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U.S.COAST AND GEODETIC SURVEY

PUBLICATION NO. 46

REYNOLDS

TRIANGULATION IN MAINE

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DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
E. LESTER JONES, SUPERINTENDENT

GEODESY

TRIANGULATION IN MAINE

BY

WALTER F. REYNOLDS

Chief Computer, Division of Geodesy, U. S. Coast and Geodetic Survey

Special Publication No. 46



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TRIANGULATION IN MAINE.

By WALTER F. REYNOLDS, *Chief Computer, Division of Geodesy, U. S. Coast and Geodetic Survey.*

GENERAL STATEMENT.

The primary object of this publication is to give the geographic positions and descriptions of triangulation stations in Maine and in that part of New Hampshire in the vicinity of Portsmouth and Great Bay.

The geographic positions are on the North American datum. The geographic positions of those stations in Maine which appeared in Special Publication No. 7, The Eastern Oblique Arc Triangulation, are superseded by the positions contained herein, as that publication was issued before the adoption of the North American datum. Also, the geographic positions of those stations in Maine which have appeared in any previous reports of the Coast and Geodetic Survey are superseded by the positions in this publication.

The results of the triangulation done by the Corps of Engineers, United States Army, in Casco Bay and the results of that done in Passamaquoddy Bay and along the St. Croix River, as far as the International Bridge, by the United States and Canada Boundary Commission are included in this publication.

The triangulation contained herein is of three grades of accuracy—primary, secondary, and tertiary. The primary has an average triangle closing error of about 1 second; the secondary, a triangle closing error of less than 3 seconds; while the tertiary has a triangle closing error of about 5 seconds.

The engineer intent only on securing the necessary information to enable him to extend this triangulation or to base other surveys on it will find the information he desires on pages 13 to 262, commencing with the explanation of the tables of positions, lengths, and azimuths. The index, printed on pages 263 to 286, used in connection with the sketches at the end of this publication will enable him to find quickly the data for any given locality.

Engineers and others using the data given in this report for the control of maps and surveys will find it of help to have Special Publications Nos. 5 and 8 of the Coast and Geodetic Survey. They

may be obtained at a nominal cost from the Superintendent of Documents, Government Printing Office, Washington, D. C.

Special Publication No. 5 is entitled "Tables for a Polyconic Projection of Maps Based on Clarke's Reference Spheroid of 1866." These tables give the necessary explanation of the method employed in constructing a polyconic projection, and they also give the values in meters of the degrees, minutes, and seconds of latitude and longitude for all latitudes.

Special Publication No. 8 is entitled "Formulæ and Tables for the Computation of Geodetic Positions." As the title of this publication implies, the data contained in it will enable one to compute the spherical coordinates for triangulation where the distances and angles are known.

Figure No. 2 at the back of this volume shows graphically the area covered by each of the triangulation publications of the United States Coast and Geodetic Survey; by a Report on the Triangulation of Greater New York; by a Report on a Plan of Sewerage, City of Cincinnati; and by one publication of the Corps of Engineers, United States Army, which give the results of triangulation that has been rigidly adjusted and computed on the North American datum. Figure No. 3 is an index map for the sketches of this publication, which show the triangulation in detail and which are numbered from 4 to 22.

THE TRIANGULATION.

The primary triangulation contained in this publication, the adjustment of which appears in Special Publication No. 7, extends from the international boundary between Maine and New Brunswick, Canada, to the vicinity of Portsmouth, N. H. On the bases furnished by the sides of the primary triangles, secondary and tertiary triangulations were established, and extend along the coast and over the small bays and sounds and determine a number of points at distances a few miles apart for use in topographic and hydrographic surveys.

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 upon by the direction method.

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

In the main scheme the angles are measured with such accuracy that the average closing error of a triangle (the difference between 180° and the sum of the three observed angles of a triangle) is from 3 to 5 seconds of arc.

The probable error of a length in the main scheme is nearly always less than 1 part in 5000 or about 1 foot in 1 mile. In general, the probable error of a length is much less than this. The error in length is likely to exceed this amount, however, between supplementary points, and especially between intersection points which are near together when 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 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":

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 frequently arising in connection with boundaries. 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 oysterman's plantation situated under water at a distance offshore 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 observations involved in the triangulation covered by this publication were begun as early as 1844 and extended to as late a date as 1913. Triangulation which has been done many years prior to the date of the publication of its results is largely reduced in value to the engineer by the loss of stations, due to changes in topography, to various improvements, and to the cultivation of the land. In many cases the engineer fails to recover a station which still exists. This failure may be due to changes in the surrounding topography or to the destruction of the surface and reference marks, while the underground mark may still remain in place. By digging in the proper place the mark could probably be found and the station recovered, but without the guidance of the reference marks or of the local topography the station can only be recovered by locating a new point in the immediate vicinity of the old point from the nearest available triangulation. The geographic position of the new station can be compared with that of the old station, the linear relation of the two stations can be determined, and then an offset can be measured to the place indicated by the comparison as the probable location of the old station.

Since 1900 some of the stations on the coasts of Maine and New Hampshire were visited by parties of the Coast and Geodetic Survey. Many of the original stations could not be recovered. When an old station was found, it was re-marked and re-described, if it was necessary to do so in order to preserve it for future use. New triangulation was executed in those localities where an insufficient number of stations were recovered to provide the required control for topographic and hydrographic surveys.

ADJUSTMENT OF THE TRIANGULATION.

A full discussion of the adjustment of the primary triangulation contained in this publication appears on pages 27-46 and 105-134 of Special Publication No. 7. The primary work extends eastward from the line Agamenticus-Unkonoonuc. (See figs. 5 and 6.)

It will be found that the positions, lengths, and azimuths of the primary stations from the line Humpback-Mount Desert to the line Unkonoonuc-Gunstock, as determined from the triangles on pages 130-132 of Special Publication No. 7, differ slightly from those given in this publication.

In the first adjustment of the triangulation from the Epping base, Maine, to Massachusetts base, Massachusetts, to Fire Island base, New York, made in 1866, the heavy work of solving simultaneously the large number of equations involved was avoided by dividing the work into three parts. (See p. 113, Special Publication No. 7.) The positions, lengths, and azimuths appearing in the present publication are based upon this first adjustment.

Later, in 1900, for the purpose of the figure-of-the-earth investigation, the results of which appeared in Special Publication No. 7, the triangulation in the above-mentioned area was adjusted as a whole. As this adjustment only changed the final results very slightly, and it would have required a great deal of time and labor to change all the work which had been based upon the original adjustment, it was decided not to upset the old work, but to use the new adjustment only for the figure-of-the-earth investigation.

The subsidiary triangulation along the coast and in the bays and rivers is controlled directly by the primary work. The adjustments were made at various times. Some of them were made by single quadrilaterals, while at other times an adjustment included a whole season's work. But at all times the lengths, azimuths, and positions, as determined by the primary work, were held fixed, and the lower-order triangulation was fitted to it.

In the adjustment of the triangulation by the Corps of Engineers, United States Army, in Casco Bay, and of the triangulation of the United States and Canada Boundary Survey in Passamaquoddy Bay and along the St. Croix River, the work of the Coast and Geodetic Survey was held fixed, and the other work was fitted into it.

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:

$$\begin{array}{ccc} & & \\ \phi = 39 & 13 & 26.686 \\ \lambda = 98 & 32 & 30.506 \\ a \text{ to Waldo} & = 75 & 28 \quad 14.52 \end{array}$$

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, longi-

¹ This is further borne out in the reduction of 765 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.

tudes, 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.

Special Publication No. 46, positions in Maine.

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. 9), also the length and azimuth of each line observed over, whether in one or both ways. 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 be found opposite the position of one or the other of the two stations involved.

For the convenience of 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 from 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 footnotes as being without check (observed from only two stations) or checked by verticals only.

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 may be conveniently consulted by using as finders the sketches and the index at the end of this publication. In the third column of the index will be found for each point a reference to the page on which its description is given, and in the fourth column the number of the sketch on which it appears.

It should be noted that the positions contained in these tables are based upon the original adjustment of the primary triangulation made in 1866 and not upon that adjustment contained in Special Publication No. 7. (See p. 9.)

The tables following are inserted for the convenience of those who may wish to compare metric and customary units of length or who may wish to convert the distances or elevations given in this publication from meters to feet or from feet to meters.

COMPARISON OF METRIC AND CUSTOMARY UNITS OF LENGTH.

1 millimeter = 0.03937 inch. 2 millimeters = .07874 inch. 3 millimeters = .11811 inch.	4 millimeters = 0.15748 inch. 5 millimeters = .19685 inch. 6 millimeters = .23622 inch.	7 millimeters = 0.27559 inch. 8 millimeters = .31496 inch. 9 millimeters = .35433 inch.
1 inch = 25.4001 millimeters. 2 inches = 50.8001 millimeters. 3 inches = 76.2002 millimeters.	4 inches = 101.6002 millimeters. 5 inches = 127.0003 millimeters. 6 inches = 152.4003 millimeters.	7 inches = 177.8004 millimeters. 8 inches = 203.2004 millimeters. 9 inches = 228.6006 millimeters.
1 inch = 0.02540 meter. 2 inches = .05080 meter. 3 inches = .07620 meter.	4 inches = 0.10160 meter. 5 inches = .12700 meter. 6 inches = .15240 meter.	7 inches = 0.17780 meter. 8 inches = .20320 meter. 9 inches = .22860 meter.
1 meter = 1.093611 yards. 2 meters = 2.187222 yards. 3 meters = 3.280833 yards.	4 meters = 4.374444 yards. 5 meters = 5.468056 yards. 6 meters = 6.561667 yards.	7 meters = 7.655278 yards. 8 meters = 8.748889 yards. 9 meters = 9.842500 yards.
1 yard = 0.914402 meter. 2 yards = 1.828804 meters. 3 yards = 2.743205 meters.	4 yards = 3.657607 meters. 5 yards = 4.572009 meters. 6 yards = 5.486411 meters.	7 yards = 6.400813 meters. 8 yards = 7.315215 meters. 9 yards = 8.229616 meters.
1 meter = 0.198838 rod. 2 meters = .397677 rod. 3 meters = .596515 rod.	4 meters = 0.795354 rod. 5 meters = .994192 rod. 6 meters = 1.193030 rods.	7 meters = 1.391869 rods. 8 meters = 1.590707 rods. 9 meters = 1.789545 rods.
1 rod = 5.02921 meters. 2 rods = 10.05842 meters. 3 rods = 15.08763 meters.	4 rods = 20.11684 meters. 5 rods = 25.14605 meters. 6 rods = 30.17526 meters.	7 rods = 35.20447 meters. 8 rods = 40.23368 meters. 9 rods = 45.26289 meters.
1 kilometer = 0.621370 U.S. mile. 2 kilometers = 1.242740 U.S. miles. 3 kilometers = 1.864110 U.S. miles.	4 kilometers = 2.485480 U.S. miles. 5 kilometers = 3.106850 U.S. miles. 6 kilometers = 3.728220 U.S. miles.	7 kilometers = 4.349590 U.S. miles. 8 kilometers = 4.970960 U.S. miles. 9 kilometers = 5.592330 U.S. miles.
1 U.S. mile = 1.609347 kilometers. 2 U.S. miles = 3.218694 kilometers. 3 U.S. miles = 4.828042 kilometers.	4 U.S. miles = 6.437389 kilometers. 5 U.S. miles = 8.046736 kilometers. 6 U.S. miles = 9.656083 kilometers.	7 U.S. miles = 11.265431 kilometers. 8 U.S. miles = 12.874778 kilometers. 9 U.S. miles = 14.484125 kilometers.

LENGTHS—FEET TO METERS (FROM 1 TO 1000 UNITS).

[Reduction factor: 1 foot = 0.3048006096 meter.]

Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters
0	0.00000	50	15.24003	100	30.48006	150	45.72009	200	60.96012
1	0.30480	1	15.54433	1	30.78486	1	46.02489	1	61.26492
2	0.60960	2	15.84863	2	31.08966	2	46.32969	2	61.56972
3	0.91440	3	16.15443	3	31.39446	3	46.63449	3	61.87452
4	1.21920	4	16.45923	4	31.69926	4	46.93929	4	62.17932
5	1.52400	5	16.76403	5	32.00406	5	47.24409	5	62.48412
6	1.82880	6	17.06883	6	32.30886	6	47.54890	6	62.78893
7	2.13360	7	17.37363	7	32.61367	7	47.85370	7	63.09373
8	2.43840	8	17.67844	8	32.91847	8	48.15850	8	63.39853
9	2.74321	9	17.98324	9	33.22327	9	48.46330	9	63.70333
10	3.04801	60	18.28804	110	33.52807	160	48.76810	210	64.00813
1	3.35281	1	18.59284	1	33.83287	1	49.07290	1	64.31293
2	3.65761	2	18.89764	2	34.13767	2	49.37770	2	64.61773
3	3.96241	3	19.20244	3	34.44247	3	49.68250	3	64.92253
4	4.26721	4	19.50724	4	34.74727	4	49.98730	4	65.22733
5	4.57201	5	19.81204	5	35.05207	5	50.292210	5	65.53213
6	4.87681	6	20.11684	6	35.35687	6	50.59690	6	65.83693
7	5.18161	7	20.42164	7	35.66167	7	50.90170	7	66.14173
8	5.48641	8	20.72644	8	35.96647	8	51.20650	8	66.44653
9	5.79121	9	21.03124	9	36.27127	9	51.51130	9	66.75133
20	6.09601	70	21.33604	120	36.57607	170	51.81610	220	67.05613
1	6.40081	1	21.64084	1	36.88087	1	52.12090	1	67.36093
2	6.70561	2	21.94564	2	37.18567	2	52.42570	2	67.66574
3	7.01041	3	22.25044	3	37.49047	3	52.73051	3	67.97054
4	7.31521	4	22.55525	4	37.79528	4	53.03531	4	68.27534
5	7.62002	5	22.86005	5	38.10008	5	53.34011	5	68.58014
6	7.92482	6	23.16485	6	38.40488	6	53.64491	6	68.88494
7	8.22962	7	23.46965	7	38.70968	7	53.94971	7	69.18974
8	8.53442	8	23.77445	8	39.01448	8	54.25451	8	69.49454
9	8.83922	9	24.07925	9	39.31928	9	54.55931	9	69.79934
30	9.14402	80	24.38405	130	39.62408	180	54.86411	230	70.10414
1	9.44882	1	24.68885	1	39.92888	1	55.16891	1	70.40894
2	9.75362	2	24.99365	2	40.23368	2	55.47371	2	70.71374
3	10.05842	3	25.29845	3	40.53848	3	55.77851	3	71.01854
4	10.36322	4	25.60325	4	40.84328	4	56.08331	4	71.32334
5	10.66802	5	25.90805	5	41.14808	5	56.38811	5	71.62814
6	10.97282	6	26.21285	6	41.45288	6	56.69291	6	71.93294
7	11.27762	7	26.51765	7	41.75768	7	56.99771	7	72.23774
8	11.58242	8	26.82245	8	42.06248	8	57.30251	8	72.54255
9	11.88722	9	27.12725	9	42.36728	9	57.60732	9	72.84735
40	12.19202	90	27.43205	140	42.67209	190	57.91212	240	73.15215
1	12.49682	1	27.73683	1	42.97689	1	58.21692	1	73.45695
2	12.80163	2	28.04166	2	43.28169	2	58.52172	2	73.76175
3	13.10643	3	28.34646	3	43.58649	3	58.82652	3	74.06655
4	13.41123	4	28.65126	4	43.89129	4	59.13132	4	74.37135
5	13.71603	5	28.95606	5	44.19609	5	59.43612	5	74.67615
6	14.02083	6	29.26086	6	44.50089	6	59.74092	6	74.98095
7	14.32563	7	29.56566	7	44.80569	7	60.04572	7	75.28575
8	14.63043	8	29.87046	8	45.11049	8	60.35052	8	75.59055
9	14.93523	9	30.17526	9	45.41529	9	60.65532	9	75.88535

TRIANGULATION IN MAINE.

17

LENGTHS—FEET TO METERS (FROM 1 TO 1000 UNITS)—Continued.

Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters
250	76.20015	300	91.44018	350	106.68021	400	121.92024	450	137.16027
1	76.50495	1	91.74498	1	106.98501	1	122.22504	1	137.46507
2	76.80075	2	92.04978	2	107.28981	2	122.52985	2	137.76988
3	77.11455	3	92.35458	3	107.58462	3	122.83465	3	138.07468
4	77.41835	4	92.65939	4	107.88942	4	123.13945	4	138.37948
5	77.72116	5	92.96419	5	108.20422	5	123.44425	5	138.68428
6	78.02896	6	93.26899	6	108.50902	6	123.74905	6	138.98908
7	78.33376	7	93.57379	7	108.81382	7	124.05385	7	139.28388
8	78.63856	8	93.87859	8	109.11862	8	124.35865	8	139.58668
9	78.94336	9	94.18339	9	109.42324	9	124.66345	9	139.80348
260	79.24816	310	94.48819	360	109.72822	410	124.96825	460	140.20828
1	79.55296	1	94.79299	1	110.03302	1	125.27305	1	140.51308
2	79.85776	2	95.09779	2	110.33782	2	125.57785	2	140.81788
3	80.16256	3	95.40259	3	110.64262	3	125.88265	3	141.12268
4	80.46736	4	95.70739	4	110.94742	4	126.18745	4	141.42748
5	80.72216	5	96.01219	5	111.25222	5	126.49225	5	141.73228
6	81.07696	6	96.31699	6	111.55702	6	126.79705	6	142.03708
7	81.38176	7	96.62179	7	111.86182	7	127.10185	7	142.34188
8	81.68656	8	96.92659	8	112.16662	8	127.40665	8	142.64669
9	81.99136	9	97.23139	9	112.47142	9	127.71146	9	142.95149
270	82.29616	320	97.53620	370	112.77623	420	128.01626	470	143.25629
1	82.60097	1	97.84100	1	113.08103	1	128.32106	1	143.56109
2	82.90577	2	98.14580	2	113.38583	2	128.62586	2	143.86589
3	83.21057	3	98.45060	3	113.69063	3	128.93066	3	144.17069
4	83.51537	4	98.75640	4	113.99543	4	129.23546	4	144.47549
5	83.82017	5	99.06020	5	114.30023	5	129.54026	5	144.78029
6	84.12497	6	99.36350	6	114.60503	6	129.84506	6	145.08509
7	84.42877	7	99.66980	7	114.90983	7	130.14986	7	145.38899
8	84.73457	8	99.97460	8	115.21463	8	130.45466	8	145.69469
9	85.03937	9	100.27940	9	115.51943	9	130.75946	9	145.99949
280	85.34417	330	100.58420	380	115.82423	430	131.06426	480	146.30429
1	85.64897	1	100.88000	1	116.12903	1	131.36006	1	146.60009
2	85.95377	2	101.19380	2	116.43383	2	131.67386	2	146.91389
3	86.25857	3	101.49860	3	116.73863	3	131.97866	3	147.21869
4	86.56337	4	101.80340	4	117.04343	4	132.28346	4	147.52350
5	86.86817	5	102.10820	5	117.34823	5	132.58827	5	147.82830
6	87.17297	6	102.41300	6	117.65304	6	132.89307	6	148.13310
7	87.47777	7	102.71781	7	117.95784	7	133.19787	7	148.43790
8	87.78258	8	103.02261	8	118.26264	8	133.50267	8	148.74270
9	88.08738	9	103.32741	9	118.56744	9	133.80747	9	149.04750
290	88.39218	340	103.63221	390	118.87224	440	134.11227	490	149.35230
1	88.69698	1	103.93701	1	119.17704	1	134.41707	1	149.65710
2	89.00178	2	104.24181	2	119.48184	2	134.72187	2	149.96190
3	89.30658	3	104.54661	3	119.78664	3	135.02667	3	150.26670
4	89.61138	4	104.85141	4	120.09144	4	135.33147	4	150.57150
5	89.91618	5	105.15621	5	120.39624	5	135.63627	5	150.87630
6	90.22098	6	105.46101	6	120.70104	6	135.94107	6	151.18110
7	90.52578	7	105.76581	7	121.00584	7	136.24587	7	151.48590
8	90.83058	8	106.07061	8	121.31064	8	136.55067	8	151.79070
9	91.13538	9	106.37541	9	121.61544	9	136.85547	9	152.09550

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LENGTHS—FEET TO METERS (FROM 1 TO 1000 UNITS)—Continued.

Feet	Meters								
500	152.40030	550	167.64034	600	182.88037	650	198.12040	700	213.36043
1	152.70511	1	167.94514	1	183.18517	1	198.42520	1	213.66523
2	153.00991	2	168.24994	2	183.48997	2	198.73000	2	213.97003
3	153.31471	3	168.55474	3	183.79477	3	199.03480	3	214.27483
4	153.61951	4	168.85954	4	184.09957	4	199.33960	4	214.57963
5	153.92431	5	169.16434	5	184.40437	5	199.64440	5	214.88443
6	154.22911	6	169.46914	6	184.70917	6	199.94920	6	215.18923
7	154.53391	7	169.77394	7	185.01397	7	200.25400	7	215.49403
8	154.83871	8	170.07874	8	185.31877	8	200.55880	8	215.79883
9	155.14351	9	170.38354	9	185.62357	9	200.86360	9	216.10363
510	155.44831	560	170.68834	610	185.92837	660	201.16840	710	216.40843
1	155.75311	1	170.98314	1	186.23317	1	201.47320	1	216.71323
2	156.05791	2	171.29794	2	186.53797	2	201.77800	2	217.01803
3	156.36271	3	171.60274	3	186.84277	3	202.08280	3	217.32283
4	156.66751	4	171.90754	4	187.14757	4	202.38760	4	217.62764
5	156.97231	5	172.21234	5	187.45237	5	202.69241	5	217.93244
6	157.27711	6	172.51715	6	187.75718	6	202.99721	6	218.23724
7	157.58192	7	172.82195	7	188.06198	7	203.30201	7	218.54204
8	157.88672	8	173.12675	8	188.36678	8	203.60681	8	218.84684
9	158.19152	9	173.43155	9	188.67158	9	203.91161	9	219.15164
520	158.49632	570	173.73635	620	188.97638	670	204.21641	720	219.45644
1	158.80112	1	174.04115	1	189.28118	1	204.52121	1	219.76124
2	159.10592	2	174.34595	2	189.58598	2	204.82601	2	220.06604
3	159.41072	3	174.65075	3	189.89078	3	205.13081	3	220.37084
4	159.71552	4	174.95555	4	190.19558	4	205.43561	4	220.67564
5	160.02032	5	175.26035	5	190.50038	5	205.74041	5	220.98044
6	160.32512	6	175.56515	6	190.80518	6	206.04521	6	221.28524
7	160.62992	7	175.86995	7	191.10998	7	206.35001	7	221.59004
8	160.93472	8	176.17475	8	191.41478	8	206.65481	8	221.89484
9	161.23952	9	176.47955	9	191.71958	9	206.95861	9	222.19964
530	161.54432	580	176.78435	630	192.02438	680	207.26441	730	222.50445
1	161.84912	1	177.08915	1	192.32918	1	207.56922	1	222.80925
2	162.15392	2	177.39395	2	192.63399	2	207.87402	2	223.11405
3	162.45872	3	177.69876	3	192.93879	3	208.17882	3	223.41885
4	162.76352	4	178.00356	4	193.24359	4	208.48362	4	223.72365
5	163.06833	5	178.30836	5	193.54839	5	208.78842	5	224.02845
6	163.37313	6	178.61316	6	193.85319	6	209.09322	6	224.33325
7	163.67793	7	178.91796	7	194.15799	7	209.39802	7	224.63905
8	163.98273	8	179.22276	8	194.46279	8	209.70282	8	224.94285
9	164.28753	9	179.52756	9	194.76759	9	210.00762	9	225.24765
540	164.59233	590	179.83236	640	195.07239	690	210.31242	740	225.55245
1	164.89713	1	180.13716	1	195.37719	1	210.61722	1	225.85725
2	165.20193	2	180.44196	2	195.68199	2	210.92202	2	226.16205
3	165.50673	3	180.74676	3	195.98679	3	211.22682	3	226.46685
4	165.81153	4	181.05156	4	196.29159	4	211.53162	4	226.77165
5	166.11633	5	181.35636	5	196.50639	5	211.83642	5	227.07645
6	166.42113	6	181.66116	6	196.80119	6	212.14122	6	227.38125
7	166.72593	7	181.96596	7	197.20599	7	212.44602	7	227.68606
8	167.03073	8	182.27076	8	197.51080	8	212.75083	8	227.99096
9	167.33553	9	182.57557	9	197.81560	9	213.05563	9	228.29566

TRIANGULATION IN MAINE.

