End, hotel cupola flagpole	20	5, 6	Tower 3.....	25	5
South End, hotel tank.....	25	5, 6	Tree (Brunswick River).....	44	8
South Wassaw.....	30		Tree (Sapelo Sound).....	33	7
Southwest base, Atlanta.....	14	3	Troup.....	37	7
Spalding.....	37	7	Troup's house cupola.....	47	7, 8
Spar.....	49	9	Trout.....	50	9
Spirit Island 1 (U. S. E.).....	21	5	Turn.....	47	8
Spirit Island 2 (U. S. E.).....	21	5	Turtle (S. C.).....	26	5
Spot.....	38	8	Turtle Point (S. C.).....	20	5
Square beacon 2.....	24		Tybee:		
Square tank, Savannah.....	29	5	Beacon (1902).....	24	5
Stack east of wharf, Brunswick.....	45	8	Beacon (1806).....	26	5
Stack, Doboy Island.....	43	7	Hotel cupola.....	20	5, 6
Stafford.....	49	9	Hotel, north cupola.....	28	5, 6
Standpipe, Savannah.....	29	5	Hotel, south cupola.....	28	5, 6
Steam sawmill cupola.....	27	5	Knoll, rear beacon.....	23	
Stevensons Point.....	31	6	Light house.....	30	5, 6
Stoddard's house, southwest chimney (S. C.).....	25	5	Tank.....	25	5, 6
Stone Mountain.....	14	3	Wharfhouse, north gable.....	28	5, 6
Summerville standpipe, Augusta	16	4	Union Island chimney.....	43	7
Sunbury:			U. S. Arsenal flagstaff, Augusta.....	16	4
Church spire.....	35	6	Venus Point beacon.....	19	5
Screven's house chimney.....	35	6	Vielo (S. C.).....	30	5
Tall chimney without house	35	6	Walburg.....	31	
Tall west chimney east end of house.....	35	6	Wassaw.....	36	6
Sutherland.....	47	7	Wassaw (S. C.).....	36	
Swamp.....	43	7	Water.....	33	6
Sweat Mountain.....	14	3	Water tower, Brunswick.....	44	8
Swift's factory chimney, Elberton.....	16	4	Water tower, Dungeness.....	51	9
Tall chimney without house, Sunbury.....	35	6	Weather service tower, Savannah.....	29	5
Tall pine tree.....	36	7	West Point.....	37	7, 8
Tall west chimney, east end of house, Sunbury.....	35	6	Wharfhouse, north gable, Tybee.....	28	5, 6
Tank.....	39	7	White.....	19	
Tank, hemispherical bottom.....	29	5	White chimney, Doboy Island.....	47	7
Tank, St. Simon's Hotel.....	48	8	White house, red roof (S. C.).....	26	5
Tank tower, Brunswick.....	39	8	Williams (S. C.).....	15	4
Tank, Tybee.....	25	5, 6	Wilmington.....	30	5, 6
Tatnall (S. C.).....	25	5	Wind.....	36	7
Terminal chimney.....	48	8	Wing Dam 4.....	21	5
Terminal tank.....	48	8	Wing Dam 28 (U. S. E.).....	22	5
Terrapin.....	41	7, 8	Wing Dam 33 (U. S. E.) (S. C.).....	18	5
Thalia.....	37	7	Winkler's chimney.....	25	5
Thomas.....	41	8	Winter.....	42	
Three.....	34	7	Wireless tower, Savannah.....	29	5
Tiger Island, north base.....	49	9	Wolf Island clubhouse.....	47	7
Tiger Island, south base.....	49	9	Wolf Island front range beacon.....	43	7
Tignall Baptist Church spire.....	15	3, 4	Wolf Island rear range lighthouse.....	47	7
Tilla.....	51	9	Wyly.....	41	7, 8
			Wyly's house chimney.....	47	7, 8
			Yard.....	28	5
			Yellow Bluff.....	31	6