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LENGTHS—FEET TO METERS (FROM 1 TO 1000 UNITS)—Continued.

Feet	Meters								
750	228.60046	800	243.94049	850	259.08052	900	274.32055	950	289.56058
1	228.90526	1	244.14529	1	259.38532	1	274.62535	1	289.86538
2	229.21006	2	244.45009	2	259.68012	2	274.93015	2	290.17018
3	229.51486	3	244.75489	3	259.98492	3	275.23485	3	290.47498
4	229.81966	4	245.09696	4	260.29972	4	275.53975	4	290.77978
5	230.12446	5	245.36449	5	260.60452	5	275.84455	5	291.08458
6	230.42926	6	245.66929	6	260.90932	6	276.14935	6	291.38838
7	230.73406	7	245.97409	7	261.21412	7	276.45415	7	291.69418
8	231.03886	8	246.27889	8	261.51892	8	276.75895	8	291.99898
9	231.34366	9	246.58369	9	261.82372	9	277.06375	9	292.30378
760	231.64846	810	246.88849	860	262.12852	910	277.38855	960	292.60859
1	231.95326	1	247.19329	1	262.43332	1	277.67336	1	292.91339
2	232.25806	2	247.49809	2	262.78313	2	277.97816	2	293.21819
3	232.56287	3	247.80290	3	263.04293	3	278.28296	3	293.52299
4	232.86767	4	248.10770	4	263.34773	4	278.58776	4	293.82779
5	233.17247	5	248.41250	5	263.65253	5	278.89256	5	294.13259
6	233.47727	6	248.71730	6	263.95733	6	279.19736	6	294.43739
7	233.78207	7	249.02210	7	264.26213	7	279.50216	7	294.74219
8	234.08687	8	249.32690	8	264.56693	8	279.80696	8	295.04699
9	234.39167	9	249.63170	9	264.87173	9	280.11176	9	295.35179
770	234.69647	820	249.93650	870	265.17653	920	280.41656	970	295.65659
1	235.00127	1	250.24130	1	265.48133	1	280.72136	1	295.96139
2	235.30607	2	250.54610	2	265.78613	2	281.02616	2	296.26619
3	235.61087	3	250.85090	3	266.09093	3	281.33096	3	296.57099
4	235.91567	4	251.15570	4	266.39573	4	281.63576	4	296.87579
5	236.22047	5	251.46050	5	266.70053	5	281.94056	5	297.18059
6	236.52527	6	251.76530	6	267.00533	6	282.24536	6	297.48539
7	236.83007	7	252.07010	7	267.31013	7	282.55017	7	297.79020
8	237.13487	8	252.37490	8	267.61494	8	282.85497	8	298.09500
9	237.43967	9	252.67971	9	267.91974	9	283.15977	9	298.39980
780	237.74448	830	252.98451	880	268.22454	930	283.46457	980	298.70460
1	238.04928	1	253.28931	1	268.59334	1	283.76937	1	299.00940
2	238.35408	2	253.59411	2	268.83414	2	284.07417	2	299.31420
3	238.65888	3	253.89891	3	269.13894	3	284.37897	3	299.61900
4	238.96368	4	254.20371	4	269.44374	4	284.68377	4	299.92380
5	239.26848	5	254.50851	5	269.74854	5	284.98857	5	300.22860
6	239.57328	6	254.81331	6	270.05334	6	285.29337	6	300.53340
7	239.87808	7	255.11811	7	270.35814	7	285.59817	7	300.83820
8	240.18288	8	255.42291	8	270.66294	8	285.80297	8	301.14300
9	240.48768	9	255.72771	9	270.96774	9	286.80777	9	301.44780
790	240.79248	840	256.03251	890	271.27254	940	286.51257	990	301.75260
1	241.09728	1	256.33731	1	271.57734	1	286.81737	1	302.05740
2	241.40208	2	256.64211	2	271.88214	2	287.12217	2	302.36220
3	241.70688	3	256.94691	3	272.18694	3	287.42697	3	302.66701
4	242.01168	4	257.25171	4	272.49174	4	287.73178	4	302.97181
5	242.31648	5	257.55652	5	272.79655	5	288.09658	5	303.27661
6	242.62129	6	257.86132	6	273.10135	6	288.34138	6	303.58141
7	242.92609	7	258.16612	7	273.40615	7	288.64618	7	303.88621
8	243.23089	8	258.47092	8	273.71095	8	288.95098	8	304.19101
9	243.53569	9	258.77572	9	274.01575	9	289.25578	9	304.49581

LENGTHS—METERS TO FEET (FROM 1 TO 1000 UNITS).

[Reduction factor: 1 meter = 3.280833333 feet.]

Meters	Feet								
0	0.00000	50	164.04167	100	328.08333	150	492.12500	200	656.16667
1	3.28083	1	167.32250	1	331.36417	1	495.40583	1	659.44750
2	6.56167	2	170.60333	2	334.64500	2	498.68667	2	662.72833
3	9.84250	3	173.88417	3	337.92583	3	501.96760	3	666.00917
4	13.12333	4	177.16500	4	341.20667	4	505.24833	4	669.29000
5	16.40417	5	180.44583	5	344.48750	5	508.52917	5	672.57093
6	19.68500	6	183.72667	6	347.76833	6	511.81000	6	675.85167
7	22.96583	7	187.00750	7	351.04917	7	515.09083	7	679.13250
8	26.24667	8	190.28833	8	354.33000	8	518.37167	8	682.41333
9	29.52750	9	193.56917	9	357.61083	9	521.65250	9	685.69417
10	32.80833	60	196.85000	110	360.89167	160	524.98333	210	688.97500
1	36.08917	1	200.13083	1	364.17250	1	528.21417	1	692.25583
2	39.37000	2	203.41167	2	367.45333	2	531.49500	2	695.53667
3	42.65083	3	206.69250	3	370.73417	3	534.77583	3	698.81750
4	45.93167	4	209.97333	4	374.01500	4	538.05667	4	702.09833
5	49.21250	5	213.25417	5	377.29583	5	541.33750	5	705.37917
6	52.49333	6	216.53500	6	380.57667	6	544.61833	6	708.66000
7	55.77417	7	219.81583	7	383.85750	7	547.89917	7	711.94083
8	59.05500	8	223.09667	8	387.13833	8	551.18000	8	715.22167
9	62.33583	9	226.37750	9	390.41917	9	554.46083	9	718.50250
20	65.61667	70	229.65533	120	393.70000	170	557.74167	220	721.78333
1	68.89750	1	232.93917	1	396.98083	1	561.02250	1	725.06417
2	72.17833	2	236.22000	2	400.26167	2	564.30333	2	728.34500
3	75.45917	3	239.50083	3	403.54250	3	567.58417	3	731.62583
4	78.74000	4	242.78167	4	406.82333	4	570.86500	4	734.90667
5	82.02083	5	246.06250	5	410.10417	5	574.14583	5	738.18750
6	85.30167	6	249.34333	6	413.38500	6	577.42667	6	741.46833
7	88.58250	7	252.62417	7	416.66583	7	580.70750	7	744.74917
8	91.86333	8	255.90500	8	419.94667	8	583.98833	8	748.03000
9	95.14417	9	259.18583	9	423.22750	9	587.26917	9	751.31083
30	98.42500	80	262.46667	130	426.50833	180	590.55000	230	754.59167
1	101.70383	1	265.74750	1	429.78917	1	593.83083	1	757.87250
2	104.98667	2	269.02833	2	433.07000	2	597.11167	2	761.15333
3	108.26750	3	272.30917	3	436.35083	3	600.39250	3	764.43417
4	111.54833	4	275.59000	4	439.63167	4	603.67333	4	767.71500
5	114.82917	5	278.87083	5	442.91250	5	606.95417	5	770.99583
6	118.11000	6	282.15167	6	446.19333	6	610.23500	6	774.27667
7	121.39083	7	285.43250	7	449.47417	7	613.51583	7	777.55750
8	124.67167	8	288.71333	8	452.75500	8	616.79667	8	780.83833
9	127.95250	9	291.99417	9	456.03583	9	620.07750	9	784.11917
40	131.23333	90	295.27500	140	459.31667	190	623.35833	240	787.40000
1	134.51417	1	298.55683	1	462.59750	1	626.63917	1	790.68083
2	137.79500	2	301.83667	2	465.87833	2	629.92000	2	793.96167
3	141.07583	3	305.11750	3	469.15917	3	633.20083	3	797.24250
4	144.35667	4	308.39833	4	472.44000	4	636.48167	4	800.52233
5	147.63750	5	311.67917	5	475.72083	5	639.76250	5	803.80417
6	150.91833	6	314.96000	6	479.00167	6	643.04333	6	807.08500
7	154.19917	7	318.24083	7	482.28250	7	646.32417	7	810.36583
8	157.48000	8	321.52167	8	485.56333	8	649.60500	8	813.64667
9	160.76083	9	324.80250	9	488.84417	9	652.88583	9	816.92750

TRIANGULATION IN MAINE.

21

LENGTHS—METERS TO FEET (FROM 1 TO 1000 UNITS)—Continued.

Meters	Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters	Feet
250	820.20833	300	984.25000	350	1,148.29167	400	1,312.33333	450	1,476.37500
1	823.48917	1	987.53083	1	1,151.57250	1	1,315.61417	1	1,470.65583
2	826.77000	2	990.81167	2	1,154.85333	2	1,318.89500	2	1,482.93667
3	830.05083	3	994.09250	3	1,158.13417	3	1,322.17583	3	1,486.21750
4	833.33167	4	997.37333	4	1,161.41500	4	1,325.45667	4	1,489.49833
5	836.61250	5	1,000.65417	5	1,164.69583	5	1,328.73750	5	1,492.77917
6	839.89333	6	1,003.93500	6	1,167.97667	6	1,332.01833	6	1,496.06000
7	843.17417	7	1,007.21583	7	1,171.25750	7	1,335.29917	7	1,499.31083
8	846.45500	8	1,010.49667	8	1,174.53833	8	1,338.50000	8	1,502.62167
9	849.73583	9	1,013.77750	9	1,177.81917	9	1,341.80083	9	1,505.90250
260	853.01667	310	1,017.05833	360	1,181.10000	410	1,345.14167	460	1,509.18333
1	856.29750	1	1,020.33917	1	1,181.38083	1	1,348.42250	1	1,512.46417
2	859.57833	2	1,023.62000	2	1,187.66167	2	1,351.70333	2	1,515.74500
3	862.85917	3	1,026.90083	3	1,190.94250	3	1,354.98417	3	1,519.02583
4	866.14000	4	1,030.18167	4	1,194.22333	4	1,358.26500	4	1,522.30667
5	869.42083	5	1,033.46250	5	1,197.50417	5	1,361.54583	5	1,525.58750
6	872.70167	6	1,036.74333	6	1,200.78500	6	1,364.82667	6	1,528.86833
7	875.98250	7	1,040.02417	7	1,204.06583	7	1,368.10750	7	1,532.14917
8	879.26333	8	1,043.30500	8	1,207.31667	8	1,371.38833	8	1,535.13000
9	882.54417	9	1,046.58583	9	1,210.62750	9	1,374.66917	9	1,538.71083
270	885.82500	320	1,049.86667	370	1,213.90833	420	1,377.95000	470	1,541.99167
1	889.10583	1	1,053.14750	1	1,217.18917	1	1,381.23083	1	1,545.27250
2	892.38667	2	1,056.42833	2	1,220.47000	2	1,384.51167	2	1,548.55333
3	895.66750	3	1,059.70917	3	1,223.75083	3	1,387.79250	3	1,551.83417
4	898.94833	4	1,062.99000	4	1,227.03167	4	1,391.07333	4	1,555.11500
5	902.22917	5	1,066.27083	5	1,230.31250	5	1,394.35417	5	1,558.39583
6	905.51000	6	1,069.55167	6	1,233.59333	6	1,397.63500	6	1,561.67667
7	908.79083	7	1,072.83250	7	1,236.87417	7	1,400.91583	7	1,564.95750
8	912.07167	8	1,076.11333	8	1,240.15500	8	1,404.19667	8	1,568.28383
9	915.35250	9	1,079.39417	9	1,243.43583	9	1,407.47750	9	1,571.51917
280	918.63333	330	1,082.67500	380	1,246.71667	430	1,410.75833	480	1,574.80000
1	921.91417	1	1,085.95583	1	1,249.99750	1	1,414.03917	1	1,578.08083
2	925.19500	2	1,089.23667	2	1,253.27833	2	1,417.32000	2	1,581.36167
3	928.47583	3	1,092.51750	3	1,256.55917	3	1,420.60083	3	1,584.64250
4	931.75667	4	1,095.79833	4	1,259.84000	4	1,423.88167	4	1,587.92333
5	935.03750	5	1,099.07917	5	1,263.12083	5	1,427.16250	5	1,591.20417
6	938.31833	6	1,102.36000	6	1,266.40167	6	1,430.44333	6	1,594.48500
7	941.59917	7	1,105.61083	7	1,269.68250	7	1,433.72417	7	1,597.76583
8	944.88000	8	1,108.92167	8	1,272.96333	8	1,437.00500	8	1,601.04667
9	948.16083	9	1,112.20250	9	1,276.24417	9	1,440.28583	9	1,604.32750
290	951.44167	340	1,115.48333	390	1,279.52500	440	1,443.56667	490	1,607.60833
1	954.72250	1	1,118.74617	1	1,282.08583	1	1,446.84750	1	1,610.88917
2	958.00333	2	1,122.04500	2	1,286.08667	2	1,450.12833	2	1,614.17000
3	961.28417	3	1,125.32583	3	1,289.36750	3	1,453.40917	3	1,617.45083
4	964.56500	4	1,128.60667	4	1,292.64833	4	1,456.69000	4	1,620.73167
5	967.84583	5	1,131.88750	5	1,295.92917	5	1,459.90793	5	1,624.01250
6	971.12667	6	1,135.16833	6	1,299.21000	6	1,463.25167	6	1,627.29333
7	974.40750	7	1,138.41917	7	1,302.49083	7	1,466.53250	7	1,630.57417
8	977.68833	8	1,141.73000	8	1,305.77167	8	1,469.81333	8	1,633.85500
9	980.96917	9	1,145.01083	9	1,309.06250	9	1,473.09417	9	1,637.13583

LENGTHS—METERS TO FEET (FROM 1 TO 1000 UNITS)—Continued.

Meters	Feet								
500	1,640.41667	550	1,804.45833	600	1,988.50000	650	2,132.54167	700	2,296.58333
1	1,843.69750	1	1,807.73917	1	1,971.78083	1	2,135.82250	1	2,299.86417
2	1,646.97833	2	1,811.02000	2	1,975.06167	2	2,139.10333	2	2,303.14500
3	1,650.25917	3	1,814.30083	3	1,978.34250	3	2,142.38417	3	2,306.42583
4	1,653.54000	4	1,817.58167	4	1,981.62333	4	2,145.66500	4	2,309.70667
5	1,656.82083	5	1,820.86250	5	1,984.90417	5	2,148.94583	5	2,312.98750
6	1,660.10167	6	1,824.14333	6	1,988.18500	6	2,152.22667	6	2,316.26833
7	1,663.38250	7	1,827.42417	7	1,991.46583	7	2,155.50750	7	2,319.54917
8	1,666.66333	8	1,830.70500	8	1,994.74667	8	2,158.78833	8	2,322.83000
9	1,669.94417	9	1,833.98583	9	1,998.02750	9	2,162.06917	9	2,326.11083
510	1,673.22500	560	1,837.26667	610	2,001.30833	660	2,165.35000	710	2,329.39167
1	1,676.50583	1	1,840.54750	1	2,004.58917	1	2,168.63083	1	2,332.67250
2	1,679.78667	2	1,843.82833	2	2,007.87000	2	2,171.91167	2	2,335.95333
3	1,683.06750	3	1,847.10917	3	2,011.15083	3	2,175.19250	3	2,339.23417
4	1,686.34833	4	1,850.39000	4	2,014.43167	4	2,178.47333	4	2,342.51500
5	1,689.62917	5	1,853.67083	5	2,017.71250	5	2,181.75417	5	2,345.79583
6	1,692.91000	6	1,856.95167	6	2,020.99333	6	2,185.03500	6	2,349.07667
7	1,696.19083	7	1,860.23250	7	2,024.27417	7	2,188.31583	7	2,352.35750
8	1,699.47167	8	1,863.51333	8	2,027.55500	8	2,191.59667	8	2,355.63833
9	1,702.75250	9	1,866.79417	9	2,030.83583	9	2,194.87750	9	2,358.91917
520	1,706.03333	570	1,870.07500	620	2,034.11667	670	2,198.15833	720	2,362.20000
1	1,709.31417	1	1,873.35583	1	2,037.39750	1	2,201.43917	1	2,365.48083
2	1,712.59500	2	1,876.63667	2	2,040.67833	2	2,204.72000	2	2,368.76167
3	1,715.87583	3	1,879.91750	3	2,043.95917	3	2,208.00083	3	2,372.04250
4	1,719.15667	4	1,883.19833	4	2,047.24000	4	2,211.28167	4	2,375.32333
5	1,722.43750	5	1,886.47917	5	2,050.52083	5	2,214.56250	5	2,378.60417
6	1,725.71833	6	1,889.70000	6	2,053.80167	6	2,217.84333	6	2,381.88500
7	1,728.99917	7	1,893.04083	7	2,057.08250	7	2,221.12417	7	2,385.16583
8	1,732.28000	8	1,896.32167	8	2,060.36333	8	2,224.40500	8	2,388.44667
9	1,735.56083	9	1,899.60250	9	2,063.64417	9	2,227.68583	9	2,391.72750
530	1,738.84167	580	1,902.88333	630	2,066.92500	680	2,230.96667	730	2,395.00833
1	1,742.12250	1	1,906.16147	1	2,070.20583	1	2,234.24750	1	2,398.28917
2	1,745.40333	2	1,909.44500	2	2,073.48667	2	2,237.52833	2	2,401.57000
3	1,748.68417	3	1,912.72583	3	2,076.76750	3	2,240.80917	3	2,404.85083
4	1,751.96500	4	1,916.00687	4	2,080.04833	4	2,244.09000	4	2,408.13167
5	1,755.24583	5	1,919.28750	5	2,083.32917	5	2,247.37083	5	2,411.41250
6	1,758.52667	6	1,922.56833	6	2,086.61000	6	2,250.65167	6	2,414.69333
7	1,761.80750	7	1,925.84917	7	2,089.89083	7	2,253.93250	7	2,417.97417
8	1,765.08833	8	1,929.13000	8	2,093.17167	8	2,257.21333	8	2,421.25500
9	1,768.36917	9	1,932.41083	9	2,096.45250	9	2,260.49417	9	2,424.53583
540	1,771.65000	590	1,935.69167	640	2,099.73333	690	2,263.77500	740	2,427.81660
1	1,774.93083	1	1,938.97250	1	2,103.01417	1	2,267.05583	1	2,431.09757
2	1,778.21167	2	1,942.25333	2	2,106.29500	2	2,270.33667	2	2,434.37833
3	1,781.49250	3	1,945.53417	3	2,109.57583	3	2,273.61750	3	2,437.65917
4	1,784.77333	4	1,948.81500	4	2,112.85667	4	2,276.89833	4	2,440.94000
5	1,788.05417	5	1,952.09583	5	2,116.13750	5	2,280.17917	5	2,444.22083
6	1,791.33500	6	1,955.37667	6	2,119.41833	6	2,283.46000	6	2,447.50167
7	1,794.61583	7	1,958.65750	7	2,122.69917	7	2,286.74083	7	2,450.78250
8	1,797.89867	8	1,961.93833	8	2,125.98000	8	2,290.02167	8	2,454.06333
9	1,801.17750	9	1,965.21917	9	2,129.28083	9	2,293.30250	9	2,457.34417

TRIANGULATION IN MAINE.

23

LENGTHS—METERS TO FEET (FROM 1 TO 1000 UNITS)—Continued.

Meters	Feet								
750	2,460.62500	800	2,624.66667	850	2,788.70833	900	2,952.75000	950	3,116.79167
1	2,463.90583	1	2,627.94750	1	2,791.98917	1	2,956.03083	1	3,120.07250
2	2,467.18667	2	2,631.28833	2	2,795.27000	2	2,959.31167	2	3,123.35333
3	2,470.46750	3	2,634.50917	3	2,798.55083	3	2,962.59250	3	3,126.63417
4	2,473.74833	4	2,637.79000	4	2,801.83167	4	2,965.87333	4	3,129.91500
5	2,477.02917	5	2,641.07083	5	2,805.11250	5	2,969.15417	5	3,133.19583
6	2,480.31000	6	2,644.35167	6	2,808.39333	6	2,972.43500	6	3,136.47667
7	2,483.59083	7	2,647.63250	7	2,811.67417	7	2,975.71583	7	3,139.75750
8	2,486.87167	8	2,650.91333	8	2,814.95500	8	2,978.99667	8	3,143.03833
9	2,490.15250	9	2,654.19417	9	2,818.23583	9	2,982.27750	9	3,146.31917
760	2,493.43333	810	2,657.47500	860	2,821.51667	910	2,985.55833	960	3,149.60000
1	2,496.71417	1	2,660.75583	1	2,824.79750	1	2,988.83917	1	3,152.88083
2	2,499.99500	2	2,664.03667	2	2,828.07833	2	2,992.12000	2	3,156.16167
3	2,503.27583	3	2,667.31750	3	2,831.35917	3	2,995.40083	3	3,159.44250
4	2,506.55667	4	2,670.59833	4	2,834.64000	4	2,998.68167	4	3,162.72333
5	2,509.83750	5	2,673.87917	5	2,837.92083	5	3,001.96250	5	3,166.00417
6	2,513.11833	6	2,677.16000	6	2,841.20167	6	3,005.24333	6	3,169.28500
7	2,516.39917	7	2,680.40483	7	2,844.48250	7	3,008.52417	7	3,172.56583
8	2,519.68000	8	2,683.72167	8	2,847.76333	8	3,011.80500	8	3,175.84667
9	2,522.96083	9	2,687.00250	9	2,851.04417	9	3,015.08583	9	3,179.12750
770	2,526.24167	820	2,690.28333	870	2,854.32500	920	3,018.36667	970	3,182.40833
1	2,529.52250	1	2,693.56417	1	2,857.60583	1	3,021.64750	1	3,185.68917
2	2,532.80333	2	2,696.84500	2	2,860.88667	2	3,024.92833	2	3,188.97000
3	2,536.08417	3	2,700.12583	3	2,864.16750	3	3,028.20917	3	3,192.25083
4	2,539.36500	4	2,703.40667	4	2,867.44833	4	3,031.49000	4	3,195.53167
5	2,542.64583	5	2,706.68750	5	2,870.72917	5	3,034.77083	5	3,198.81250
6	2,545.92667	6	2,709.96833	6	2,874.01000	6	3,038.05167	6	3,202.09333
7	2,549.20750	7	2,713.24917	7	2,877.29083	7	3,041.33250	7	3,205.37417
8	2,552.48833	8	2,716.53000	8	2,880.51767	8	3,044.61333	8	3,208.65500
9	2,555.76917	9	2,719.81083	9	2,883.85250	9	3,047.89417	9	3,211.03583
780	2,559.05000	830	2,723.09167	880	2,887.13333	930	3,051.17500	980	3,215.21667
1	2,562.33083	1	2,726.37250	1	2,890.41417	1	3,054.45583	1	3,218.49750
2	2,565.61167	2	2,729.59333	2	2,893.69500	2	3,057.73667	2	3,221.77833
3	2,568.89250	3	2,732.93417	3	2,896.97583	3	3,061.01750	3	3,225.05917
4	2,572.17333	4	2,736.21500	4	2,900.25667	4	3,064.29833	4	3,228.34000
5	2,575.45417	5	2,739.49583	5	2,903.53750	5	3,067.57917	5	3,231.62083
6	2,578.73500	6	2,742.77667	6	2,906.81833	6	3,070.86000	6	3,234.90167
7	2,582.01583	7	2,746.05750	7	2,910.09917	7	3,074.14083	7	3,238.18250
8	2,585.29667	8	2,749.33833	8	2,913.38000	8	3,077.42167	8	3,241.46333
9	2,588.57750	9	2,752.61917	9	2,916.60083	9	3,080.70250	9	3,244.74417
790	2,591.85833	840	2,755.90000	890	2,919.94167	940	3,083.98333	990	3,248.02500
1	2,595.13917	1	2,759.18083	1	2,923.22250	1	3,087.26417	1	3,251.30583
2	2,598.42000	2	2,762.46167	2	2,926.50333	2	3,090.54500	2	3,254.58667
3	2,601.70083	3	2,765.74250	3	2,929.78417	3	3,093.82583	3	3,257.86750
4	2,604.98167	4	2,769.02333	4	2,933.06500	4	3,097.10667	4	3,261.14833
5	2,608.26250	5	2,772.30417	5	2,936.34583	5	3,100.38750	5	3,264.42917
6	2,611.54333	6	2,775.58500	6	2,939.62667	6	3,103.66833	6	3,267.71000
7	2,614.82417	7	2,778.86583	7	2,942.90750	7	3,106.94917	7	3,270.99083
8	2,618.10500	8	2,782.14667	8	2,946.18833	8	3,110.23000	8	3,274.21767
9	2,621.38583	9	2,785.42750	9	2,949.46917	9	3,113.51083	9	3,277.55250

GEOGRAPHIC POSITIONS.

PASSAMAQUODDY BAY AND ST. CROIX RIVER.

Station.	Latitude and longitude.	Sec- onds in meters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.	
<i>Principal points.</i>								
Moose, 1883.....	• • "		• • "	• • "				
Moose, 1883.....	44 44 34.252	1057.3	38 15 33.5	218 12 18.5	Sandy Point.....	9859.2	3.993843	
	67 04 48.322	1063.1	43 34 50.4	223 32 43.8	Pond.....	5744.9	3.759283	
			55 13 25.1	235 10 17.7	Hill.....	7152.4	3.854450	
			69 12 40.9	249 10 20.2	Divide.....	4707.1	3.672755	
			128 24 55.2	308 23 43.0	Trescott Rock.....	2881.1	3.459565	
			207 12 49.7	27 15 18.5	Porcupine.....	9957.3	3.998143	
			229 12 30.6	49 17 26.5	Quoddy.....	12185.1	4.085830	
Grand Manan (N.B.), 1861.....	44 44 53.516	1652.0	154 39 12.74	334 28 31.10	Chamcook.....	46376.50	4.6662980	
	66 49 53.224	1170.8						
Trescott Rock, 1861.....	44 45 32.235	995.0	57 50 44.23	237 33 36.71	Howard.....	26932.52	4.4302770	
	67 06 30.960	680.9	131 56 05.51	311 40 54.45	Cooper.....	38027.67	4.5800997	
			182 44 49.04	2 45 52.14	Chamcook.....	40733.17	4.6099482	
			273 01 10.77	03 12 53.23	Grand Manan.....	21978.94	4.3420067	
Godfrey, 1883.....	44 46 39.407	1216.4	37 46 45.4	217 45 09.6	Moose.....	4887.1	3.689048	
	67 02 32.236	708.8	68 28 14.2	248 25 26.1	Trescott Rock.....	5644.4	3.751614	
			197 23 56.7	17 24 47.0	Porcupine.....	5229.7	3.718474	
Kennison, 1886.....	44 46 51.398	1586.5	197 13 47.2	17 15 06.8	Little 2.....	8367.8	3.922613	
	67 11 30.407	668.5	231 10 56.5	51 14 22.4	McCurdy.....	8242.4	3.916042	
			232 30 56.2	52 32 42.5	Leighton.....	4181.2	3.621303	
Lawrence, 1883.....	44 47 16.643	513.7	50 53 53.7	230 50 36.4	Moose.....	7943.2	3.899998	
	67 00 08.135	178.8	157 21 30.8	337 20 39.4	Porcupine.....	4161.7	3.619269	
			226 12 26.9	46 14 05.4	Quoddy.....	4251.2	3.628507	
Leighton, 1886.....	44 48 13.799	426.0	171 16 17.7	351 15 50.9	Little 2.....	5512.1	3.741320	
	67 08 59.438	1306.2	229 50 23.8	49 52 03.4	McCurdy.....	4063.3	3.608876	
			258 56 06.6	78 57 44.0	Dyer.....	5002.5	3.699184	
			326 46 44.0	146 48 28.5	Trescott Rock.....	5960.6	3.775291	
Dyer, 1886.....	44 48 44.887	1385.6	15 29 25.2	195 28 32.4	do.....	6170.8	3.790343	
	67 05 16.028	352.2	128 01 48.5	307 58 44.1	Little 2.....	7290.0	3.862727	
			175 40 52.6	355 40 34.0	Case.....	7675.0	3.885078	
			193 09 56.4	13 11 11.2	Gove.....	10206.5	4.008879	
			257 46 15.1	77 49 00.7	Porcupine.....	5282.2	3.722814	
Quoddy, 1860.....	44 48 51.927	1602.9	61 49 48.3	241 43 40.2	Trescott Rock.....	13035.6	4.115131	
	66 57 48.478	1065.2	100 55 16.8	280 52 46.9	Porcupine.....	4756.5	3.677289	
			118 42 12.0	298 32 29.8	Arcus.....	20646.5	4.314846	
			153 26 56.0	333 22 50.3	Perry Pigeon.....	17071.6	4.232275	
			162 12 40.6	342 10 39.7	Prince Regents.....	12303.8	4.090040	
				305 06 41.9	125 12 16.7	Redoubt.....		
					Grand Manan.....	12780.4	4.106544	
Porcupine, 1860.....	44 49 21.066	650.3	43 59 33.2	223 55 54.9	Trescott Rock.....	9813.4	3.991821	
	67 01 21.057	462.6	123 48 42.3	303 41 30.0	Arcus.....	16182.5	4.209046	
			184 46 33.2	4 47 02.3	Prince Regents.....	10852.7	4.035539	
				298 34 28.9	118 42 33.5	Redoubt.....		
					Grand Manan.....	17229.8	4.236281	
McCurdy, 1886.....	44 49 38.668	1193.6	125 40 58.0	305 38 51.5	Little 2.....	4851.2	3.685850	
	67 06 38.082	836.6	191 31 59.4	11 32 38.7	Case.....	6116.7	3.786515	
			206 29 03.9	26 31 16.7	Gove.....	9249.8	3.966131	
			250 04 11.0	70 06 03.5	Mine Hill.....	3721.2	3.570683	
			274 25 46.5	94 29 30.0	Porcupine.....	6985.9	3.844225	
			312 37 57.1	132 38 55.0	Dyer.....	2450.8	3.389300	
			358 49 13.2	178 49 18.3	Trescott Rock.....	7608.6	3.881306	
Baptist, 1886.....	44 49 38.855	1199.4	63 00 46.6	242 59 01.7	Dyer.....	3669.3	3.564589	
	67 02 47.225	1037.4	107 25 55.2	287 21 05.8	Little 2.....	9443.4	3.975130	
			128 45 06.1	308 44 15.6	Mine Hill.....	2016.0	3.304488	
			201 40 44.5	21 41 09.6	Small.....	2118.2	3.325971	
			286 10 05.0	106 11 05.7	Porcupine.....	1971.1	3.294701	
Indian Point (N.B.), 1861.....	44 50 03.537	109.2	285 51 54.0	105 59 13.4	Bishop.....	14241.0	4.153542	
	66 57 12.788	280.9	19 32 00.1	199 31 35.0	Quoddy.....	2345.4	3.370225	
			76 30 28.3	256 27 33.3	Porcupine.....	5609.3	3.748906	
Mine Hill, 1886.....	44 50 19.728	609.0	30 05 55.1	210 05 00.6	Dyer.....	3383.7	3.529389	
	67 03 58.806	1291.6	101 53 03.5	281 49 04.5	Little 2.....	7600.8	3.880861	
			154 18 57.6	334 17 44.5	Case.....	5244.1	3.719668	
			185 08 20.7	5 08 41.0	Gove.....	7038.5	3.847483	
			297 34 29.2	117 36 20.3	Porcupine.....	3909.9	3.592164	

GEOGRAPHIC POSITIONS—Continued.

PASSAMAQUODDY BAY AND ST. CROIX RIVER—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Principal points—Continued.</i>							
Small, 1886.....	44 50 42.620 67 02 11.595	1315.6 254.6	48 07 32.8 73 18 20.9 164 43 25.1 336 11 58.9	228 05 22.7 287 08 00.1 344 42 29.7 156 12 34.4	Dyer..... Mine Hill..... Gove..... Porcupine.....	5442.7 2458.4 6534.7 2751.4	3.735817 3.390651 3.815226 3.439549
Little 2, 1886.....	44 51 10.296 67 09 37.531	317.8 824.1	155 33 54.8 287 08 01.1 333 31 53.9	335 32 32.8 107 13 50.2 158 34 05.4	Arcus..... Porcupine..... Trescott Rock.	6172.5 11414.1 11212.1	3.790459 4.057442 4.049686
Cox, 1887.....	44 52 06.820 67 10 03.160	210.5 69.4	126 45 03.5 152 48 10.8 161 43 32.5 211 15 07.8 256 02 45.3 342 07 23.5	306 42 05.6 332 47 07.0 341 42 07.2 31 17 10.6 76 05 49.5 162 07 41.8	King..... Arcus..... Oak..... Hersey..... Case..... Little 2.....	6903.0 4356.2 8453.3 7353.6 5989.0 1833.3	3.830936 3.639105 3.927024 3.866502 3.770704 3.263244
Roger, 1861.....	44 52 10.883 67 00 19.607	335.9 430.4	254 11 47.8 331 35 46.3 14 26 33.8 175 28 34.2	74 13 11.8 151 37 32.9 194 25 50.4 355 26 19.9	Friars Head... Quoddy..... Porcupine..... Prince Regents Redoubt.	2715.7 6981.1 5413.0 5590.6	3.433875 3.843922 3.733435 3.747462
Bradley, 1886.....	44 52 12.604 67 04 39.778	389.1 873.2	28 40 41.8 132 06 18.4 203 26 54.1 345 31 06.0	208 39 18.2 312 05 34.2 23 27 43.3 165 31 34.9	McCurdy..... Case..... Gove..... Mine Hill.....	5415.7 1851.4 3843.5 3598.6	3.733653 3.267495 3.584722 3.556135
Mowes Mtn., 1886....	44 52 16.147 67 07 31.420	498.4 689.7	244 41 02.1 307 34 03.0 346 26 52.6 53 43 39.4	64 19 19.0 127 36 33.0 166 27 30.1 233 42 10.3	Case..... Mine Hill..... McCurdy..... Little 2.....	2647.9 5891.5 5070.4 3434.9	3.422895 3.770227 3.690001 3.535908
Friars Head 3 (N.B.), 1910.	44 52 34.747 66 58 21.150	1072.5 464.2	101 45 52.5 202 51 25.5	281 45 06.8 22 52 05.1	Treat 2..... Campobello...	1452.1 3168.7	3.161991 3.500884
Treat 2 (U. S. and C. B. S.), 1893.	44 52 44.333 66 59 25.919	1368.5 568.8	145 51 24.8 160 20 42.5	325 48 28.1 340 19 50.3	Trott..... Prince Regents Redoubt. Campobello...	16556.9 4821.5 3730.9	4.218978 3.883186 3.571817
Case, 1886.....	44 52 52.812 67 05 42.362	1630.3 929.7	58 30 58.3 107 41 05.2 237 09 43.9	238 28 12.4 287 36 57.2 57 13 17.5	Little 2..... Arcus..... Prince Regents Redoubt. Porcupine....	6055.4 8095.3 7896.6 8697.6	3.782143 3.908233 3.897440 3.939400
Denboe, 1861.....	44 52 53.067 67 05 42.346	1638.1 940.4	107 39 17.5 199 28 53.7 237 15 05.1	287 35 09.9 19 30 22.9 57 18 39.0	Arcus..... Perry Pigeon.. Prince Regents Redoubt. Porcupine....	8082.8 8298.7 7901.3 8710.5	3.907562 3.919008 3.897699 3.940043
Comstock 2, 1861....	44 53 12.333 67 01 13.672	380.7 300.1	156 34 07.9 286 55 54.2 327 57 55.5 330 42 25.7	336 32 27.0 106 57 56.4 147 58 33.7 150 44 50.5	Perry Pigeon.. Friars Head..... Roger..... Porcupine....	7878.7 3971.9 2237.5 9215.2	3.896452 3.599797 3.349764 3.964504
Buckman, 1910.....	44 53 52.353 66 59 23.941	1616.0 523.3	258 37 35.3 330 05 09.8 1 11 03.9	78 38 59.2 150 05 54.1 181 11 02.5	Campobello... Friars Head 3. Treat 2.....	2660.7 2763.6 2100.2	3.424994 3.441483 3.322251
Gove, 1886.....	44 54 06.824 67 03 30.070	210.6 659.7	51 48 35.6 55 59 31.7 118 15 19.7 178 38 35.9 241 52 49.3 342 11 07.3	231 47 02.2 235 55 12.3 298 12 44.9 358 38 31.6 61 54 49.4 162 12 38.3	Case..... Little 2..... Hersey..... Trott..... Prince Regents Redoubt. Porcupine....	3694.2 9733.8 5455.9 5538.2 4232.9 9264.7	3.567521 3.98281 3.736666 3.743365 3.626633 3.966830
Campobello (N. B.), (U.S. and C. B. S.), 1893.	44 54 09.333 66 57 25.049	288.1 549.6	114 10 27.4 145 29 39.7	294 08 09.9 325 27 47.5	Prince Regents Redoubt. Cumming....	4683.5 6149.4	3.670572 3.788832

GEOGRAPHIC POSITIONS—Continued.

PASSAMAQUODDY BAY AND ST. CROIX 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>							
<i>Arcus, 1860.....</i>	44 54 12.328 67 11 33.910	380.6 743.9	113 19 04.8 199 11 11.4 262 41 25.7	293 07 26.5 19 15 48.8 82 49 07.4	Cooper..... Chamcook..... Prince Regents Redoubt..... Trescott Rock.	23577.9 26086.2 14462.9 17379.2	4.3725016 4.4164108 4.1602542 4.2400306
<i>King, 1887.....</i>	44 54 20.545 67 14 15.273	634.2 335.1	216 25 17.7 256 57 32.5 274 04 58.4	36 26 50.4 77 02 33.3 94 06 52.5	Oak..... Hersey..... Arcus.....	4845.6 9591.6 3549.2	3.685347 3.981890 3.550129
<i>Raccoon Hill (N. B.), 1860.</i>	44 54 43.753 66 56 34.393	1350.6 754.4	30 21 09.4 99 02 12.3	210 19 54.5 278 59 19.0	Friars Head... Prince Regents Redoubt..... Hannabury...	4611.6 5451.5 3455.2	3.663852 3.736515 3.538475
<i>Page, 1887.....</i>	44 55 05.811 67 12 58.645	179.4 1286.3	50 16 16.4 205 34 17.2 264 18 04.7 311 36 13.1	230 15 22.3 205 34 55.7 84 22 11.4 131 37 13.0	King..... Oak..... Hersey..... Arcus.....	2185.9 2772.9 7701.7 2486.1	3.339621 3.442927 3.886588 3.395525
<i>Prince Regents Re- doubt, 1861.</i>	44 55 11.418 67 00 39.860	352.5 874.3	23 21 57.43 101 53 11.36 165 55 10.92 323 15 45.20	203 17 49.86 281 33 50.95 345 52 05.74 143 23 21.11	Trescott Rock. Cooper..... Chamcook..... Grand Manan.	19470.82 36768.95 23516.50 23781.50	4.2893812 4.5654812 4.3713727 4.3762392
<i>Hersey, 1887.....</i>	44 55 30.436 67 07 09.202	939.5 201.8	273 53 42.3 338 36 30.0 22 04 46.7 67 28 29.4	93 58 17.3 158 37 31.3 202 03 02.0 247 25 22.6	Prince Regents Redoubt..... Case..... Little 2..... Arcus.....	8559.2 5225.4 8664.9 6287.2	3.932435 3.718122 3.937765 3.798455
<i>Foster, 1860.....</i>	44 55 30.441 67 07 09.340	939.7 204.8	67 27 48.4 237 32 20.0 273 53 39.6	247 24 41.7 57 34 50.3 93 58 14.6	Arcus..... Perry Pigeon.. Prince Regents Redoubt..... Porcupine....	6284.4 5527.3 8562.3 13727.9	3.798264 3.742510 3.932589 4.137605
<i>Kendall, 1860.....</i>	44 55 58.269 67 00 56.565	1798.7 1240.4	345 47 00.7 84 02 16.3 120 59 21.3	165 47 12.5 263 57 53.1 300 57 28.3	Prince Regents Redoubt..... Foster..... Perry Pigeon..	1491.9 8219.8 4092.0	3.173744 3.914863 3.611935
<i>Kendall 2 (U. S. and C. B. S.), 1893.</i>	44 55 58.286 67 00 56.576	1799.1 1240.6	345 46 46.6 120 57 20.8 214 06 26.7	165 46 58.4 300 55 28.2 34 07 03.9	Prince Regents Redoubt..... Trott..... Cumming.....	1492.5 4076.5 2057.2	3.173916 3.610287 3.313285
<i>Wolf, (N. B.), 1861...</i>	44 56 12.751 66 44 05.206	393.6 114.2	13 16 42.8 53 05 59.6 100 53 42.8 127 22 21.2	193 14 46.9 232 56 18.7 280 43 57.2 307 07 32.3	Bishop..... Quoddy..... Hannah..... Chamcook.....	15724.4 22621.3 18496.8 34552.5	4.196573 4.354518 4.267096 4.538480
<i>Hannabury (N. B.), 1861</i>	44 56 18.902 66 55 11.417	583.4 250.3	32 12 20.7 73 54 02.8 97 36 17.5 132 38 24.0 166 22 49.2 270 40 46.0	212 07 59.9 253 50 10.9 277 30 20.7 312 36 29.0 346 21 35.3 90 48 36.5	Porcupine.... Prince Regents Redoubt..... Perry Pigeon.. Hannah..... North Head... Wolf.....	15237.5 7497.4 11172.1 4844.3 9707.2 14608.7	4.182914 3.874933 4.048136 3.685229 3.987092 4.164613
<i>Oak, 1887.....</i>	44 56 26.834 67 12 04.057	828.3 89.0	248 21 38.7 283 02 28.8 341 46 22.2 350 56 58.0	68 25 02.3 105 05 57.1 161 48 05.7 170 57 19.5	Smart..... Hersey..... Little 2..... Arcus.....	6795.1 6695.9 10286.6 4204.4	3.832195 3.825808 4.012271 3.623709
<i>Indian Island (N. B.), 1860.</i>	44 56 14.937 66 58 11.031	461.1 241.9	59 01 04.8 186 14 56.8 263 12 07.8	238 59 19.8 6 15 08.8 88 14 14.7	Prince Regents Redoubt..... Hannah..... Hannabury...	3807.5 3423.2 3940.2	3.580636 3.534435 3.595513
<i>Cannon, 1887.....</i>	44 56 28.569 67 04 40.583	881.9 889.8	11 30 27.3 61 10 32.7 125 45 02.6 230 37 02.0 294 15 34.5	191 29 43.8 241 08 47.6 305 43 12.8 50 37 47.6 114 18 24.5	Case..... Hersey..... Smart..... Trott..... Prince Regents Redoubt.	6796.7 3720.3 4193.4 1830.2 5791.2	3.832298 3.570580 3.622564 3.262489 3.762768

GEOGRAPHIC POSITIONS—Continued.

PASSAMAQUODDY BAY AND ST. CROIX RIVER—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Principal points—Continued.</i>							
Cumming, (N. B.), 1863.	44° 56' 53.463 (U.S. and C.B.S.), 1883.	1650.3 67° 00' 03.954	14° 02' 11.7 86.7	194° 01' 46.3 94° 50' 51.7	27° 48' 21.9	Prince Regents Redoubt. Trott.....	Meters. 3247.0 3. 5.11476 4666.1 3. 6.68861
Campbell, 1887.....	44° 57' 04.870 67° 09' 26.277	150.3 576.0	27° 44' 06.1 71° 15' 56.4 245° 03' 38.5 314° 06' 42.8	207° 42' 36.2 251° 14' 05.0 65° 05' 10.7 134° 08' 19.6	Arcus..... Oak..... Smart..... Hersey.....	6017.0 3652.9 3152.1 4187.0	3. 7.79379 3. 5.62636 3. 4.98804 3. 6.21903
Trott, 1887.....	44° 57' 06.182 67° 03' 36.052	190.8 790.4	312° 30' 12.1 19° 31' 05.1 57° 42' 41.2 104° 59' 20.3	132° 32' 16.6 199° 29' 35.9 237° 40' 10.6 284° 56' 45.0	Prince Regents Redoubt. Case..... Hersey..... Smart.....	5241.8 8297.5 5529.7 4987.2	3. 7.19478 3. 9.18947 3. 7.42869 3. 6.97855
Hibernia Cove (N.B.), 1861.	44° 57' 24.972 66° 57' 51.870	770.9 1136.9	241° 38' 01.9 300° 05' 24.4 10° 59' 50.4	61° 41' 55.6 120° 07' 17.8 190° 59' 36.9	White Horse..... Hannabury..... Indian Island.....	8235.3 4066.0 2202.4	3. 9.15679 3. 6.69172 3. 3.42888
East Quoddy Light (N. B.), 1860.	44° 57' 29.080 66° 54' 02.297	897.7 50.3	34° 58' 40.7 102° 23' 44.4 210° 23' 03.7 280° 08' 44.7	214° 57' 51.9 282° 21' 00.6 30° 24' 15.2 100° 15' 46.5	Hannabury..... Hannah..... White Horse..... Wolf.....	2643.7 5190.5 4384.2 13300.1	3. 4.22211 3. 7.15963 3. 6.41894 4. 123856
Smart, 1887.....	44° 57' 47.907 67° 07' 15.863	1478.9 347.7	269° 03' 07.8 358° 01' 42.3 40° 23' 57.4	119° 07' 47.5 178° 01' 47.0 220° 20' 55.3	Prince Regents Redoubt. Hersey..... Arcus.....	9935.7 4246.1 8735.2	3. 9.97198 3. 6.27992 3. 9.41274
Hannah (N. B.), 1860.	44° 58' 05.172 66° 57' 54.028	150.7 1184.0	359° 35' 27.3 15° 42' 14.9 34° 08' 48.9	179° 35' 31.2 195° 39' 48.9 214° 06' 51.8	Quoddy..... Porcupine..... Prince Regents Redoubt.	17078.6 16804.3 8479.7	4. 4.22452 4. 4.255421 3. 8.11557
Bar Island (N. B.), 1861.	44° 58' 22.556 66° 56' 51.699	696.3 1132.8	330° 03' 15.0 23° 49' 28.6	150° 04' 25.9 203° 48' 32.6	Hannabury.... Indian Island.....	4404.8 4306.2	3. 6.43926 3. 6.34099
White Horse (N. B.), 1863.	44° 59' 31.586 66° 52' 21.064	975.0 461.4	299° 24' 34.0 32° 07' 54.9 69° 56' 50.4	119° 30' 24.4 212° 05' 54.6 249° 52' 55.0	Wolf..... Hannabury..... Hannah..... 120° 06' 39.9	12480.8 7022.6 7767.7 6953.8	4. 4.096244 3. 8.86500 3. 8.890291 3. 8.42224
North Head (N. B.), 1861.	45° 01' 24.504 66° 56' 55.822	756.4 1222.1	11° 42' 41.6 47° 49' 31.9 138° 46' 55.1	191° 42' 00.4 227° 44' 48.5 316° 41' 11.1	Hannah..... Perry Pigeon..... Chamcook.....	6284.0 11854.2 15504.9	3. 7.98237 4. 4.073872 4. 1.904070
Anley (N. B.), 1863..	45° 03' 05.349 66° 52' 43.444	165.1 950.7	355° 45' 03.9 36° 18' 31.3 60° 37' 18.0 91° 44' 48.3	175° 45' 19.7 218° 14' 51.6 240° 34' 19.4 271° 37' 45.7	White Horse..... Hannah..... North Head..... Navy Island..... 116° 56' 12.3	6617.0 11494.6 6340.9 13070.9 18096.4	3. 8.80661 4. 4.060493 3. 8.92151 4. 1.116304 4. 4.267592
Navy Island (N. B.), 1863.	45° 03' 17.822 67° 02' 40.512	550.2 886.4	6° 07' 15.8 158° 24' 27.9 294° 50' 30.4	186° 06' 36.2 338° 22' 47.9 114° 54' 34.3	Perry Pigeon..... Chamcook..... North Head.....	11528.6 8381.2 8316.0	4. 4.061775 3. 9.23305 3. 9.19912
Shortland, 1863.....	45° 05' 26.626 67° 09' 12.840	821.9 280.8	235° 10' 48.4 294° 47' 39.7 294° 49' 13.7 334° 28' 24.2	55° 13' 46.4 114° 56' 21.3 114° 53' 51.5 154° 32' 22.0	Chamcook..... North Head..... Navy Island..... Perry Pigeon	6687.3 1774.4 9458.4 17104.6	3. 8.825253 4. 4.247979 3. 9.75819 4. 4.233112
Farrar, 1887.....	45° 07' 14.500 67° 23' 39.403	447.6 861.2	297° 14' 15.0 417° 48' 15.7 246° 35' 44.2	277° 12' 55.4 37° 49' 50.4 66° 40' 34.9	Rye..... Mohannas..... Maguerrewoc.....	2475.0 4782.3 9759.0	3. 3.393567 3. 8.677813 3. 9.98404
Rye, 1867.....	45° 07' 24.585 67° 25' 31.742	759.0 693.7	269° 30' 24.12 12° 16' 16.08	89° 44' 55.82 192° 14' 29.55	Chamcook..... Cooper.....	26884.67 15514.11	4. 4.295047 4. 1.907270
Chamcook (N. B.), 1857	45° 07' 30.243 67° 05' 01.637	933.6 35.8					

GEOGRAPHIC POSITIONS—Continued.

PASSAMAQUODDY BAY AND ST. CROIX 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>							
Chamcook 2 (N. B.), 1866.	45 07 30.248 67 05 01.655	933.8 36.2	55 13 35.9 87 43 19.9 117 14 01.4 141 31 56.4	235 10 37.9 267 39 57.8 297 10 41.1 321 29 59.5	Shortland..... Eye..... Devils Head..... Table Top.....	6687.1 6238.7 6913.0 5786.5	3.825240 3.795096 3.841546 3.762417
Baring School cupola, 1887.	45 08 04.479 67 18 58.155	138.3 1270.8	81 53 25.5 124 32 51.5 206 27 41.6 230 23 15.2	261 48 46.6 304 31 06.9 26 31 10.7 50 24 46.6	Rye..... Mohannas..... Collins..... Maguerrewoc.....	8688.9 3914.7 14423.6 3651.1	3.938966 3.592698 4.159073 3.562422
Mohannas (N. B.), 1887.	45 09 16.365 67 21 25.766	505.2 562.8	57 19 17.5 222 02 29.6 268 56 48.8	237 16 23.2 42 07 43.5 89 00 04.8	Rye..... Collins..... Maguerrewoc.....	6386.9 14404.2 6038.0	3.805289 4.158489 3.780895
Maguerrewoc, 1887....	45 09 19.367 67 16 49.387	613.4 1078.8	38 14 40.5 72 43 59.0 198 52 45.6 282 16 28.6	218 06 44.1 252 37 48.7 18 54 43.3 102 24 50.2	Cooper..... Rye..... Collins..... Chamcook.....	23813.18 11955.09 11184.70 9987.81	4.3768174 4.0775528 4.0486242 3.9994703
Lane, 1866.....	45 09 32.449 67 13 03.326	1001.8 72.6	119 53 50.8 202 30 22.9 263 43 28.2 326 24 05.7	299 51 08.0 22 31 52.2 83 47 12.9 146 26 49.0	Calais Obsy.... Cookson Id.... Table Top..... Shortland.....	5778.0 7180.5 6961.4 9108.3	3.761778 3.561512 3.842699 3.950439
Table Top (N. B.), (U. S. and C. B. S.), 1866.	45 09 56.977 67 07 46.478	1759.0 1015.1	144 40 38.1 321 29 52.9 12 45 03.0	324 38 22.7 141 31 49.8 192 44 01.8	Cookson Id.... Chamcook..... Shortland.....	7203.2 5786.9 8556.6	3.857525 3.762445 3.932300
Sinclair 2 (U. S. and C. B. S.), (N. B.), 1908.	15 10 58.488 67 14 03.262	1805.7 71.2	50 00 46.1 78 04 48.1	229 58 48.3 258 01 25.6	Maguerrewoc..... Todd Mountain (1908). Collins.....	4736.03 6372.69 7537.46	3.6754146 3.8043226 3.8772252
Calais Observatory, 1866.	45 11 05.680 67 16 52.762	175.3 1151.9	206 54 49.10 293 06 29.37	20 56 50.06 113 14 53.57	St. David..... Chamcook.....	8209.72 16897.26	3.9143283 4.2278164
Middlemiss (N. B.), 1887.	45 12 14.648 67 24 20.501	452.2 447.4	9 51 51.0 119 55 13.5 203 42 13.6 248 52 10.3 298 40 09.9	189 51 00.5 299 43 21.5 23 45 32.7 68 59 28.3 118 45 29.9	Rye..... Neal..... Oak..... Collins..... Maguerrewoc.....	9088.6 25191.6 15174.5 14426.5 11230.6	3.958496 4.401257 4.181114 4.159160 4.050404
Cookson Island, (N. B.), 1866.	45 13 07.313 67 10 57.354	225.8 1251.4	323 13 24.2 64 12 17.6	143 17 36.5 244 08 05.4	Chamcook.... Calais Obsy....	12985.1 8618.0	4.113446 3.935406
Curtis (N. B.), 1866..	45 13 36.480 67 18 01.002	1126.2 21.8	275 31 20.0 319 11 27.8	95 36 20.7 139 14 59.0	Cookson Id.... Lane..... Calais Obsy....	9286.7 9948.6 4887.7	3.967781 3.997763 3.689107
Collins (N. B.), 1887..	45 15 02.649 67 14 03.425	81.8 74.7	319 41 08.89 327 07 03.83 46 48 27.82	130 47 33.25 211 57 09.46 226 40 19.52	Chamcook.... Cooper..... Rye.....	18301.52 34564.63 20634.03	4.2624872 4.5386319 4.3145841
St. David, 1867.....	45 15 02.778 67 14 02.352	85.7 51.3	319 44 59.88 32 08 50.24 46 50 39.63	139 51 23.48 211 58 55.10 226 42 30.57	Chamcook.... Cooper..... Rye.....	18289.42 34580.44 20653.82	4.2622000 4.5388305 4.3150005
Neal, 1887.....	45 19 00.460 67 41 02.919	14.2 63.6	267 04 43.58 281 35 24.70 316 30 18.58	87 19 55.57 101 54 35.51 136 41 19.54	Oak..... Collins..... Rye.....	27965.99 36050.91 29567.95	4.4466302 4.5569162 4.4708211
Oak (N. B.), 1887....	45 19 44.627 67 19 40.374	1377.7 879.3	319 41 45.09 319 49 08.09 18 34 58.50	139 52 08.91 139 53 07.55 198 30 49.06	Chamcook.... Collins..... Rye.....	29689.77 11388.29 24097.49	4.4726089 4.0564586 4.3819718
Tomah Mtn., 1888....	45 27 18.987 67 41 17.691	586.2 384.4	298 18 05.62 358 48 08.23	116 33 29.22 178 48 18.75	Oak..... Neal.....	31513.86 15393.77	4.4985016 4.1873450
Elbow Rip, 1888....	45 31 01.169 67 25 57.534	36.1 1248.8	71 08 44.8 129 09 55.7 184 15 40.9 254 39 26.2	250 57 48.6 309 06 20.0 4 16 12.7 74 43 00.2	Tomah Mtn.... Vance Mtn.... Mt. Henry.... Brandy Hill....	21127.2 8451.3 12992.7 6747.4	4.324841 3.926923 4.113699 3.829184

GEOGRAPHIC POSITIONS—Continued.

PASSAMAQUODDY BAY AND ST. CROIX 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>							
Brandy Hill (N. B.), 1888.	45 31 58.887 67 20 57.658	1818.0 1251.2	355 45 13.77 105 16 32.97 72 03 18.07	175 46 08.84 285 09 24.22 251 48 47.97	Oak..... Vance Mtn..... Tomah Mtn....	22730.28 13533.85 27864.36	4.3566048 4.1314215 4.4450569
Vance Mtn., 1888....	45 33 53.946 67 30 59.684	1665.4 1294.3	330 33 08.96 25 28 53.88 47 47 35.09	150 41 13.04 205 21 44.06 227 40 14.22	Oak..... Neal..... Tomah Mtn....	30090.41 30541.01 18128.65	4.4784281 4.4818835 4.2538365
Rocky Point, 1890....	45 35 41.212 67 33 57.122	1272.3 1238.2	249 09 43.7 310 42 20.8	69 15 58.3 130 44 27.5	Mt. Henry.... Vance Mtn....	12147.8 5076.0	4.084497 3.705522
Birch Point, 1890....	45 35 06.742 67 31 23.690	208.1 513.6	216 10 36.1 346 57 28.5	56 15 01.0 166 57 45.6	Mount Henry.... Vance Mtn....	9665.8 2306.9	3.985236 3.363036
Spruce Mtn., 1888....	45 36 00.879 67 40 29.868	27.1 647.4	259 20 53.05 287 31 59.40 3 41 24.27	79 31 48.34 107 38 46.66 183 40 50.15	Mount Henry.... Vance Mtn.... Tomah Mtn....	20208.24 12967.59 16145.55	4.3055284 4.1128592 4.2080528
Indian Island (N. B.), 1888.	45 36 27.790 67 27 53.489	858.0 1159.2	230 25 27.6 312 33 38.8 40 22 37.5	50 27 22.4 132 40 35.8 220 20 24.5	Mount Henry.... Brandy Hill.... Vance Mtn....	4511.0 12256.6 6233.0	3.654272 4.088371 3.794700
Greenland Lake Mountain, 1889.	45 37 29.813 67 46 02.419	920.4 52.3	146 56 24.9 181 48 13.6 188 04 21.8	326 51 33.9 1 48 32.0 8 05 05.5	Peebabo Mtn.... Green Mtn.... Pemberton Ridge.	16113.9 17717.1 9418.0	4.207202 4.248392 3.973961
McAllister (N. B.), 1890.	45 37 17.893 67 38 55.421	552.4 1200.8	40 43 44.6 117 24 37.9	220 42 37.1 297 21 55.6	do..... Walls Hill N....	3137.1 5537.4	3.496532 3.743308
Mount Henry (N. B.), 1888.	45 38 00.847 67 25 12.962	26.2 280.8	333 37 32.84 44 37 31.41 46 39 37.70	153 40 35.19 224 33 23.69 226 28 09.09	Brandy Hill.... Vance Mtn.... Tomah Mtn....	12470.33 10703.83 28821.74	4.0958779 4.0265390 4.4597202
Table Rock (N. B.), 1890.	45 38 12.240 67 40 39.585	377.9 857.4	357 01 39.4 108 06 39.7	177 01 46.3 288 05 11.9	Spruce Mtn.... Walls Hill N....	4061.0 2798.7	3.608631 3.446953
Walls Hill N., 1890....	45 38 40.401 67 42 42.418	1247.3 918.6	329 44 30.8 93 33 33.7	149 46 05.5 273 33 08.7	Spruce Mtn.... Walls Hill....	5701.0 758.8	3.755948 3.880143
Walls Hill, 1888.....	45 38 41.925 67 43 17.391	1294.3 376.6	272 58 59.49 299 00 24.43 323 51 23.52	93 11 54.81 119 09 11.55 143 53 23.26	Mount Henry.... Vance Mtn.... Spruce Mtn....	23520.37 18292.67 6155.66	4.3714442 4.2622771 3.7802743
Pemberton Ridge (N. B.), 1889.	45 42 31.840 67 45 01.276	983.0 27.6	112 28 15.7 174 47 56.4 334 00 49.6	292 22 40.7 354 47 31.1 154 04 03.7	Peebabo Mtn.... Green Mtn.... Spruce Mtn....	10492.4 8418.4 13424.7	4.039133 4.925229 4.127905
Peekaboo Mountain, 1889.	45 44 47.047 67 52 49.073	1452.4 1060.8	245 42 32.51 312 17 17.72 315 21 41.90	65 47 42.37 132 24 06.84 135 30 30.71	Green Mtn.... Walls Hill.... Spruce Mtn....	10240.91 16734.99 22800.83	4.0107031 4.2236254 4.3579506
Green Mountain (N. B.), 1888.	45 47 03.387 67 45 36.603	104.6 790.7	302 12 19.58 341 59 32.45 348 58 50.05	122 26 55.46 132 03 11.96 169 00 29.71	Mount Henry.... Spruce Mtn.... Walls Hill....	31323.09 21503.75 15772.00	4.4958647 4.3325143 4.1978688
McInelly (N. B.), 1889.	45 50 16.449 67 42 09.903	507.8 213.7	36 50 38.97 53 41 08.04 125 10 29.89	216 48 10.76 233 33 29.88 305 04 17.74	Green Mtn.... Peebabo Mtn.... Spring Hill....	7446.7 17146.79 13671.17	3.8719386 4.2341828 4.1358036
Spring Hill, 1889....	45 54 31.207 67 50 48.366	963.4 1042.5	334 01 25.21 8 13 56.23	154 05 08.89 182 12 29.65	Green Mtn.... Peebabo Mtn....	15375.86 18222.72	4.1868304 4.2606133
Kennedy (N. B.), 1889	45 56 15.695 67 43 29.399	484.5 633.4	351 12 25.70 9 09 15.84 29 39 15.06 71 12 41.35	171 13 22.77 189 07 44.55 209 32 33.54 251 07 25.99	McInelly.... Green Mtn.... Peebabo Mtn.... Spring Hill....	11223.22 17271.56 24452.32 9993.37	4.0501177 4.2373316 4.3883201 3.9997335
Transit, 1889.....	45 57 22.430 67 46 54.599	692.5 1175.8	294 58 25.0 0 06 02.1	115 00 52.4 180 06 02.0	Kennedy..... Initial Monu- ment. Pole Hill.....	4876.5 1402.4 167.2	3.688105 3.146882 2.223315

GEOGRAPHIC POSITIONS—Continued.

PASSAMAQUODDY BAY AND ST. CROIX 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>							
Pole Hill, 1889.....	45 57 18.400 67 46 50.789	568.0 1287.6	293 06 44.33 334 20 36.81 354 25 37.74 18 01 56.06	113 09 15.54 154 24 04.97 174 36 37.45 197 57 45.45	Kennedy..... McInelly..... Green Mtn..... Peekaboo Mtn.	4927.81 14448.98 19072.77 24390.96	3.6026543 4.1598373 4.2804138 4.3872288
Initial Monument, (U.S. and C. B. S.), 1889.....	45 56 27.007 67 46 54.715	1142.5 1178.6	175 06 47.79 278 26 30.08 354 33 26.82	355 06 44.14 98 28 57.63 174 34 22.98	Pole Hill..... Kennedy..... Green Mtn.....	1282.66 4471.44 17790.16	3.1081121 3.6504473 4.2501799
<i>Supplementary points.</i>							
Cliff, 1883 1.....	44 43 35.98 67 06 13.95	1110.6 307.0	174 02 54 226 19 06	354 02 42 46 20 06	Trescott Rock. Moose.....	3608.1 2604.9	3.557279 3.415794
Heath, 1883 1.....	44 44 11.03 67 06 20.19	340.5 444.3	174 36 12 250 27 49	354 36 05 70 28 53	Trescott Rock. Moose.....	2517.9 2144.7	3.401034 3.331364
Haycock, 1883.....	44 45 09.683 67 03 56.707	298.9 1247.4	46 04 40.4 101 36 35.5 213 50 33.8	226 04 04.0 281 34 46.9 33 51 33.2	do..... Trescott Rock. Godfrey.....	1576.5 3463.5 3334.9	3.197697 3.539520 3.523086
Morrison, 1883.....	44 45 24.729 67 04 47.689	763.3 1048.9	0 30 43.8 95 50 03.0 232 15 04.6	180 30 43.3 275 48 50.3 52 16 39.9	Moose..... Trescott Rock. Godfrey.....	1558.2 2282.3 3766.5	3.192623 3.358545 3.575041
James Head, 1883....	44 45 43.707 67 02 59.926	1349.1 1318.0	48 02 58.3 85 39 27.4 199 29 53.6	228 01 42.0 265 36 58.8 19 30 13.0	Moose..... Trescott Rock. Godfrey.....	3206.5 4654.9 1824.0	3.506032 3.667910 3.261025
Boot Head, 1883.....	44 46 14.226 67 01 21.331	439.1 469.0	55 53 21.6 79 15 09.2 116 30 19.6	235 50 55.9 259 11 31.3 266 29 29.7	Moose..... Trescott Rock. Godfrey.....	5500.1 6931.6 1742.1	3.740372 3.840836 3.241075
Squaw Cap, 1883.....	44 46 53.923 67 01 24.329	1664.4 534.9	46 09 34.1 69 31 33.0 73 18 04.0 180 54 24.1	226 07 10.4 249 27 57.1 253 17 16.1 0 54 26.5	Moose..... Trescott Rock. Godfrey..... Porcupine.....	6222.2 7198.9 1558.8 4542.7	3.793946 3.857284 3.192797 3.657312
Wallace, 1883 1.....	44 47 52.68 66 59 36.08	1626.1 793.1	50 43 48 139 47 46	239 41 44 319 46 32	Godfrey..... Porcupine.....	4484.6 3573.0	3.651727 3.553029
Kimball, 1883.....	44 48 05.523 67 00 26.393	170.5 580.1	46 09 12.8 59 28 51.0 152 45 07.0	226 07 44.0 239 24 34.2 332 44 28.5	Godfrey..... Trescott Rock. Porcupine.....	3836.6 9307.9 2623.1	3.583942 3.968850 3.418815
Waddle, 1886.....	44 48 14.476 67 04 03.092	446.8 87.7	32 50 38.8 120 40 30.0 212 55 09.7 240 07 20.6	212 48 55.3 300 38 39.2 32 56 03.8 60 09 15.4	Trescott Rock. Dyer..... Baptist..... Porcupine.....	5960.0 1840.4 3103.2 4128.4	3.775249 3.264923 3.491804 3.615780
Flagstaff, 1883, 1.....	44 48 35.77 66 58 25.07	1104.1 551.0	56 33 11 108 53 45	226 30 17 289 51 41	Godfrey..... Porcupine.....	6513.0 4111.9	3.813783 3.614038
Carrying place church, 1860.....	44 48 37.700 66 58 17.082	1163.8 375.3	189 37 10.5 225 51 03.8 257 16 48.2	9 37 50.3 45 52 31.5 77 17 50.7	Friars Head... Indian Point... Quoddy.....	7424.2 3804.8 1995.9	3.870652 3.580335 3.300137
Life-saving station flagpole (U. S. and C. B. S.) 1913.....	44 48 39.614 66 58 40.543	1222.8 890.9	157 00 52.9 188 55 01.4 216 38 55.3 251 37 01.1	337 00 20.1 8 55 20.7 36 39 57.1 71 37 37.8	Mam..... Gunner..... Indian Point... Quoddy.....	2607.3 3890.2 3229.3 1205.5	3.416188 3.589070 3.509105 3.081184
Sail Rock (U. S. and C. B. S.), 1913.....	44 48 45.475 66 58 52.498	1403.8 1153.6	169 31 17.2 208 35 56.9 212 34 07.8 218 28 28.8	349 31 02.9 28 36 27.0 32 34 48.9 38 29 18.8	Indian Point.. Round Rock.. Bello..... Liberty Point.	2450.6 1957.0 2379.7 2503.8	3.389266 3.291592 3.376531 3.398600
Sail Rock, highest point (U. S. and C. B. S.), 1913.....	44 48 45.674 66 58 51.499	1409.9 1131.6	168 59 25.7 208 07 02.1 212 12 02.1 218 28 28.8	348 59 10.7 28 07 31.5 32 12 42.5 38 29 18.8	Indian Point.. Round Rock.. Bello..... Liberty Point.	2448.6 1941.2 2362.8 2503.8	3.389822 3.280666 3.373428 3.398600

* Ne check on this position.

GEOGRAPHIC POSITIONS—Continued.

PASSAMAQUODDY BAY AND ST. CROIX RIVER—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Supplementary points—Continued.</i>							
West Quoddy Light, 1860.	44° 48' 54.896 66° 57' 03.692	1694.6 81.1	84° 41' 01.6 231° 34' 48.0 277° 29' 22.9	264° 40' 30.0 51° 43' 57.4 97° 36' 35.7	Quoddy..... Wolf..... Bishop.....	Meters. 988.3 21786.9 13614.8	2.994904 4.338196 4.134012
Lookout flagstaff (U. S. and C. B. S.), 1913 ¹	44° 48' 54.73 66° 57' 50.38	1689.4 1107.0	201° 14' 28 334° 16' 37	21° 14' 55 154° 16' 38	Indian Point.. Quoddy.....	2278.9 96.0	3.357716 1.982477
West Quoddy Head Light (U. S. and C. B. S.), 1913.	44° 48' 54.891 66° 57' 03.754	1694.4 82.5	219° 40' 18.6 221° 42' 24.7 227° 28' 21.2 319° 36' 17.2	39° 40' 56.6 41° 43' 13.7 47° 29' 19.8 139° 36' 25.1	Round Rock.. Bello..... Liberty Point.. Sail Rock....	1854.7 2297.1 2479.1 381.6	3.268281 3.361179 3.394295 2.581660
Larrabee (U. S. and C. B. S.), 1913.	44° 49' 10.841 66° 57' 38.857	334.6 853.7	154° 36' 03.7 199° 23' 35.7 244° 55' 53.3	334° 34' 54.3 19° 23' 54.1 64° 26' 58.1	Lubec church spire. Indian Point.. Round Rock..	5045.1 1724.5 2167.4	3.702872 3.236668 3.335947
West Lubec church spire (U. S. and C. B. S.), 1913.	44° 49' 19.376 66° 59' 35.423	598.1 778.3	214° 39' 11.4 246° 28' 28.0 261° 31' 13.6 289° 49' 07.6	34° 40' 09.4 66° 30' 08.5 81° 33' 38.5 109° 50' 23.0	Gunner..... Indian Point.. Round Rock.. Quoddy.....	3180.1 3417.1 4565.3 2497.9	3.502443 3.533654 3.650517 3.397568
Bell buoy (U. S. and C. B. S.), 1913.	44° 49' 19.1 66° 56' 54.6	589.6 1199.6	75° 16 163° 48 235° 22 357° 24	255° 15 343° 47 55° 23 177° 24	Larrabee..... Indian Point.. Round Rock.. Sail Rock....	1004 1428 1196 1040	3.00191 3.15465 3.07767 3.01692
Red Nun Buoy No. 2 (U. S. and C. B. S.), 1913.	44° 49' 38.77 66° 57' 48.93	1196.8 1074.9	104° 56' 44 180° 49' 05 345° 36' 26	284° 55' 35 0° 49' 05 165° 36' 33	Mam..... Duck..... Larrabee.....	2227.3 1701.5 890.1	3.347769 3.230825 2.949455
Liberty Point Ledge, 1860.	44° 49' 41.24 66° 56' 09.97	1273.0 219.0	54° 53' 25 116° 30' 59	234° 52' 16 296° 30' 15	Quoddy..... Indian Point..	2646.0 1542.1	3.422587 3.188108
Round Rock (U. S. and C. B. S.) (N. B.), 1913.	44° 49' 41.135 66° 56' 09.855	1269.8 216.5	54° 58' 40.6 116° 34' 52.5 131° 20' 35.8	234° 57' 31.1 296° 34' 08.1 311° 18' 23.6	Quoddy..... Indian Point.. Lubec Church spire.	2646.2 1545.7 5485.1	3.422620 3.189136 3.739186
Liberty Point (U. S. and C. B. S.) (N. B.), 1913.	44° 49' 49.168 66° 55' 40.584	1517.8 891.5	38° 47' 31.7 68° 54' 50.0 97° 29' 20.7	218° 46' 41.0 248° 54' 29.4 277° 29' 11.1	Sail Rock.... Round Rock.. Bello.....	2522.3 689.2 301.2	3.401797 2.838320 2.478919
Ramsdell's house chimney, 1886.	44° 49' 50.064 67° 02' 32.088	1545.4 704.9	115° 45' 31.6 195° 28' 38.1 229° 44' 54.6	295° 44' 30.5 15° 28' 52.6 119° 45' 44.5	Mine Hill..... Small..... Porcupine....	2114.8 1686.6 1797.5	3.325288 3.227009 3.254657
East Beacon, 1860...	44° 49' 50.169 66° 57' 49.326	1548.6 1083.5	79° 05' 21.4 212° 47' 11.6 358° 24' 21.4	259° 02' 52.1 62° 47' 37.3 179° 24' 22.0	do..... Indian Point.. Quoddy.....	4737.4 902.5 1797.9	3.675537 2.955434 3.254776
Bello (U. S. and C. B. S.) (N. B.), 1913.	44° 49' 50.440 66° 55' 54.181	1557.0 1190.2	50° 10' 01.0 62° 01' 03.4 103° 11' 07.8	230° 09' 50.0 241° 59' 49.6 283° 10' 12.4	Round Rock.. Larrabee..... Indian Point..	448.4 2604.3 1773.4	2.651659 3.415694 3.248306
Mam (U. S. and C. B. S.), 1913.	44° 49' 57.369 66° 59' 26.892	1770.9 590.7	225° 14' 19.0 266° 17' 19.2 301° 10' 10.5	45° 14' 53.3 86° 18' 53.8 121° 11' 26.7	Finial of Lubec Channel L. H. Indian Point.. Larrabee.....	1503.0 2951.9 2774.1	3.176968 3.470007 3.443128
May, 1886.....	44° 50' 06.925 67° 08' 11.575	213.8 254.3	136° 01' 43.5 212° 35' 45.6 293° 00' 11.0	316° 00' 42.9 32° 37' 30.8 113° 01' 16.9	Little 2..... Case..... McCurdy.....	2718.5 6079.1 2231.3	3.434333 3.783941 3.348559
Black Spar Buoy No. 1 (U. S. and C. B. S.), 1913.	44° 50' 11.43 66° 58' 23.17	352.8 508.9	186° 12' 02 192° 23' 10 224° 14' 24	6° 12' 06 12° 23' 18 48° 14' 49	Cranberry Pt.. Gunner..... Duck.....	1155.4 1032.9 1040.9	3.062749 3.014065 3.017389
Pond (U. S. and C. B. S.) (N. B.), 1913.	44° 50' 20.590 66° 56' 48.030	635.6 1054.9	27° 24' 56.1 45° 55' 59.5 325° 26' 56.3	207° 24' 20.2 225° 55' 42.0 145° 27' 23.2	Larrabee..... Indian Point.. Round Rock..	2425.4 756.9 1478.7	3.384776 2.879014 3.169875

1 No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PASSAMAQUODDY BAY AND ST. CROIX RIVER—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Supplementary points—Continued.</i>							
West Beacon, 1860...	44° 50' 21.547 66° 58' 31.634	665.2 695.3	287° 47' 08.1 341° 04' 15.5 63° 22' 24.6	107° 48' 03.7 161° 04' 46.0 243° 20' 25.2	Indian Point..... Quoddy..... Porcupine.....	Meters. 1819.3 2924.5 4163.3	3.259898 3.466056 3.619440
Red Nun Buoy No. 4 (U. S. and C. B. S.), 1913.	44° 50' 31.8 66° 58' 32.5	981.6 713.8	212° 22 228° 15 266° 12	32° 22 48° 15 86° 12	Cranberry Pt.. Gunner..... Duck.....	616 572 984	2.78985 2.75734 2.99286
Duck (U. S. and C. B. S.) (N. B.), 1913.	44° 50' 33.886 66° 57' 47.822	1046.0 1050.3	62° 37' 26.2 86° 26' 42.1	242° 36' 16.3 266° 26' 06.5	Mam..... Finial of Lubec Channel L. H.	2450.7 1110.8	3.389282 3.045619
Gunner (U. S. and C. B. S.) (N. B.), 1913.	44° 50' 44.113 66° 58' 13.085	1361.7 287.4	48° 20' 04.3 55° 13' 00.5	228° 19' 12.2 235° 12' 42.7	Mam..... Finial of Lubec Channel L. H.	2170.3 674.2	3.336510 2.828820
Lubec Channel L. H. finial, 1893–1913.	44° 50' 31.652 66° 58' 38.299	977.1 841.2	294° 47' 33.5 332° 21' 51.9	114° 48' 33.8 152° 22' 33.5	Indian Point..... Larrabee.....	2069.0 2185.6	3.315762 3.449573
Lubec standpipe, 1910.	44° 50' 35.718 67° 00' 40.798	1102.5 896.0	195° 31' 33.0 202° 29' 10.5 213° 04' 12.0 219° 49' 48.7	15° 32' 27.2 22° 30' 03.3 33° 06' 30.1 39° 51' 27.2	Buckman..... Treat 2..... Campobello..... Friars Head 3.	6300.0 4297.1 7870.5 4785.5	3.799342 3.633178 3.896003 3.679390
Little, 1860.....	44° 51' 10.25 67° 09' 37.49	316.5 823.2	287° 07' 41 338° 31' 59	107° 13' 31 158° 34' 11	Porcupine..... Trescott Rock.	11412.9 11210.5	4.057396 4.049625
Lubec school flagpole (U. S. and C. B. S.), 1913.	44° 51' 35.770 66° 59' 17.034	1104.2 374.0	178° 21' 29.4 213° 58' 07.5 264° 40' 26.8 349° 54' 41.5	358° 21' 57.5 33° 58' 46.9 84° 40' 49.4 169° 54' 45.9	Battery..... Friars Head 3..... Charley..... Telegraph.....	1984.1 2195.3 706.9 823.6	3.297576 3.341502 2.849383 2.915714
Lubec lower church spire (U. S. and C. B. S.), 1913.	44° 51' 39.895 66° 59' 18.160	1231.5 398.7	175° 06' 24.5 201° 19' 52.6 225° 01' 54.7 274° 50' 28.1	355° 06' 19.0 21° 20' 02.1 45° 02' 14.6 94° 50' 51.5	Treat 2..... Folly..... Chambers..... Charley.....	1996.4 812.2 874.6 731.2	3.300253 2.909680 2.941832 2.864050
Lubec church spire, 1861.	44° 51' 38.470 66° 59' 17.418	1187.5 382.4	32° 38' 24.2 164° 37' 13.8	212° 36' 57.0 344° 36' 15.6	Porcupine..... Prince Regents Redoubt.	5036.3 6817.9	3.702108 3.833652
Lubec Narrows (Mulholland Pt.) Light (N. B.), 1910.	44° 51' 47.569 66° 58' 48.673	1468.3 1068.6	154° 59' 22.9 168° 38' 27.8 202° 31' 45.0	334° 58' 56.6 348° 38' 02.9 22° 32' 04.4	Treat 2..... Buckman..... Friars Head 3.	1933.6 3299.0 1576.7	3.298367 3.594277 3.197746
Cranberry Point (U. S. and C. B. S.) (N. B.), 1913.	44° 50' 48.642 66° 58' 17.491	1501.5 384.1	41° 04' 06.5	221° 03' 51.8	Lubec Channe L. H., finial.	695.6	2.842384
Alder (U. S. and C. B. S.) (N. B.), 1913.	44° 50' 55.630 66° 58' 10.603	1717.2 232.8	8° 43' 05.1 108° 02' 56.1 132° 02' 16.2	188° 43' 03.2 288° 02' 13.7 312° 01' 29.1	Mam..... Telegraph..... Lubec church spire.	359.6 1382.5 1975.2	2.555864 3.140662 3.295602
			149° 57' 16.6	329° 56' 52.4	Charley.....	1507.2	3.178176

GEOGRAPHIC POSITIONS—Continued.

PASSAMAQUODDY BAY AND ST. CROIX RIVER—Continued.

Station.	Latitude and longitude.	Sec- onds in meters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.	
<i>Supplementary points—Continued.</i>								
Black Can Buoy No. 5 (U. S. and C. B. S.), 1913.	44 51 05.2 66 58 31.4	160.5 689.5	163 32 181 35 302 54	343 32 1 35 122 54	Charley..... Extra..... Alder.....	1052 954 544	3.02218 2.97949 2.73543	
Telegraph (U. S. and C. B. S.), 1913.	44 51 09.500 66 59 10.464	283.3 229.8	170 18 39.6 301 52 26.5 328 50 26.9	350 18 34.8 121 53 07.0 145 50 49.6	Lubec church spire. Gunner..... Lubec Channel L. H., final.	907.2 1483.9 1365.3	2.957694 3.171393 3.135219	
Plaster mill chimney, 1860.	44 51 32.813 67 00 42.813	1012.9 940.0	180 33 00.2 238 28 44.2 322 20 58.6	0 33 02.3 58 30 24.5 142 23 01.5	Prince Regents Redoubt. Friars Head... Quoddy.....	6748.4 3662.8 6271.1	3.829204 3.563818 3.797347	
Charley (U. S. and C. B. S.) (N. B.), 1913.	44 51 37.894 66 58 44.974	1169.7 987.4	32 33 50.3 91 26 02.6 127 34 44.8 152 06 45.1 156 20 18.0 164 47 21.1	212 33 32.1 271 25 39.7 307 34 33.5 332 06 31.2 336 19 49.1 344 47 18.5	Telegraph..... Lubec church spire. Breakwater... Folly..... Treat 2..... Mulholland Point L. H.	1039.9 712.5 444.4 925.9 2239.2 309.5	3.016699 2.852808 2.647746 2.966551 3.350095 2.490666	
Extra (U. S. and C. B. S.) (N. B.), 1913. ¹	44 51 36.081 66 58 30.193	1113.8 662.9	47 08 42.6 94 04 22.1 340 59 24.1	227 08 14.0 274 03 48.8 160 59 37.9	Telegraph..... Lubec church spire. Alder.....	1206.3 1039.5 1320.7	3.081444 3.016812 3.120808	
Breakwater (U. S. and C. B. S.), 1913.	44 51 46.673 66 59 01.015	1440.7 22.3	162 55 43.4 210 39 53.1 264 10 06.9	342 55 25.8 30 40 00.9 84 10 15.6	Treat 2..... Chambers..... Mulholland Point L. H.	1862.0 475.3 272.4	3.269972 2.676989 2.435163	
Chambers (U. S. and C. B. S.) (N. B.), 1913.	44 51 59.918 66 58 49.972	1849.6 1097.1	42 18 31.5 150 04 57.6 198 31 45.3 355 43 12.4	222 18 12.1 330 04 32.2 18 31 50.5 175 43 13.3	Lubec church spire. Treat 2..... Grassy Point... Mulholland Point L. H.	895.2 1581.9 516.2 382.3	2.951918 3.199178 2.712810 2.582348	
Pope (U. S. and C. B. S.) (N. B.), 1913.	44 52 07.991 66 59 03.671	246.7 80.6	18 19 32.1 156 28 40.2 228 29 26.5 242 39 55.7 309 38 56.4 332 25 15.7	198 19 22.4 336 28 24.5 48 29 56.5 62 40 10.6 129 39 06.1 152 25 26.3	Lubec church spire. Treat 2..... Friars Head 3... Grassy Point... Chambers..... Mulholland Point L. H.	950.9 1223.5 1246.3 523.2 390.6 711.2	2.982248 3.087611 3.095633 2.718632 2.591696 2.851997	
Sculpin (U. S. and C. B. S.), 1913.	44 52 33.372 66 59 24.936	1030.2 547.3	176 21 03.9 268 15 25.6 300 14 50.2 329 12 42.8	356 21 03.2 88 16 10.6 120 15 20.1 149 12 57.8	Treat 2..... Friars Head 3... Grassy Point... Pope.....	339.0 1400.7 1078.3 912.0	2.530257 3.146349 3.032758 2.959990	
Battery (U. S. and C. B. S.), 1913.	44 52 40.019 66 59 19.624	1235.3 430.7	29 36 20.0 133 56 44.8 277 13 14.7	209 36 16.3 313 56 40.4 97 13 56.0	Sculpin..... Treat 2..... Friars Head 3.	236.0 191.9 1293.7	2.372912 2.283057 3.111846	
Folly (U. S. and C. B. S.) (N. B.), 1913.	44 52 04.404 66 59 04.701	135.9 103.2	159 18 09.0 293 11 02.5 325 53 45.0	339 17 54.0 113 11 12.9 145 53 56.3	Treat 2..... Chambers..... Mulholland Point L. H.	1317.6 351.8 627.6	3.119791 2.546238 2.797682	
				351 35 20.5	171 35 23.1	Breakwater...	553.3	2.742954

¹ No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PASSAMAQUODDY BAY AND ST. CROIX RIVER—Continued.

Station.	Latitude and longitude.	Sec- onds in meters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>	° ° °	° ° °	° ° °	° ° °			
Black Can Buoy No. 9 (U. S. and C. B. S.) (N. B.), 1913.	44 52 11.93 66 59 00.91	368.3 20.0	26 31 52 231 06 19 253 38 11	206 31 50 51 05 47 73 38 24	Pope..... Friars Head 3..... Grassy Point..	135.9 1121.4 421.1	2.133207 3.049779 2.624387
Grassy Point (U. S. and C. B. S.) (N. B.), 1913.	44 52 15.773 66 58 42.500	486.9 933.0	24 20 54.3 33 39 23.1	204 20 41.3 213 38 58.5	Breakwater... Luced church spire.	986.0 1383.3	2.993962 3.140921
Morong, 1887.....	44 52 31.497 67 11 01.219	972.3 26.8	54 14 45.1 132 46 28.8 218 39 40.4	234 14 29.5 312 45 58.2 38 39 55.5	Folly..... Treat 2..... Friars Head 3.	600.6 1298.3 750.1	2.778570 3.113374 2.875130
Smith, 1887.....	44 52 22.082 67 09 09.652	681.6 211.9	15 26 37.8 68 09 07.6 137 05 01.8	195 26 18.1 248 08 29.6 317 03 20.0	Little 2..... Cox..... Arcus.....	2298.9 1265.5 4648.0	3.361522 3.102278 3.667264
Sturgess' house (N. B.), 1893.	44 52 33.151 66 57 30.211	1023.3 663.1	92 13 23 97 44 40 182 11 06	272 12 48 277 43 19 2 11 09	Friars Head 2..... Treat 2..... Campobello..	1098.9 2563.0 2971.0	3.040959 3.408748 3.472890
Friars Head Pavilion (N. B.), 1886.	44 52 34.799 66 58 20.768	1074.2 455.9	33 31 23.5 55 40 42.5 60 42 28.1 112 44 27.0	213 29 16.3 235 37 59.7 240 38 29.7 292 40 48.7	Porcupine..... Small..... Mine Hill..... Gove.....	7172.1 6138.0 8513.1 7358.0	3.885645 3.788026 3.930090 3.866762
"The Friar" Rock (U. S. and C. B. S.) (N. B.), 1913.	44 52 36.865 66 58 20.591	1138.0 452.0	85 38 24.8 94 18 08.8 99 08 22.7	265 37 39.4 274 17 28.1 279 07 36.6	Sculpin..... Battery..... Treat 2.....	1416.5 1299.4 1452.3	3.151208 3.113739 3.182065
White can buoy (marked F. H.) (U. S. and C. B. S.), 1913.	44 52 39.45 66 58 49.97	1217.8 1096.8	17 12 42 282 55 18 347 21 26	197 12 32 102 55 38 167 21 31	Pope..... Friars Head 3..... Grassy Point..	1016.6 649.0 749.0	3.007148 2.812224 2.874497
Leighton's house chimney, 1860. ¹	44 52 49.17 67 05 47.33	1517.8 1038.8	199 50 16 219 17 16	19 51 48 39 17 19	Perry Pigeon.. Denboe.....	8444.9 155.3	3.926594 2.191059
Comstock 1, 1860....	44 52 50.576 67 01 06.724	1561.2 147.6	167 12 33.0 277 34 41.1 319 49 44.6	347 12 28.1 97 36 38.4 139 50 17.9	Comstock 2..... Friars Head..... Roger.....	688.7 3679.3 1603.4	2.838029 3.565771 3.206051
Small Baptist Church chimney, 1860.	44 52 55.055 67 01 23.266	1699.5 610.6	201 32 33.9 278 50 02.0 314 17 35.6	21 32 40.7 98 52 10.9 134 18 20.5	Comstock 2..... Friars Head..... Roger.....	573.4 4058.4 1952.4	2.758468 3.608360 3.290562
Pole near Case, 1913 ¹ .	44 52 52.65 67 05 42.40	1625.2 930.6	158 39 15 195 47 32	338 38 14 15 48 04	Hersey..... Red Island.....	5229.8 3598.2	3.718481 3.566066
Dram, 1887.....	44 53 01.300 67 08 51.584	40.1 1132.1	16 24 25.5 43 03 32.7 121 37 48.7	196 23 53.1 223 02 42.0 301 35 54.2	Little 2..... Cox..... Arcus.....	3571.9 2301.4 4182.7	3.552904 3.361991 3.621453
Richardson, 1887....	44 53 09.642 67 11 11.777	297.6 258.5	165 54 46.4 230 44 17.0 330 40 22.6	345 54 30.8 50 47 08.2 150 41 29.0	do..... Hersey..... Little 2.....	1995.1 6871.0 4225.2	3.209955 3.837020 3.625862
Esty, 1861.....	44 53 33.146 66 59 52.728	1023.2 1157.0	70 07 23.1 110 45 03.4 143 19 00.1 311 39 40.9	250 06 25.9 290 39 55.1 323 16 22.0 131 40 45.9	Comstock 2..... Foster..... Perry Pigeon.. Friars Head..	1888.9 10239.6 8214.5 2707.9	3.276206 3.790548 3.914581 3.432633
Point Leighton, 1887.	44 53 44.053 67 08 55.356	1359.9 1214.6	36 53 10.3 98 08 16.2 174 43 02.9 314 37 51.9	216 51 15.9 275 06 59.7 354 42 53.2 134 38 43.4	Little 2..... Arcus..... Hersey..... Case.....	5932.9 6173.7 3298.0 2251.2	3.773270 3.790548 3.518247 3.352417
Head (U. S. and C. B. S.), 1913. ¹	44 53 48.47 66 59 19.28	1496.2 423.1	4 12 27 330 43 08	184 12 22 150 43 49	Treat 2..... Friars Head 3..	1985.1 2608.9	3.209778 3.416457

1 No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PASSAMAQUODDY BAY AND ST. CROIX RIVER—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Supplementary points—Continued.</i>							
Razor Island, 1886...	44 53 49.486 67 04 31.358	1527.6 688.0	331 58 45.7 333 13 16.8 41 41 48.9 132 00 09.6 177 38 30.3	152 00 23.4 153 15 31.0 221 40 58.8 311 58 18.2 357 38 24.0	Small..... Porcupine..... Case..... Hersey..... Cannon.....	6533.5 9279.7 2342.8 4658.3 4914.9	3.815145 3.967534 3.369726 3.668230 3.691516
Wilbur, 1887.....	44 53 50.050 67 08 29.746	1545.0 652.6	1 59 06.8 12 57 47.7 104 10 46.2	181 59 01.4 192 57 24.1 284 09 18.6	Little 2..... Cox..... Arcus.....	4934.4 3268.9 2809.7	3.693233 3.514531 3.448656
Cable Cross Monument (U. S. and C. B. S.), 1893. ¹	44 53 51.70 66 59 11.01	1595.9 241.6	256 48 41 334 58 27	76 49 56 154 59 03	Campobello... Friars Head 2.	2387.7 2628.4	3.377985 3.419697
North Lubec Hotel chimney, 1913.	44 53 53.903 67 02 36.437	1666.6 799.4	297 11 57.9 40 52 06.1 108 36 32.2	117 14 12.3 220 50 39.1 288 35 54.4	Treat 2..... Bradley..... Gove.....	4701.5 4138.0 1241.6	3.672233 3.616790 3.098986
Cable Cross House (U. S. and C. B. S.), 1893. ¹	44 53 55.04 66 59 27.22	1699.1 597.2	260 38 26 329 25 47	80 39 52 149 26 34	Campobello... Friars Head 2.	2716.6 2885.8	3.434022 3.460271
Eastport, Seacoast Co.'s iron stack, 1913.	44 54 09.571 66 59 07.296	295.4 160.1	8 49 48.7 340 54 44.6 351 11 31.4 358 47 07.4	188 49 35.6 160 55 17.2 171 11 48.9 178 47 10.0	Treat 2..... Friars Head 3..... Grassy Point..... Pope.....	2662.8 3097.3 3554.7 3753.9	3.425333 3.490889 3.550808 3.574482
Dennysville spire, 1887.	44 54 17.121 67 13 45.763	528.5 1003.9	99 16 39.4 209 06 40.0 214 30 37.0 272 54 54.3	279 16 18.4 29 07 51.7 34 31 10.3 92 56 27.4	King..... Oak..... Page..... Arcus.....	656.0 4583.6 1824.1 2896.5	2.816892 3.661205 3.261055 3.461875
Eastport, Weather Bureau flagstaff, 1913.	44 54 21.497 66 59 08.711	663.6 191.1	342 25 17.3 351 34 00.9 358 27 43.6	162 25 50.9 171 34 19.4 178 27 47.2	Friars Head 3..... Grassy Point..... Pope.....	3456.6 3923.4 4122.7	3.538650 3.593662 3.615181
Eastport Weather Bureau black signal pole, 1913.	44 54 21.697 66 59 08.585	669.8 188.3	7 12 51.8 351 37 12.0 358 30 10.0	187 12 39.6 171 37 30.4 178 30 13.5	Treat 2..... Grassy Point..... Pope.....	3029.5 3929.1 4128.6	3.481372 3.584292 3.615823
Eastport, Weather Bureau National flagstaff, 1913.	44 54 21.661 66 59 08.784	668.7 192.7	7 08 05.5 342 25 16.9 351 33 16.2 358 26 29.8	187 07 53.4 162 25 50.5 171 33 34.7 178 26 33.4	Treat 2..... Friars Head 3..... Grassy Point..... Pope.....	3027.9 3461.9 3928.6 4127.8	3.481136 3.539317 3.594243 3.615720
Eastport Salt Works brick chimney, 1913	44 53 41.583 66 59 35.789	1283.5 785.3	253 21 37.0 321 32 42.8 353 00 41.1	73 23 09.3 141 33 35.5 173 00 48.1	Campobello... Friars Head 3..... Treat 2.....	2993.7 2634.3 1780.5	3.476214 3.420671 3.250535
Eastport, Seacoast Factory No. 4 chimney, 1913.	44 54 09.553 66 59 07.294	294.9 160.0	270 09 46.9 340 54 34.2 8 49 57.9 34 31 33.1	90 10 59.1 160 55 06.8 188 49 44.8 214 31 21.4	Campobello... Friars Head 3..... Treat 2..... Buckman.....	2243.2 3096.8 2662.2 644.4	3.350873 3.490912 3.425242 3.208918
Eastport, Seacoast Factory No. 2 chimney, 1913.	44 54 49.829 66 59 09.052	1538.1 198.6	131 52 30.1 249 13 31.6 298 42 30.8	311 51 14.1 69 14 18.6 118 43 44.2	Kendall 2..... Cherry Island, bell tower..... Campobello...	3166.5 1563.6 2601.6	3.500577 3.194131 3.415240
Eastport standpipe, 1910.	44 54 25.898 66 59 23.763	799.4 521.3	281 05 47.2 338 10 15.0 0 51 52.8	101 07 11.0 158 10 59.2 180 51 51.3	Campobello... Friars Head 3..... Treat 2.....	2654.2 3696.0 3135.6	3.423927 3.567732 3.496318
Eastport Catholic Church spire, 1910.	44 54 28.119 66 59 30.001	713.6 658.1	278 48 41.8 335 41 16.2 358 19 01.1	98 50 10.0 155 42 04.8 178 19 04.0	Campobello... Friars Head 3..... Treat 2.....	2774.1 3670.7 3050.7	3.443128 3.564747 3.484405
Eastport Congregational Church spire, 1910.	44 54 16.181 66 59 16.732	499.5 367.1	274 55 11.5 338 42 42.3 4 04 03.7	94 56 30.3 158 43 21.5 184 03 57.2	Campobello... Friars Head 3..... Treat 2.....	2459.4 3360.3 2842.4	3.390821 3.526384 3.453688

¹ No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PASSAMAQUODDY BAY AND ST. CROIX RIVER—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Supplementary points—Continued.</i>							
Eastport Unitarian Church spire, 1910.	44 54 11.317 66 59 21.226	349.3 465.9	271 21 54.7 336 08 01.1 2 11 31.2	91 23 16.7 156 08 43.5 182 11 27.9	Campobello..... Friars Head 3..... Treat 2.....	Meters. 2549.8 3259.6 2687.1	3.406510 3.513168 3.429283
Eastport Monument, 1893.	44 54 32.800 66 59 44.879	1012.5 984.5	149 12 55.5 172 06 14.9 174 29 57.4	329 12 04.9 352 05 43.6 354 29 44.0	Kendall Head..... Clam Cove..... Cumming.....	3071.8 7079.0 4362.3	3.487400 3.849972 3.639712
Eastport Selwood Factory stack, 1913.	44 54 35.217 67 01 18.243	1087.0 400.2	73 09 11.2 93 32 27.8 190 29 47.2	253 07 38.2 273 29 52.8 10 03 02.6	Gove..... Red Island..... Kendall 2.....	3022.0 4824.5 2807.9	3.480290 3.683454 3.416297
Dunn, 1887.....	44 54 42.690 67 11 15.116	1317.8 331.6	23 44 49.5 107 27 29.4 161 32 35.3	203 44 36.3 287 26 16.3 341 32 00.6	Arcus..... Page..... Oak.....	1023.9 2380.4 3389.3	3.010271 3.376654 3.530111
Mitchell, 1887.....	44 54 43.159 67 09 38.023	1332.3 834.0	6 31 23.3 69 29 13.0 134 59 40.3	186 31 05.6 249 27 51.2 314 57 57.2	Cox..... Arcus..... Oak.....	4857.4 2714.6 4527.6	3.686407 3.433707 3.655867
Red Island, 1886.....	44 54 44.811 67 04 57.760	1383.3 1267.0	301 21 22.2 333 58 45.3 15 48 33.3 42 51 57.2 116 02 58.2	121 22 24.2 154 00 42.7 195 48 01.8 222 48 39.8 296 01 25.4	Gove..... Small..... Case..... Little 2..... Hersey.....	2253.0 8318.4 3893.2 9030.6 3208.6	3.352755 3.920038 3.555478 3.955716 3.506316
Eastport ventilator, west gable, 1893. ¹	44 54 49.56 66 59 08.68	1529.8 190.4	162 25 20 298 38 12	342 24 40 118 39 25	Cumming..... Campobello.....	4012.1 2590.6	3.603371 3.413395
Clark Ledge Beacon, 1913.	44 54 56.054 66 59 06.764	1730.2 148.4	128 35 21.7 160 55 08.6 302 52 01.9	308 34 04.1 340 54 28.2 122 53 13.7	Kendall 2..... Cumming..... Campobello.....	3080.7 3835.2 2656.9	3.488644 3.583784 3.424370
Birch, 1887.....	44 54 57.841 67 04 24.115	1785.5 529.0	172 39 16.1 265 06 29.0	352 39 04.5 85 09 07.3	Cannon..... Prince Regents Redoubt..... Gove.....	2823.9 4936.6 1971.2	3.450847 3.693427 3.294737
Lincolns Point, white house, left one of twin chimneys, 1913. ¹	44 55 06.80 67 04 38.73	209.9 849.4	356 07 19 31 35 02	176 07 24 211 34 48	Razor..... Red Island.....	2392.2 796.9	3.378803 2.901430
Dog Island Monument (U. S. and C. B. S.), 1893.	44 55 07.355 66 59 22.741	227.0 498.3	127 23 20 164 34 47 304 44 24	307 22 14 344 34 18 124 45 47	Kendall 2..... Cumming..... Campobello.....	2580.7 3397.8 3142.2	3.413253 3.531204 3.497235
Dog Island, 1894.....	44 55 07.334 66 59 22.717	226.4 498.3	127 23 28.5 164 34 26.4 193 45 39.2	307 22 22.2 344 33 57.3 13 45 46.7	Kendall Head..... Cumming..... G.....	2590.5 3398.6 945.4	3.413387 3.531302 2.975636
Cherry Island bell tower (N. B.), 1910.	44 55 07.700 66 58 02.398	240.5 52.6	334 34 37.0 4 58 45.5 22 29 18.9 37 32 18.7	155 35 03.4 184 58 32.3 202 28 20.0 217 31 21.2	Campobello..... Friars Head 3..... Treat 2..... Buckman.....	1981.8 4742.2 4792.6 2036.5	3.297063 3.675979 3.680570 3.467823
Cherry Island Monument (U. S. and C. B. S.) (N. B.), 1893. ¹	44 55 08.13 66 58 02.76	251.0 60.5	335 29 47 22 21 15	155 30 14 202 20 17	Campobello..... Treat 2.....	1994.6 4790.3	3.299855 3.681177
Prince Regents barn, north gable, 1893. ¹	44 55 20.87 67 00 23.40	644.2 513.2	147 47 23 188 28 50	327 47 00 8 29 05	Kendall 2..... Cumming.....	1365.0 2889.8	3.135142 3.460866
H (N. B.), 1894.....	44 55 25.757 66 58 27.089	795.1 594.2	65 00 52.2 109 21 46.3	245 00 12.9 289 21 14.2	Dog Island..... G.....	1346.1 1054.7	3.129076 3.023133
Deer Island, south end, house chimney, 1913.	44 55 35.175 66 59 10.030	1085.7 220.0	299 40 22.8 318 59 56.3 106 59 24.4 153 56 07.1	119 41 10.5 139 01 10.4 286 58 09.1 333 55 29.0	Cherry Island belltower..... Campobello..... Kendall 2..... Cumming.....	1707.3 3510.6 2443.0 2690.4	3.232307 3.545387 3.387917 3.429820

¹ No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PASSAMAQUODDY BAY AND ST. CROIX RIVER—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.	
<i>Supplementary points—Continued.</i>								
G (N. B.), 1894.....	44 55 37.083 66 59 12.462	1144.7 273.3	106 00 18.3 116 10 09.1 154 25 04.0	285 59 04.8 296 09 06.7 334 24 27.7	Kendall Head. Kendall Point. Cumming.....	2375.1 2160.1 2614.2	8.375686 8.334478 3.417336	
Yellow house chimney, near Foster, 1860. ¹	44 55 39.67 67 07 28.71	1224.6 629.0	303 49 50 335 41 04	123 50 04 155 42 19	Foster..... Denboe.....	511.5 5642.9	2.708815 3.751505	
E (N. B.), 1894.....	44 55 51.745 66 59 03.826	1597.3 83.9	314 52 25.6 22 42 25.8	134 52 51.6 202 42 19.7	H..... G.....	1136.9 490.6	3.055736 2.690752	
Kendall Head, 1894..	44 55 58.284 67 00 56.577	1799.2 1240.6	141 24 03.1 187 47 43.4 214 06 25.9	321 22 48.4 7 48 02.7 34 07 03.1	Pleasant Pt... Clam Cove.... Cumming.....	3716.3 4413.8 2057.3	3.570113 3.644814 3.313303	
Loring's barn, ventilator, 1887.	44 55 59.007 67 03 47.261	1821.5 1036.3	289 39 04.0 353 47 03.4 78 45 24.4	109 41 16.3 173 47 15.5 258 43 01.7	Prince Regents Redoubt. Gove..... Hersey.....	4364.5 3483.4 4515.4	3.639931 3.542008 3.654701	
William L, 1887.....	44 56 04.038 67 05 09.448	124.6 207.2	68 27 32.1 139 10 31.6 219 53 12.7	248 26 07.5 319 09 02.3 39 53 33.2	Hersey..... Smart..... Cannon.....	2823.5 4238.0 986.9	3.450793 3.627161 2.994278	
Kendall Point, 1894..	44 56 07.935 67 00 40.877	245.0 896.4	134 23 29.3 183 34 32.0 209 56 19.2 337 17 59.1	314 22 03.5 3 34 40.2 29 56 45.3 157 18 38.6	Pleasant Pt... Clam Cove.... Cumming.... Eastport monument.	3726.1 4083.0 1621.9 3183.2	3.571258 3.610983 3.210028 3.502866	
Kendall Bluff (signal), 1893. ¹	44 56 07.95 67 00 40.88	245.4 896.4	209 56 44 310 25 39	29 57 10 130 27 58	Cumming..... Campobello...	1621.6 5644.1	3.209937 3.751591	
Kendall fish house 1893. ¹	44 56 13.19 67 01 10.21	407.2 223.9	140 25 47 229 26 11	320 24 42 49 26 58	Pleasant Pt... Cumming.....	3170.6 1911.8	3.501147 3.281453	
Leach, 1887.....	44 56 22.887 67 08 03.005	706.5 65.9	356 00 13.1 41 53 02.5 148 41 05.1	176 00 27.6 221 52 15.7 328 40 13.6	Case..... Hersey..... Smart.....	6500.6 2174.5 3072.3	3.812955 3.337367 3.487459	
Carlow Island chimney, 1893. ¹	44 56 34.07 67 02 10.47	1051.6 229.6	257 48 32 304 16 47	77 50 02 124 17 40	Cumming..... Kendall 2.....	2837.5 1960.9	3.459291 3.292465	
Pleasant Point church, 1860.	44 57 22.273 67 02 25.573	687.5 560.5	330 08 29.7 27 31 26.4 72 37 35.1	150 09 44.4 207 29 07.0 252 36 44.9	Prince Regents Redoubt. Denboe..... Perry Pigeon ..	4657.2 9369.2 1631.2	3.668124 3.971701 3.212504	
Pleasant Point wind-mill, 1913.	44 57 27.001 67 02 40.208	833.4 881.3	179 57 53.5 286 48 09.4 320 18 35.5	359 57 53.3 106 49 59.8 140 19 48.7	Navy Island... Cumming..... Kendall 2.....	10829.7 3578.2 3558.3	4.034618 3.553668 3.551243	
Pleasant Point church spire, 1913.	44 57 22.079 67 02 25.641	681.5 562.0	178 18 10.1 285 51 44.8 322 56 31.7	358 17 59.6 105 53 24.9 142 57 34.6	Navy Island... Cumming..... Kendall 2.....	10986.5 3229.1 3240.9	4.040859 3.509076 3.510664	
Pembroke Baptist Church, 1887.	44 57 14.360 67 09 46.346	443.2 1015.9	252 33 16.3 303 39 16.6 22 46 57.3	72 35 02.6 123 39 30.7 202 45 41.5	Smart..... Campbell..... Arcus.....	3457.1 528.5 6094.2	3.538708 2.723058 3.784920	
Pembroke, Washington Hall, 1887.	44 57 14.024 67 09 51.755	432.9 1134.5	252 57 54.3 296 49 57.9 21 46 56.6	72 59 44.4 116 50 15.8 201 45 44.6	Smart..... Campbell..... Arcus.....	3573.4 625.9 6039.7	3.553080 2.796513 3.781015	
Pembroke school-house belfry, 1887.	44 57 39.551 67 09 55.693	1220.9 1220.6	265 46 23.0 328 56 11.7 18 37 02.9	85 48 15.9 148 56 32.4 198 35 53.7	Smart..... Campbell..... Arcus.....	3512.5 1249.7 6739.7	3.545613 3.098618 3.829284	
				51 25 56.4	231 24 25.7	Oak.....	3599.5	3.556248

¹ No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PASSAMAQUODDY BAY AND ST. CROIX RIVER—Continued.

Station.	Latitude and longitude.	Sec- onds in meters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
Pembroke, Old English Church, 1887.	44 57 43.725 67 09 54.052	1349.7 1184.6	267 51 06.3 333 05 06.8 50 13 21.1 18 33 32.6	87 53 00.1 153 05 25.4 230 11 49.3 198 32 22.3	Smart..... Campbell..... Oak..... Arcus.....	3469.4 1345.1 3708.8 6883.3	3.540253 3.128746 3.569237 3.837796
Pembroke, 1880. ¹	44 57 45.87 67 12 06.68	1416.0 146.4	287 30 05 302 38 35	107 38 11 122 42 06	Prince Regents Redoubt. Foster.....	15795.4 7744.3	4.198530 3.888984
Antoine's chimney, 1887.	44 57 24.090 67 12 51.004	743.6 1117.9	284 15 04.9 295 03 12.4 328 46 59.4	84 19 01.7 115 07 13.9 149 47 32.6	Smart..... Hersey..... Oak.....	7382.2 8274.6 2045.2	3.868188 3.917747 3.310743
Kehoe, 1887.....	44 57 32.650 67 07 47.067	1007.9 1031.6	235 26 35.1 295 48 12.7 347 35 10.4	55 26 57.1 115 50 24.5 167 35 37.1	Smart..... Cannon..... Hersey.....	830.4 451.5 3862.9	2.919277 3.057196 3.586012
Perry, barn, N. gable, 1863.	44 57 42.041 67 02 53.533	1297.8 1173.2	171 14 06.2 181 34 28.4 228 48 59.9	351 12 35.5 1 34 37.6 48 48 12.8	Chamcook..... Navy Island..... North Head.....	18373.0 10369.4 10419.2	4.264179 4.015753 4.017835
Clam Cove (N. B.), 1894.	44 58 19.945 67 00 29.257	615.7 641.1	348 15 42.5 63 16 58.9	168 16 00.4 243 15 24.8	Cumming..... Pleasant Point	2726.6 3266.0	3.435629 3.514014
Taylor, 1887.....	44 58 34.322 67 11 31.107	1059.5 681.6	284 20 35.8 314 38 56.0 315 15 13.2 0 26 08.9 10 24 07.5	104 23 36.2 134 42 01.0 135 16 41.4 180 26 07.1 190 23 44.2	Smart..... Hersey..... Campbell..... Arcus..... Oak.....	5774.0 8073.7 3887.1 8087.9 4001.2	3.761480 3.907073 3.589628 3.907834 3.602192
Perry, white church spire, 1913.	44 58 39.791 67 04 12.370	1228.2 271.1	301 03 35.8 313 01 54.0 319 15 27.9	121 06 31.3 133 06 41.7 139 17 46.2	Cumming..... Campobello..... Kendall 2.....	6357.3 12225.4 6578.3	3.803273 4.087262 3.818116
A, 1894.....	44 58 47.252 67 03 05.545	1458.6 121.5	283 48 48.1 347 36 09.8	103 50 38.6 167 36 23.3	Clam Cove..... Pleasant Point	3526.7 2367.1	3.547374 3.374224
B, 1894.....	44 59 15.008 67 03 20.850	463.3 456.8	249 24 54.3 294 18 40.3 338 37 28.3	69 27 46.6 114 20 41.6 158 37 39.1	Davidson Head..... Clam Cove..... A.....	5701.3 4126.0 920.1	3.755977 3.615532 2.963824
St. Helena (N. B.), 1863.	44 59 23.375 66 56 34.923	721.6 765.0	267 21 55.5 342 10 30.9 35 41 03.8 173 01 25.5	87 24 55.0 162 11 30.0 210 07 40.7 353 01 10.7	White Horse..... Hannabury..... Hannah..... North Head.....	5566.8 5681.4 2971.9 3767.1	3.745606 3.776805 3.473029 3.576009
Iron Works Mountain, 1887.	44 59 25.415 67 10 26.335	784.6 576.9	305 46 53.4 329 11 56.7 343 07 08.1 21 14 25.2	125 49 08.1 149 14 16.1 163 07 50.6 201 13 16.2	Smart..... Hersey..... Campbell..... Oak.....	5145.7 8443.1 4533.8 5014.1	3.711446 3.926501 3.656459 3.771888
Charlotte, house chimney, 1887.	44 59 24.566 67 14 34.228	758.3 749.8	287 12 51.2 302 32 56.4 329 01 39.2	107 18 01.0 122 38 33.9 149 03 25.3	Smart..... Campbell..... Oak.....	10058.0 8008.5 6397.9	4.002510 3.903551 3.806035
Mowatt (N. B.), 1863.	44 59 59.140 66 54 29.394	1825.6 643.8	129 25 43.5 201 57 51.8 286 49 21.8 7 43 04.6	309 23 59.9 21 59 06.7 106 50 52.5 187 42 34.9	North Head..... Anley..... White Horse..... Hannabury.....	4150.4 6198.6 2936.8 6860.7	3.618089 3.792294 3.467878 3.836368
Perry, house with red door, chimney, 1863. ¹	44 59 59.76 67 04 17.38	1844.8 380.6	199 07 13 254 49 07	19 06 21 74 54 19	Navy Island..... North Head.....	6471.3 10016.9	3.810994 4.000734
Perry, yellow house with dormer windows, S. chimney, 1863. ¹	45 00 06.60 67 04 23.34	203.7 511.2	200 51 50 256 10 04	20 53 02 76 15 20	Navy Island..... North Head...	6317.7 10090.4	3.800556 4.003907

1 No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PASSAMAQUODDY BAY AND ST. CROIX RIVER—Continued.

Station.	Latitude and longitude.	Sec- onds in meters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
Davidson Head, (N. B.), 1863.	45 00 19.847 66 59 17.108	612.7 374.7	43 37 56.2 126 03 13.0 140 59 48.3 150 28 01.0 237 09 27.0 336 20 55.0	223 34 52.8 305 56 11.5 320 57 24.5 330 28 57.2 57 11 06.9 156 21 53.8	Perry Pigeon... Shortland.... Navy Island... Chamcook.... North Head.... Hamah.....	8243.3 16113.7 7071.9 15275.5 2481.7 4538.3	3.916100 4.207195 3.849535 4.183995 3.566049 3.656896
Fish (N. B.), 1863...	45 00 36.552 66 55 37.010	1128.4 810.5	295 01 39.1 355 57 51.5 32 43 37.2 130 37 48.7	115 03 57.7 175 58 09.7 212 42 03.0 310 36 53.0	White Horse... Hannabury... Hamah.... North Head...	4737.1 7973.8 5554.0 2273.6	3.675510 3.901636 3.744607 3.356712
Perry, yellow house, S. E. gable, 1863.	45 00 48.45 67 04 53.91	1495.5 1180.5	179 13 11 212 19 50 263 58 00	350 13 06 32 21 24 83 58 38	Chamcook.... Navy Island... North Head...	12404.6 5458.0 10527.0	4.093584 3.737031 4.022303
Hardwood (N. B.), 1863.	45 00 59.586 66 55 38.670	1839.4 846.7	302 05 50.0 356 03 17.8 25 51 19.1 114 29 24.9	122 08 09.7 176 03 37.1 208 49 43.4 294 28 30.3	White Horse... Hannabury... Hamah.... North Head...	5109.7 8685.1 6146.6 1856.1	3.708393 3.938776 3.788433 3.268611
Graveyard (N. B.), 1863. ¹	45 01 01.06 66 56 10.59	33.3 231.9	298 46 16 22 39 32	118 48 58 202 38 19	White Horse... Hannabury...	5736.0 5884.1	3.758607 3.769681
C, 1894.....	45 01 11.281 67 04 33.747	348.2 738.9	282 51 43.2 314 37 09.6 333 45 30.8 336 00 47.6	102 55 27.1 134 40 02.5 153 48 04.3 156 01 39.2	D a v i d s o n Head....	7112.2	3.852007
Clam Cove....						7526.9	3.876615
Kendall Head.						10770.3	4.032228
H.....						3928.4	3.504213
Butler (N. B.), 1863..	45 01 13.373 66 56 35.019	412.8 766.7	299 26 23.9 348 35 5.0 127 02 01.3 235 41 08.1	119 20 23.5 168 36 54.2 307 01 46.6 55 43 52.0	White Horse... Hannabury... North Head.... Anley.....	6387.9 9272.9 570.5 6135.3	3.805357 3.967216 2.756280 3.787839
Pendleton (N. B.), 1863.	45 01 54.709 66 57 21.802	1691.6 477.2	250 18 05.9 303 50 39.2 328 41 25.1 344 35 06.3	70 21 22.8 123 54 11.9 148 41 43.4 164 36 38.5	W h i t e ... H o r s e ... N o r t h ... H a n n a b u r y ...	6469.9 7931.8 1046.4 1075.2	3.810898 3.89374 3.039237 4.031619
Hannabury....						185 40 59.4	3.852697
Perry Pigeon....						222 39 13.5	12108.4
Navy Island....						290 08 36.8	4.083088
Shortland....						292 43 44.2	7431.2
Chamcook....						315 47 21.7	8.71061
Anley.....							16875.4
							4.227253
							14435.7
							4.159437
Hog (N. B.), 1863...	45 02 00.015 66 55 38.747	0.5 848.2	242 15 11.2 316 36 28.4 356 44 34.4 22 14 36.7	63 17 15.3 136 38 48.2 176 44 53.8 202 13 01.1	A n l e y ... W h i t e ... H o r s e ... H a m a h ...	4334.6 6303.4 10547.0 7831.6	3.639495 3.799575 4.023129 3.893853
						236 58 53.3	2012.1
							3.303654
South Navy (N. B.), 1894.	45 03 18.246 67 02 38.732	501.5 847.5	320 57 15.6 342 45 56.1 350 25 43.4 4 02 48.1	140 59 38.2 162 47 27.7 170 36 43.2 184 02 29.1	D a v i d s o n Head.... C l a m C o v e ... K e n d a l l H e a d . . .	7008.5 9576.1 13703.7 10616.0	3.845625 3.981157 4.136837 4.025962
						185 20 40.9	8324.5
						203 08 30.9	3.920358
						213 07 00.8	7503.9
							3.875285
							4606.4
							3.663366
Navy Island barn, S. W. gable (N. B.), 1887. ¹	45 03 21.74 67 02 47.46	671.1 1038.5	114 36 52 159 04 56	294 32 19 339 03 21	S h o r t l a n d ... C h a m c o o k ...	9269.8 8213.5	3.967070 3.914527
Robinston, 2-story yellow house chimney, 1863. ¹	45 03 26.88 67 07 15.60	829.8 341.3	145 15 33 272 37 59	325 14 10 92 41 14	S h o r t l a n d ... N a v y I s l a n d ..	4499.1 6025.6	3.653126 3.780001
Navy Island Beacon (N. B.), 1863.	45 03 28.236 67 02 08.422	871.7 184.3	153 07 53.3 273 12 55.1	333 05 50.6 93 19 35.0	C h a m c o o k ... A n l e y	8376.2 12382.9	3.923047 4.092821
						299 08 32.5	7835.9
						119 12 13.7	3.894087

¹ No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PASSAMAQUODDY BAY AND ST. CROIX RIVER—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Supplementary points—Continued.</i>							
Navy Bar Light-house (N. B.), 1913. ¹	45 03 28.52 67 02 08.24	880.5 180.3	353 32 56 64 56 34	173 33 47 244 56 11	Kendall 2..... Navy Island.....	Meters. 13988.8 779.5	4.145719 2.891817
Cape Lepreau Light (N. B.), 1860. ¹ ²	45 03 30.34 66 27 33.37	936.6 730.1	41 27 36 76 02 49	221 13 59 255 41 21	Bishop..... Hannah.....	38380.0 41112.0	4.584105 4.613969
Sand Reef Light-house (N. B.), 1887.	45 03 45.197 67 00 48.276	1395.2 1056.2	359 19 59.2 20 42 12.0 105 53 18.8 141 27 12.8	179 20 05.0 200 39 27.6 285 47.21.5 321 24 13.3	Prince Regents..... Redoubt..... Cannon..... Shortland..... Chamcook.....	15861.3 14407.0 14407.0 11472.0 8885.8	4.200340 4.158573 4.059640 3.948696
Mathews (N. B.), 1863.	45 03 45.478 66 54 39.874	1403.9 872.4	295 55 14.5 338 47 37.3 2 52 19.3 22 03 05.6 34 22 25.2 85 24 21.2 117 05 53.2	115 56 36.9 158 49 15.5 182 51 57.6 202 00 48.3 214 20 49.0 265 18 41.0 296 58 32.9	Anley..... White Horse..... Hannabury..... Hannah..... Navy Head..... Navy Island..... Chamcook.....	2832.8 8406.1 13803.0 11332.8 5271.8 10551.0 15264.1	3.452219 3.924596 4.139973 4.054337 3.721957 4.023294 4.183671
Beacon No. 1 (N. B.), 1863.	45 03 45.512 67 00 48.980	1405.1 1071.6	276 36 30.9 339 56 57.9 141 29 32.3	98 42 14.8 159 59 01.6 321 26 33.3	Anley..... Hannah..... Chamcook.....	10696.0 11182.9 8868.6	4.020222 4.048553 3.947857
North Navy (N. B.), 1894.	45 03 52.487 67 03 54.452	1620.3 1191.3	9 48 31.8 105 09 15.8	189 48 04.0 285 07 30.5	C..... D.....	5050.2 3370.2	3.703306 3.527656
South Beacon (U. S. and C. B. S.), (N. B.), 1909.	45 04 02.153 67 04 23.362	66.5 511.0	101 59 09.6 114 01 45.7 127 11 05.1 142 20 03.0	281 57 44.8 294 00 20.6 307 09 27.7 322 19 36.5	Initial..... Robbinston..... Pike..... Joes Point.....	2681.2 2870.3 3769.7 1340.9	3.428328 3.459283 3.576306 3.127405
North Beacon (U. S. and C. B. S.), (N. B.), 1909.	45 04 15.971 67 04 06.018	493.1 131.6	92 29 16.0 103 55 30.7	272 27 38.9 283 53 53.3	Initial..... Robbinston.....	3004.9 3100.2	3.477837 3.491390
NW. Beacon (N. B.), 1894.	45 04 02.212 67 04 23.451	68.3 513.0	2 26 47.0 102 29 59.0 295 19 15.1	182 26 39.7 282 28 34.3 115 19 35.6	C..... D..... North Navy	5281.4 2682.2 701.9	3.722751 3.428499 2.846256
Monument, Joes Point (N. B.), 1894. ¹	45 04 38.08 67 04 53.39	1175.6 1167.8	356 08 46 74 58 38	176 09 00 254 57 34	C..... D.....	6398.4 2033.3	3.806071 3.308196
St. Andrews West Entrance, NW. Beacon (N. B.), 1887. ¹	45 04 02.16 67 04 23.37	66.7 511.2	112 24 40 172 34 54	292 21 15 352 34 27	Shortland..... Chamcook.....	6847.3 6477.8	3.835519 3.811425
St. Andrews Light-house (N. B.), 1866.	45 04 05.855 67 02 51.584	180.8 1128.5	4 21 28.6 106 41 05.5 155 46 06.7 302 34 24.2	184 20 56.8 286 36 35.6 335 43 34.6 122 38 36.0	Perry Pigeon .. Shortland .. Chamcook .. North Head ..	12983.2 8703.7 6920.7 9242.8	4.113381 3.939703 3.840153 3.965803
Beacon, west side of St. Andrews (N. B.), 1863.	45 04 16.186 67 04 06.436	499.7 140.8	108 00 25.7 168 36 50.3 299 18 38.3	287 56 48.7 348 36 11.2 119 23 43.0	Shortland..... Chamcook..... North Head	7045.5 6111.0 10811.8	3.847913 3.786111 4.033899
St. Andrews tallest spire, brown (N. B.), 1887. ¹	45 04 36.14 67 03 03.32	1115.7 72.6	100 57 06 154 18 32	280 52 44 334 17 08	Shortland..... Chamcook.....	8230.6 5964.8	3.915429 3.775595
St. Andrews tall whitespire (N. B.), 1863.	45 04 36.959 67 03 15.382	1140.9 336.4	1 54 53.2 101 07 52.8 156 32 08.4 305 32 15.5	181 54 38.2 281 03 39.7 326 30 53.1 125 36 44.1	Perry Pigeon .. Shortland .. Chamcook .. North Head ..	13913.6 7966.7 5832.0 10212.1	4.143441 3.901279 3.765820 4.009115
St. Andrews short whitespire (N. B.), 1863.	45 04 45.953 67 03 28.306	1418.6 619.1	0 44 00.9 99 29 40.6 158 05 31.7 305 52 05.3	180 43 55.0 279 25 36.6 338 04 25.6 125 56 43.1	Perry Pigeon .. Shortland .. Chamcook .. North Head ..	14184.7 7638.9 5466.8 10603.7	4.151820 3.883030 3.737735 4.025457

¹ No check on this position.² This station is not shown on the sketches.

GEOGRAPHIC POSITIONS—Continued.

PASSAMAQUODDY BAY AND ST. CROIX RIVER—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of dis- tance.
<i>Supplementary points—Continued.</i>							
St. Andrews gray church spire (N. B.), 1913. ¹	45 04 37.09 67 03 03.61	1145.1 79.0	348 19 45 350 07 57	168 20 01 170 09 27	Navy Island .. Kendall 2	2498.5 16255.0	3.397681 4.210987
St. Andrews house on bluff, chimney (N. B.), 1863.	45 05 16.268 67 03 00.134	502.2 2.9	286 36 58.3 311 52 19.9 333 14 31.8	106 44 14.9 131 56 37.7 153 18 08.3	Anley .. North Head .. Hannah	14083.1 10711.4 14899.8	4.148697 4.029846 4.173182
Argyle Hotel (N. B.), 1887. ¹	45 04 24.81 67 02 33.80	765.9 739.3	102 22 23 150 33 43	282 17 40 330 31 58	Shortland .. Chamcook	8933.7 6574.0	3.951032 3.817830
Robbinston's wharf, tide gauge, 1887. ¹	45 04 37.73 67 06 21.59	1164.8 472.2	149 05 07	329 04 51	Robbinston's spire .. Chamcook	945.6 5605.2	2.975710 3.748593
Joes Point, house (N. B.), 1894.	45 04 36.816 67 05 00.046	1136.5 1.0	354 48 52.0 74 58 33.1 323 08 56.4	174 49 10.6 254 57 34.3 143 09 22.3	C .. N.W. Beacon ..	6370.9 1882.5 1334.9	3.804202 3.274738 3.125447
Joes Point (N. B.), 1909.	45 04 36.537 67 05 00.821	1128.0 18.0	110 38 20.7	290 37 07.8	Robbinston's spire ..	2406.9	3.381451
Iron pipe in cairn (U. S. and C. B. S.) (N. B.), 1909. ²	45 04 38.029 67 04 53.305	1174.0 1165.9	74 21 33.8 91 52 39.9	254 20 30.1 271 51 35.9	Initial .. Robbinston ..	2043.4 1975.8	3.310349 3.295754
Tangent to north chimney (U. S. and C. B. S.) (N. B.), 1909.	45 04 54.628 67 05 01.201	1686.5 26.2	59 21 26.3 76 02 51.0 106 49 46.7 160 13 04.3	239 20 28.3 256 01 52.7 286 48 36.3 340 12 52.7	Initial .. Robbinston .. Pike .. Haley Point ..	2086.3 1856.9 2273.1 1065.7	3.319379 3.263781 3.356623 3.027628
Blockhouse (N. B.), 1863. ¹	45 04 38.14 67 04 54.92	1177.4 1201.2	280 04 34 299 38 32	100 13 12 119 44 11	Anley .. North Head ..	16257.5 12068.6	4.211055 4.081656
White house, with white roof, chimney (N. B.), 1863.	45 04 39.218 66 54 48.035	1210.7 1050.7	316 44 21.7 341 16 16.0 1 54 04.1	136 45 49.9 161 18 00.0 181 53 47.7	Anley .. White Horse .. Hamisbury ..	3978.3 10026.7 15453.1	3.590698 4.001158 4.189016
Robbinston (U. S. and C. B. S.), 1909.	45 04 40.116 67 06 23.590	1238.5 515.9	161 18 47.2 149 03 13.2	341 18 35.1 329 02 58.9	Pike .. Robbinston spire ..	1167.3 859.9	3.067176 2.934454
Initial (U. S. and C. B. S.), 1909.	45 04 20.174 67 06 23.257	622.8 508.7	161 37 28.1 214 45 07.1 254 20 33.9	341 37 13.5 34 45 53.5 74 21 32.2	Haley Rock .. Joes Point .. Joes Point ..	2044.9 1813.8 1872.6	3.310674 3.258582 3.272454
Finial center white water tower (U. S. and C. B. S.) (N. B.), 1909.	45 04 55.890 67 05 02.080	1725.5 45.5	74 43 51.0 106 01 08.5 123 34 26.5	254 42 53.3 285 59 58.7 303 33 00.9	Robbinston .. Pike .. Lambs Bluff ..	1848.1 2243.6 3171.0	3.266723 3.350955 3.501201
Algonquin Hotel tower (N. B.), 1913.	45 04 51.957 67 03 24.209	1604.0 529.5	341 47 12.0 343 26 46.0 348 52 55.5	161 47 42.9 163 29 07.6 168 54 39.9	Navy Island .. Cumming .. Kendall 2	3059.2 15408.1 16788.5	3.485606 4.187750 4.225013
D, 1894.	45 04 21.000 67 06 23.162	648.3 506.6	292 07 45.6 325 09 30.3 337 04 38.7 337 45 05.3	112 10 24.5 145 13 40.6 157 06 47.8 157 46 22.7	South Navy .. Clam Cove .. B .. C ..	5301.4 13574.4 10254.5 6327.2	3.724394 4.132721 4.010913 3.801213
Robbinston spire, 1887.	45 05 04.006 67 06 43.809	123.7 958.1	102 06 27.6 206 18 58.8 336 25 09.2	282 04 42.0 26 20 11.2 156 29 26.7	Shortland .. Chamcook .. Prince Regents Redoubt ..	3333.1 5036.8 18954.3	3.522852 3.702153 4.300037

¹ No check on this position.² This station is not shown on the sketches.

GEOGRAPHIC POSITIONS—Continued.

PASSAMAQUODDY BAY AND ST. CROIX RIVER—Continued.

Station.	Latitude and longitude.	Sec- onds in meters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>	• ' "		• ' "	• ' "			
Clarks Point, yellow house chimney (N. B.), 1863.	45 05 22.497 66 54 53.444	694.5 1168.7	326 05 52.7 342 52 21.0 20 02 15.5 69 24 16.8	146 07 24.8 162 54 08.9 200 00 48.9 249 18 46.2	Anley..... White Horse..... North Head..... Navy Island.....	5100.2 11334.4 7819.6 10917.9	3.707589 4.054398 3.893186 4.038141
Clarks Point, un- painted house chimney (N. B.), 1863.	45 05 29.538 66 54 40.767	911.8 891.5	330 01 16.7 344 31 08.6 21 21 08.2	150 02 39.8 164 32 47.4 201 19 32.6	Anley..... White Horse..... North Head.....	5138.0 11465.2 8121.0	3.710796 4.059381 3.909607
Lambs Bluff (U. S. and C. B. S.), 1909.	45 05 52.679 67 07 02.912	1826.3 63.7	74 12 23.6 221 20 34.6	254 10 51.6 41 22 00.5	Shortland..... Chamcook.....	2952.7 4012.4	3.470220 3.603402
Apple Point (U. S. and C. B. S.) (N. B.), 1909.	45 05 54.232 67 05 51.227	1674.3 1120.0	79 04 44.2 88 15 17.6 124 10 28.5 152 35 32.8	259 02 21.3 268 14 26.8 304 09 07.6 332 34 41.7	Shortland..... Lambs Bluff..... Little Dochet..... Rigby.....	4490.2 1568.1 3016.9 3418.6	3.652264 3.195386 3.479564 3.533851
Pike (U. S. and C. B. S.), 1909.	45 05 15.935 67 06 40.691	491.9 889.9	156 48 45.0 222 27 02.5	336 48 29.2 42 27 37.5	Lambs Bluff... Apple Point...	1234.0 1602.4	3.091313 3.204766
Haley Rock or Point (U. S. and C. B. S.) (N. B.), 1909.	45 05 27.112 67 05 17.694	837.0 387.0	69 15 51.4 79 14 42.2 108 56 41.1 138 47 28.4	249 14 50.4 259 13 43.4 288 55 26.5 318 47 04.6	Robbinston spire..... Pike..... Lambs Bluff..... Apple Point...	2013.8 1847.5 2432.4 1112.9	3.304019 3.266589 3.386030 3.046460
Little Dochet (U. S. and C. B. S.), 1909.	45 06 49.112 67 07 45.411	1516.2 992.7	250 27 14.6 331 55 24.3 36 54 10.6	70 20 10.6 151 55 54.4 216 53 08.7	Chamcook..... Lambs Bluff..... Shortland.....	3798.1 1568.1 3184.0	3.579569 3.295434 3.502974
Rock (U. S. and C. B. S.), 1909. ¹	45 07 26.993 67 19 33.074	833.3 722.9	189 23 18.7 213 23 55.6	9 23 24.9 33 24 20.3	English..... Baring school- house cupola..... Maguerewoc...	1184.5 1386.2 4993.2	3.066141 3.141811 3.698382
Pratt (U. S. and C. B. S.), 1909. ¹	45 07 49.183 67 19 24.896	1518.4 544.0	181 23 26.5 231 03 24.9	1 23 26.9 51 03 43.9	English..... Baring school- house cupola...	464.0 751.3	2.666548 2.875801
Rigby (U. S. and C. B. S.) (N. B.), 1909.	45 07 32.537 67 07 03.231	1004.5 70.6	359 52 11.7 34 31 15.0	179 52 11.9 214 30 45.1	Lambs Bluff... Little Dochet...	3082.7 1626.9	3.488926 3.211373
Wilson (U. S. and C. B. S.), 1909.	45 07 42.745 67 08 42.914	1319.6 937.9	278 13 16.6 322 47 32.0	98 14 27.2 142 48 12.7	Rigby..... Little Dochet...	2201.2 2078.7	3.342649 3.317784
Dochet Island (U. S. and C. B. S.), 1909.	45 07 43.770 67 08 02.796	1351.3 61.1	284 54 38.4 347 18 23.5 87 56 13.6 186 40 23.0	104 55 20.6 167 18 35.8 267 55 45.2 6 40 27.8	Rigby..... Little Dochet..... Wilson..... Sand Point.....	1347.1 1729.6 877.3 1266.7	3.126410 3.237938 2.943137 3.102663
Lowe Point (U. S. and C. B. S.), 1909.	45 07 06.367 67 08 23.669	196.6 517.6	159 28 10.1 194 02 15.5 201 33 23.9 245 18 43.8	339 27 56.5 14 02 35.1 21 33 38.7 65 19 40.8	Wilson..... Sand Point..... Dochet Island..... Rigby.....	1199.2 2487.0 1241.5 1934.8	3.078883 3.395680 3.009343 3.286634
Dochet Island Light- house (U. S. and C. B. S.), 1909.	45 07 44.195 67 08 02.934	1364.4 64.1	21 12 39.0 87 04 15.0 138 38 31.6	201 12 25.2 267 03 47.6 318 37 34.8	Lowe Point... Wilson..... Eaton.....	1252.6 874.8 2649.2	3.097813 2.941918 3.423114
De Monts Id., 1866...	45 07 44.201 67 08 02.938	1364.5 64.2	73 18 17.0 141 06 32.2 185 00 44.7	253 17 03.3 321 05 20.4 5 00 56.1	Eye..... Devils Head..... Table Top.....	2371.7 3525.3 4114.6	3.375054 3.547201 3.614329
Plaster mill chim- ney, 1866. ²	45 07 24.59 67 08 54.97	759.1 1201.4	197 38 21 268 00 53	17 39 10 88 03 38	do..... Chamcook 2...	4936.6 5102.2	3.693426 3.707759
Poppemill (U. S. and C. B. S.), 1909. ¹	45 08 02.509 67 19 06.849	77.4 149.7	97 48 29.7 252 14 51.3	277 48 17.3 72 14 57.5	English..... Baring school- house cupola..... Pratt.....	386.7 199.5 569.9	2.587352 2.299862 2.755780

¹ This station is not shown on the sketches.² No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PASSAMAQUODDY BAY AND ST. CROIX RIVER—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Supplementary points—Continued.</i>							
Chamcook church (N. B.), 1866.	45 08 03.355 67 06 39.558	103.6 864.4	34 43 08.5 72 44 37.8 118 05 27.7 157 22 53.0	214 41 19.8 252 42 25.0 298 03 16.8 337 22 05.4	Shortland..... Eye..... Devils Head... Table Top....	5855.2 4287.0 4573.4 3800.0	3.769762 3.632152 3.660244 3.579786
English (U. S. and C. B. S.) (N. B.), 1909. ¹	45 08 04.210 67 19 24.381	130.0 532.7	235 23 21.5 269 10 06.3	55 25 11.4 89 10 24.9	Maguerrewoc... Baring school-house cupola.	4113.5 573.1	3.614214 2.758246
SW. corner R. R. girder (U. S. and C. B. S.), 1909. ¹	45 08 04.51 67 19 11.20	139.1 244.8	302 56 41 32 18 42	122 56 44 212 18 32	Poppemill.... Pratt.....	113.4 559.7	2.054739 2.747976
Smith (U. S. and C. B. S.), 1909. ¹	45 08 14.606 67 22 17.374	450.9 379.6	210 35 39.0 254 15 50.0	30 36 15.6 74 19 42.5	Mohannas.... Maguerrewoc..	2215.0 7443.3	3.345366 3.871763
Bailey (U. S. and C. B. S.), 1909. ¹	45 08 21.073 67 22 06.090	650.6 133.1	51 00 16.8	231 00 08.8	East Base.... Smith.....	214.0 317.3	2.330501 2.501400
Y (U. S. and C. B. S.), 1909. ¹	45 08 18.029 67 22 19.017	556.6 415.5	251 35 41.1 341 14 20.6	71 35 50.3 161 14 21.8	Bailey..... Smith.....	297.7 111.6	2.473736 2.047607
Secrip (U. S. and C. B. S.), 1909. ¹	45 08 25.611 67 22 10.390	790.7 227.0	326 09 02.6 38 50 33.6	146 09 05.7 218 50 27.5	Bailey..... Y.....	168.7 300.5	2.227081 2.477884
Midrip (U. S. and C. B. S.), 1909. ¹	45 08 20.364 67 22 01.004	628.7 21.9	101 08 55.3 128 18 23.9	281 08 51.7 308 18 17.2	Bailey..... Secrip.....	113.3 261.3	2.054065 2.417207
Anderson, 1887.....	45 08 16.432 67 23 17.002	507.3 371.5	169 19 40.8 256 56 27.0	849 18 55.8 77 01 01.7	Middlemiss.... Maguerrewoc..	7483.5 8691.5	3.874103 3.939097
McKay's barn, finial of cupola (U. S. and C. B. S.), 1909. ¹	45 08 24.01 67 18 04.16	741.1 90.9	112 56 21 140 08 23	292 55 56 320 08 19	Russell..... Rideout.....	847.8 199.0	2.928305 2.298945
Red flag near monument on river bank (U. S. and C. B. S.), 1909. ¹	45 08 32.10 67 18 12.50	991.2 273.1	330 39 57 97 39 18	150 39 59 277 38 58	do..... Russell.....	111.5 804.0	2.047178 2.781023
Monument on river bank near Rideout (U. S. and C. B. S.), 1909. ¹	45 08 32.02 67 18 12.43	988.7 271.5	330 44 29 147 51 36	150 44 31 327 51 36	Rideout..... Red flag near monument on river bank.	108.6 108.6	2.035645 2.466126
Rideout (U. S. and C. B. S.), 1909. ¹	45 08 28.957 67 18 09.999	864.0 218.5	196 43 13.2 219 41 48.8	16 43 19.2 39 42 12.0	Birch Hill.... Junction.... Stonyfield....	645.7 1120.8 854.4	2.809997 3.049542 2.931647
Squirrel Point (U. S. and C. B. S.) (N. B.), 1909. ¹	45 08 43.006 67 18 22.259	1327.7 486.3	247 50 54.3 295 42 37.5	67 51 09.0 105 43 13.6	Birch Hill.... Stonyfield.... Rideout.....	489.8 1157.0 509.8	2.689981 3.063312 2.707360
Russell (U. S. and C. B. S.), 1909. ¹	45 08 34.710 67 18 39.895	1071.6 871.7	236 23 25.1 265 12 28.4	56 23 37.6 105 12 49.6	Squirrel Point.... Rideout.....	462.7 676.9	2.665268 2.830546
Haw Point (U. S. and C. B. S.) (N. B.), 1909. ¹	45 08 44.249 67 18 55.679	1366.0 1216.5	273 00 13.2 295 18 30.2	93 00 36.9 115 19 02.6	Rideout..... Russell.....	731.2 1104.1 453.5	2.864015 3.042992 2.656527
Sand Point (U. S. and C. B. S.) (N. B.), 1909.	45 08 24.524 67 07 56.059	757.1 1224.9	324 16 00.2 355 28 51.8	144 16 37.6 175 28 59.3	Rigby..... Little Dochet... Wilson.....	1976.9 2934.6 1646.7	3.205988 3.470495 3.216614
Eaton (U. S. and C. B. S.), 1909.	45 08 48.601 67 09 23.060	1500.4 503.7	291 20 54.4 336 39 22.1	111 21 56.1 156 39 50.6	Sand Point.... Wilson.....	2041.0 2214.2	3.306833 3.345213

¹ This station is not shown on the sketches.² No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PASSAMAQUODDY BAY AND ST. CROIX RIVER—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Supplementary points—Continued.</i>							
R. R. crossing post (U. S. and C. B. S.), 1909. ¹ ²	45° 08' 42.31 67° 17' 29.01	1306.3 633.7	9° 39' 32" 158° 14' 59"	189° 39' 30" 338° 14' 53"	Stonyfield..... Junction.....	296.2 484.5	2.471626 2.685300
Pine tree on lower end of island below Hanson Id. (U. S. and C. B. S.) (N. B.), 1909. ¹ ²	45° 08' 48.31 67° 22' 33.18	1491.5 725.0	320° 49' 10" 324° 35' 52"	140° 49' 33" 144° 36' 08"	Midrip..... Secrip.....	1112.9 859.7	3.046475 2.934341
Birch Hill (U. S. and C. B. S.) (N. B.), 1909. ¹	45° 08' 48.987 67° 18' 01.497	1512.4 32.7	180° 23' 19.8 245° 16' 57.6	0° 23' 19.9 65° 17' 14.8	Balcolm..... Junction.....	547.6 583.6	2.738485 2.766138
Stonyfield (U. S. and C. B. S.), 1909. ¹	45° 08' 32.854 67° 17' 31.285	1014.3 833.6	104° 42' 58.4 127° 02' 17.0 147° 53' 16.3 151° 57' 00.3	284° 40' 12.2 307° 01' 55.6 327° 52' 55.0 331° 56' 05.3	Mohannas..... Birch Hill..... Balcolm..... Todd Mountain (1908). Junction..... Campbell..... Maguerewoc.....	5295.6 826.9 1234.5 3599.5 753.3 1459.5 1715.8	3.723917 2.917432 3.091506 3.556244 2.876977 3.164210 3.234471
Mohannas Ridge, house chimney (U. S. and C. B. S.) (N. B.), 1909. ¹ ²	45° 08' 53.39 67° 21' 51.87	1648.3 1133.2	11° 04' 21" 25° 15' 35"	191° 04' 23" 205° 15' 22"	Midrip..... Secrip.....	1038.9 948.2	3.016583 2.976918
New Brunswick, whitehouse, chimney at east end (N. B.), 1863. ²	45° 08' 55.90 67° 07' 41.98	1725.7 917.1	307° 01' 40" 17° 05' 46"	127° 03' 33" 197° 04' 41"	Chamcook..... Shortland.....	4389.4 6758.7	3.642408 3.829864
Bayside schoolhouse (N. B.), 1866.	45° 08' 55.913 67° 07' 42.004	1726.2 917.6	101° 13' 52.5 177° 01' 55.9 307° 01' 39.9 17° 05' 28.1	281° 12' 25.9 357° 01' 52.7 127° 03' 33.6 197° 04' 23.7	Devils Head... Table Top... Chamcook... Shortland...	2722.8 1887.6 4390.1 6758.9	3.435019 3.275917 3.642470 3.829878
Junction (U. S. and C. B. S.), 1909. ¹	45° 08' 56.892 67° 17' 37.229	1756.4 813.3	119° 58' 20.1 182° 00' 37.4 235° 49' 54.0	299° 58' 12.0 2° 00' 38.2 55° 50' 27.9	Balcolm..... Campbell..... Maguerewoc....	607.7 714.2 1263.0	2.783600 2.853791 3.101412
Switch lever (U. S. and C. B. S.), 1909. ¹ ²	45° 08' 59.81 67° 17' 36.66	1846.6 801.0	351° 57' 51" 7° 48' 13"	171° 57' 55" 187° 48' 13"	Stonyfield..... Junction.....	840.5 91.1	2.924540 1.959306
Right tangent to right corner of pier in stream (U. S. and C. B. S.), 1909. ¹ ²	45° 09' 01.40 67° 17' 41.34	43.3 903.0	327° 11' 11" 346° 00' 16"	147° 11' 14" 166° 00' 23"	do..... Stonyfield.....	165.7 908.2	2.219282 2.958204
Murchie (U. S. and C. B. S.) (N. B.), 1908. ¹	45° 09' 10.099 67° 22' 09.155	311.8 200.0	258° 27' 40.9 41° 49' 31.2 53° 40' 19.6	78° 28' 11.6 221° 48' 43.1 233° 37' 56.0	Mohannas..... Anderson..... Rye.....	967.3 2223.1 5495.8	2.985575 3.346953 3.740031
Wiley (U. S. and C. B. S.) (N. B.), 1909.	45° 09' 14.440 67° 08' 19.583	445.8 427.8	341° 33' 10.0 10° 12' 36.3 60° 05' 50.1	161° 33' 26.7 190° 12' 19.8 240° 08' 05.1	Sand Point..... Wilson..... Eaton.....	1624.4 2876.2 1599.7	3.210685 3.458815 3.204042
Campbell (U. S. and C. B. S.), 1909. ¹	45° 09' 20.011 67° 17' 36.082	617.8 788.2	137° 18' 08.9 270° 14' 43.7	317° 17' 17.3 90° 15' 16.8	Todd Mountain (1908). Maguerewoc....	2341.6 1020.0	3.389508 3.008587
Balcolm (U. S. and C. B. S.) (N. B.), 1909. ¹	45° 09' 06.726 67° 18' 01.327	207.6 29.0	154° 03' 33.1 166° 56' 49.0 233° 21' 33.8 255° 31' 05.5	334° 02' 59.4 346° 56' 39.6 53° 21' 51.7 75° 31' 56.5	Todd Mountain (1908). White..... Campbell..... Maguerewoc....	2369.7 1275.2 687.2 1623.0	3.374690 3.105587 2.837108 3.210309
Pineo (U. S. and C. B. S.), 1909. ¹	45° 09' 24.047 67° 17' 51.169	742.4 1117.7	141° 44' 58.7 275° 27' 20.9 340° 02' 03.1 344° 37' 43.4	321° 44' 17.8 95° 28' 04.7 160° 02' 13.1 164° 37' 5.5	Todd Mountain (1908). Maguerewoc.... Junction..... Stonyfield.....	2032.7 1355.7 891.9 1639.0	3.308063 3.132153 2.950516 3.214567

¹ This station is not shown on the sketches.² No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PASSAMAQUODDY BAY AND ST. CROIX RIVER—Continued.

Station.	Latitude and longitude.	Sec- onds in meters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
Chick's chimney, 1866. ¹	45 09 24.52 67 10 49.92	756.9 1090.4	124 30 47 265 56 34	304 28 30 75 58 44	Sinclair..... Table Top.....	5122.9 4129.8	3.706514 3.615634
Digester Building S. end gable (U. S. and C. B. S.), 1908. ²	45 09 30.146 67 24 14.723	930.7 321.6	234 16 09.8 282 42 06.2 331 00 09.1	54 16 12.1 102 43 35.2 151 00 50.0	Woodland..... Murchie..... Anderson.....	87.4 2811.8 2601.6	1.941748 3.448978 3.415241
Digester Building, N. gable (U. S. and C. B. S.), 1908. ²	45 09 30.838 67 24 14.967	952.0 326.9	248 45 34.6 283 06 05.7 331 07 36.4	68 45 37.1 103 07 34.9 151 08 17.5	Woodland..... Murchie..... Anderson.....	81.9 2821.8 2622.9	1.913299 3.450519 3.418784
Casey's barn finial (U. S. and C. B. S.) (N. B.), 1908. ²	45 09 16.289 67 22 41.606	502.9 908.8	285 04 55.0 22 42 44.3 103 43 02.7	105 05 18.0 202 42 19.3 283 41 59.0	Murchie..... Anderson..... Woodland.....	734.2 2003.1 2020.5	2.965798 3.301707 3.305458
Woodland water tank finial (U. S. and C. B. S.), 1908. ²	45 09 26.812 67 24 19.275	827.7 421.1	227 54 15.9 280 16 31.7 327 56 28.7	47 54 21.4 100 18 03.9 147 57 12.8 do Murchie..... Anderson.....	229.7 288.3 2563.5	2.361116 3.460707 3.408827
Woodland pulp mill, new chimney (U. S. and C. B. S.), 1909. ²	45 09 29.765 67 24 15.287	918.9 333.8	282 24 48.8 330 38 18.8 128 55 13.8 148 59 19.3 175 31 54.5	102 26 18.1 150 39 00.1 308 54 56.9 328 59 04.6 355 31 52.0	Murchie..... Anderson..... Suburb..... Telline..... Abutment.....	2821.2 2597.3 670.0 878.7 1011.0	3.450441 3.414530 2.826055 2.943833 3.004733
Woodland (U. S. and C. B. S.), 1909. ²	45 09 31.800 67 24 11.472	981.7 250.6	284 03 48.2 332 54 27.2	104 05 14.9 152 55 05.3	Murchie..... Anderson.....	2754.5 2613.3	3.440045 3.417189
De Monts (U. S. and C. B. S.), 1909.	45 09 31.016 67 09 51.863	957.5 1132.8	185 26 38.4 284 14 10.2	5 26 41.7 104 15 15.6	Oak Point..... Wiley.....	1065.5 2079.6	3.027571 3.317986
Bluff Head Point (U. S. and C. B. S.) (N. B.), 1909.	45 09 58.984 67 10 29.315	1821.0 640.2	257 52 38.0 295 52 29.0 316 32 36.1	77 53 07.3 115 54 01.0 136 33 02.7	Oak Point..... Wiley..... De Monts.....	940.0 3149.6 1189.4	2.973111 3.498259 3.075314
Hitchings (U. S. and C. B. S.), 1909. ²	45 09 32.157 67 16 43.380	992.8 947.5	19 04 37.3 116 10 44.7 182 44 33.4	199 04 33.0 296 09 15.8 2 44 38.3	Maguerewoc.... Todd Mountain (1908). Calais Congregational Church spire, Sinclair (1908).	401.4 3051.8 3145.6	2.603611 3.484555 3.497710
				232 40 09.2	52 42 02.7	4396.5	3.643101
Suburb (U. S. and C. B. S.), 1909. ²	45 09 43.399 67 24 39.153	1239.8 855.2	287 24 15.8 300 37 56.9 326 13 51.2	107 26 02.0 120 38 16.5 146 14 49.4	Murchie..... Woodland..... Anderson.....	3433.8 702.7 3229.3	3.535779 2.846745 3.509107
Telline (U. S. and C. B. S.), 1909. ²	45 09 54.160 67 24 36.016	1672.1 796.6	322 09 51.8 11 39 17.8	142 10 09.2 191 39 15.6	Woodland..... Suburb.....	874.0 339.2	2.941488 2.530438
Bog Brook church spire (U. S. and C. B. S.), 1909.	45 09 43.998 67 14 04.635	1358.3 101.2	141 37 00.7 161 14 38.7 205 33 17.5 241 05 05.6	321 36 41.0 341 14 32.9 25 33 27.4 61 05 26.6	Meadow..... Knight Point..... Donald..... Hills Point.....	970.1 845.2 708.9 739.1	2.996821 2.736582 2.850567 2.868720
White (U. S. and C. B. S.) (N. B.) 1909. ²	45 09 46.967 67 18 14.514	1450.0 317.0	139 53 13.8 294 13 01.3	319 52 49.5 114 14 01.7	Todd Mountain (1908). Maguerewoc..	1161.9 2038.9	3.065179 3.300390
Kelley (U. S. and C. B. S.), 1909. ²	45 09 49.952 67 17 57.162	1542.1 1248.5	76 20 18.0 125 14 19.5	256 20 05.7 305 13 42.9	White..... Todd Mountain (1908). Maguerewoc..	390.0 1380.5 1747.5	2.591082 3.140045 3.242425
Miller (U. S. and C. B. S.), 1909.	45 09 45.726 67 11 21.485	1411.7 469.2	206 20 42.2 250 14 09.1 283 03 08.3	26 20 50.7 70 14 46.0 103 04 11.9	Spruce Point.. Bluff Head Pt.. De Monts.....	590.1 1210.7 2009.5	2.770917 3.083024 3.303081
Whiddens Derrick, 1866. ¹	45 09 54.69 67 12 03.84	1688.3 83.9	127 04 45 269 15 18	307 03 21 89 18 21	Sinclair..... Table Top.....	3268.2 5621.0	3.514310 3.749813

¹ No check on this position.² This station is not shown on the sketches.

GEOGRAPHIC POSITIONS—Continued.

PASSAMAQUODDY BAY AND ST. CROIX RIVER—Continued.

Station.	Latitude and longitude.	Sec- onds in meters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
Hills (U. S. and C. B. S.), 1909.	45 09 55.572 67 13 35.011	1715.6 764.6	245 50 08.3 264 55 49.0	65 50 22.3 84 56 15.0	Pine Point..... Pirington.....	639.6 802.8	2.805917 2.904610
Narrows (U. S. and C. B. S.), 1909.	45 09 44.789 67 13 35.524	1382.7 775.9	181 55 46.5 225 00 11.6 243 31 38.2	1 55 46.9 45 00 30.9 63 32 04.5	Hills..... Pine Point..... Pirington.....	833.1 841.1 905.9	2.522512 2.924543 2.957061
Hymurc (U. S. and C. B. S.), 1909.	45 09 52.092 67 11 49.079	1808.2 1071.9	199 52 36.7 249 58 28.3 288 03 34.8	19 52 42.5 68 58 56.4 108 03 54.4	Brown..... Spruce Point..... Miller.....	522.0 926.2 633.9	2.717639 2.966698 2.802045
Pokeshine, 1887.....	45 09 57.057 67 34 35.267	1761.3 770.2	252 22 42.2 291 34 08.4 336 33 48.8 250 32 28.2	72 29 58.3 111 40 33.7 158 38 27.1 70 47 02.4	Middlemiss..... Rye..... Cooper..... Collins.....	14077.6 12773.1 21647.5 28489.8	4.148529 4.106307 4.335407 4.454689
Pirington (U. S. and C. B. S.), 1909.	45 09 57.869 67 12 58.396	1786.6 1275.4	222 40 06.0 249 49 06.7	42 40 19.6 69 49 22.9	Marks Point..... Lighthouse..... Quarantine...	618.4 533.1	2.791263 2.726846
Abutment (U. S. and C. B. S.) (N. B.), 1909. ¹	45 10 02.414 67 24 18.894	74.5 412.6	37 00 34.6 55 43 47.6	217 00 20.2 235 43 35.5	Suburb..... Telline.....	735.1 452.5	2.866335 2.655616
Spruce Point Light- house (U. S. and C. B. S.) (N. B.), 1909.	45 10 02.855 67 11 09.494	88.1 207.3	277 45 07.3 300 05 38.0	97 45 35.8 120 06 33.1	Bluff Head Point..... De Monts.....	885.6 1959.8	2.947223 3.292216
Spruce Point Light- house finial (U. S. and C. B. S.) (N. B.), 1909.	45 10 03.057 67 11 09.438	94.4 206.1	300 16 07.2 28 11 05.6 68 39 02.3	120 17 02.3 206 10 57.1 248 38 34.2	do..... Miller..... Hymurc.....	1961.9 596.2 920.5	3.292680 2.775390 2.968272
Pine Point (U. S. and C. B. S.) (N. B.), 1909. ¹	45 10 04.064 67 13 08.290	125.2 181.0	247 26 49.8 270 33 26.8 311 27 42.5	67 27 10.4 90 33 50.1 131 27 49.5	Marks Point..... Lighthouse..... Pirington.....	687.8 716.5 288.3	2.837453 2.855223 2.459016
Donald (U. S. and C. B. S.) (N. B.), 1909.	45 10 04.712 67 13 50.632	145.5 1105.8	309 35 27.1 331 47 04.1	129 35 38.2 151 47 14.8	Hills..... Narrows.....	442.7 698.0	2.646153 2.843831
Knights Point (U. S. and C. B. S.), 1909.	45 10 00.720 67 14 12.662	22.2 276.5	255 37 47.5 280 56 07.3 301 13 33.5	75 38 03.2 100 56 34.1 121 13 59.8	Donald..... Hills..... Narrows.....	496.6 837.5 948.6	2.866039 2.922991 2.977000
Hybrown (U. S. and C. B. S.) (N. B.), 1909.	45 10 23.367 67 14 29.046	875.8 634.3	311 02 10.6 337 15 12.2	131 02 37.8 157 15 23.8	Donald..... Knights Pt....	1112.2 925.5	3.046185 2.966361
Meadow (U. S. and C. B. S.), 1909.	45 10 08.828 67 14 32.216	266.4 703.6	186 28 50.7 277 34 44.4 299 45 13.1	6 28 53.0 97 35 13.9 119 45 27.0	Hybrown..... Donald..... Knights Pt....	613.3 916.2 491.9	2.787658 2.961972 2.691804
Mound (U. S. and C. B. S.), 1909.	45 10 28.295 67 14 52.225	873.2 1140.5	269 42 39.8 324 14 27.5	89 42 56.2 144 14 41.7	Hybrown..... Meadow.....	506.2 747.8	2.704298 2.873775
Long Point (U. S. and C. B. S.) (N. B.), 1909.	45 10 32.311 67 14 35.007	997.5 764.4	313 04 43.4 355 13 54.0 71 42 32.9	133 04 47.6 175 13 56.0 251 42 20.7	Hybrown..... Meadow..... Mound.....	178.3 733.6 396.0	2.251043 2.865488 2.597664
Todd Point (U. S. and C. B. S.), 1909.	45 10 41.595 67 14 54.944	1284.1 1199.8	303 21 27.7 351 46 27.6	123 21 41.8 171 46 29.5	Long Point..... Mound.....	521.2 415.2	2.717027 2.618229
Stroud (U. S. and C. B. S.) (N. B.), 1909.	45 10 49.023 67 14 45.982	1513.5 1004.0	335 04 54.1 12 01 01.4 40 28 28.1	155 05 01.9 192 00 57.0 220 28 21.7	Long Point..... Mound..... Todd Point....	568.9 654.5 301.4	2.755018 2.815942 2.479198
Switch lever (U. S. and C. B. S.), 1909. ¹	45 10 07.63 67 17 51.74	235.6 1130.0	237 41 22 12 14 46	57 41 24 192 14 43	Stubbs..... Kelley.....	61.1 558.5	1.796185 2.747006

¹This station is not shown on the sketches.²No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PASSAMAQUODDY BAY AND ST. CROIX RIVER—Continued.

Station.	Latitude and longitude.	Sec- onds in meters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
SE. corner beacon (U. S. and C. B. S.), 1909.	45 10 07.746 67 12 28.751	239.1 627.9	50 32 39.9 64 47 04.9 299 08 48.0	230 32 35.1 244 46 43.9 119 09 16.2	Quarantine... Pirington.... Hymurch....	190.4 715.6 992.1	2.279651 2.854637 2.996551
Quarantine pier SW. corner (U. S. and C. B. S.), 1909. ¹	45 10 07.75 67 12 28.75	239.1 628.0	123 15 58 269 34 50	303 15 51 89 35 24	Marks Point Lighthouse. Brown....	273.0 1043.9	2.436101 3.018675
Quarantine pier SE. corner (U. S. and C. B. S.), 1909. ¹	45 10 09.13 67 12 27.45	281.7 599.4	203 15 20 271 58 04	23 15 27 91 58 37	Ledge.... Brown....	493.8 1016.0	2.693563 3.006910
Quarantine pier NW. corner (U. S. and C. B. S.), 1909. ¹	45 10 07.84 67 12 28.94	242.0 631.9	123 14 00 204 45 15	303 13 52 24 45 22	Marks Point Lighthouse. Ledge....	268.0 543.3	2.428162 2.735042
Brown (U. S. and C. B. S.) (N. B.), 1909.	45 10 07.993 67 11 40.953	246.8 894.4	282 59 51.1 328 15 34.6	103 00 13.4 148 15 48.4	Spruce Point.. Miller....	705.1 808.3	2.848260 2.907568
Stubbs (U. S. and C. B. S.), 1909. ²	45 10 08.689 67 17 49.372	268.2 1078.3	16 23 20.1 39 18 49.9 99 33 31.9	196 23 14.6 219 18 32.1 279 31 49.8	Kelley.... White.... Todd Moun- tain.	602.9 866.7 1315.9	2.790271 2.937863 3.119210
Pumping station (U. S. and C. B. S.), 1909. ²	45 10 11.275 67 17 48.797	348.1 1065.6	8 55 59.8 96 01 31.9	188 55 59.4 276 00 49.4	Stubbs.... Todd Moun- tain.	80.8 1317.5	1.907519 3.119745
Harrison (U. S. and C. B. S.), 1909. ²	45 10 22.950 67 17 22.887	708.5 499.8	57 30 17.1 83 15 06.9	237 29 58.7 263 14 06.0	Pumping sta- tion. Todd Moun- tain.	670.8 1880.1	2.826613 3.276251
Quarantine pier NE. corner (U. S. and C. B. S.), 1909.	45 10 09.223 67 12 27.643	284.7 603.7	112 25 29.1 203 50 40.2 272 07 42.4	292 25 20.9 23 50 46.7 92 08 15.6	Marks Point Lighthouse. Ledg.... Brown....	273.1 492.7 1020.4	2.436382 2.692620 3.008755
Milltown grammar school cupola (N. B.), 1887.	45 10 09.652 67 17 13.963	298.0 304.9	30 30 31.0 64 56 32.3 73 22 19.8	210 29 17.1 244 60 39.5 253 19 21.3	Baring school cupola. Rye.... Mohannas....	4484.6 12009.5 5740.3	3.651727 4.079525 3.758935
Milltown waterworks chimney (N. B.), 1887.	45 10 11.136 67 17 47.574	343.8 1038.9	321 13 50.6 21 31 39.7	141 14 32.0 201 30 49.7	Maguerrewoc.. Baring school cupola. Mohannas....	2029.7 4203.0 5056.5	3.307440 3.623555 3.703851
Milltown public school brick chim- ney (U. S. and C. B. S.) (N. B.), 1909. ²	45 10 11.150 67 17 47.589	344.2 1039.2	353 18 16.9 70 28 51.0	173 18 28.4 250 26 16.3	Stonyfield.... Mohannas....	3055.3 5056.4	3.485047 3.703838
Milltown Baptist Church spire (U. S. and C. B. S.) (N. B.), 1909. ²	45 10 16.704 67 17 24.845	515.6 538.1	2 35 25.8 72 22 26.7	182 35 21.1 252 22 09.6	Stonyfield.... Pumping sta- tion. Poorhouse....	3209.2 553.4 475.3	3.506395 2.743040 2.676947
Milltown Congrega- tional Church spire (U. S. and C. B. S.), (N. B.), 1909.	45 10 23.849 67 17 49.740	736.3 1086.2	240 15 39.2 272 42 15.7 317 44 54.8 353 17 18.8 351 23 29.3 6 04 07.0 8 48 20.5 25 25 09.9 79 02 08.8	60 16 13.0 92 42 34.7 137 45 41.9 173 17 31.9 171 23 39.0 186 03 58.8 188 48 15.2 205 24 52.3 259 01 26.9	Poorhouse.... Harrison.... Hitchings.... Stonyfield.... Campbell.... Balcolm.... Kelley.... White.... Todd Mtn....	472.6 587.0 2155.6 3450.1 1993.1 2394.2 1058.9 1260.6 1313.6	2.674523 2.768634 3.333575 3.537830 3.299539 3.379165 3.024854 3.100653 3.118466
Milltown cotton mill chimney (N. B.), 1887. ¹	45 10 29.92 67 17 36.38	923.7 794.4	21 42 13 65 38 23	201 41 14 245 35 40	Baring school cupola. Mohannas....	4832.2 5500.4	3.684149 3.740396

¹ No check on this position.² This station is not shown on the sketches.

GEOGRAPHIC POSITIONS—Continued.

PASSAMAQUODDY BAY AND ST. CROIX RIVER—Continued. |

Station.	Latitude and longitude.	Sec- onds in meters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
Todds Mountain reservoir chimney (N. B.), 1887.	45 10 11.380 67 18 44.913	351.3 980.8	302 12 36.8 4 13 28.0	122 13 58.7 184 13 18.5	Maguerrewoc... Baring school cupola.	2982.5 3928.2	3.474575 3.594191
Marks Pt. L. H. final in top (U. S. and C. B. S.), (N. B.) 1909.	45 10 12.975 67 12 39.064	400.5 853.0	344 31 09.9 42 09 33.9	184 31 12.4 222 09 20.2	Quarantine.... Pirington....	293.0 629.0	2.466913 2.798882
Marks Point Light-house (U. S. and C. B. S.), (N. B.) 1909.	45 10 12.598 67 12 39.204	388.9 856.2	232 30 18.7 54 47 55.2	52 30 33.4 234 47 15.1	Ledge.... Brown.... Narrows....	569.3 1280.1 1509.1	2.755319 3.107228 3.178730
Eaton's sawmill NW. corner (U. S. and C. B. S.), 1909. ^{1,2}	45 10 13.64 67 17 40.55	421.1 883.5	67 53 44 114 02 25	247 53 38 294 02 20	Pumping sta- tion.... Railroad....	194.3 158.3	2.288537 2.199379
Pumping station building, NW. corner (U. S. and C. B. S.), 1909. ^{1,2}	45 10 11.17 67 17 48.75	344.7 1064.6	162 35 48 193 44 53	342 35 48 13 44 54	Pumping sta- tion.... Railroad....	3.5 145.1	0.538721 2.161530
Customhouse build- ing, SE. corner at American end of bridge (U. S. and C. B. S.), 1909. ^{1,2}	45 10 10.72 67 17 49.28	330.8 1076.0	196 32 57 211 23 33	16 32 59 31 23 33	Railroad.... Pumping sta- tion.	161.5 20.1	2.208107 1.303950
SE. pier in bridge, SE. corner (U. S. and C. B. S.), 1909. ^{1,2}	45 10 13.33 67 17 51.85	411.4 1132.4	233 59 58 313 34 36	54 00 01 133 34 38	Railroad.... Pumping sta- tion.	126.2 92.0	2.101204 1.963634
Railroad (U. S. and C. B. S.), 1909. ³	45 10 15.732 67 17 47.171	485.7 1030.1	247 12 21.4 14 28 10.3	67 12 38.6 194 28 09.1	Harrison.... Pumping sta- tion.	575.2 142.1	2.759808 2.152614
Island (U. S. and C. B. S.), 1909. ²	45 10 16.393 67 17 38.036	506.1 830.7	238 32 11.8 56 05 03.4	58 32 22.5 236 04 55.8	Harrison.... Pumping sta- tion.	387.8 283.1	2.588648 2.452008
Gristmill (U. S. and C. B. S.), 1909. ³	45 10 23.304 67 17 34.981	719.4 763.9	272 22 13.2 17 21 39.6	92 22 21.8 197 21 37.4	Harrison.... Island....	264.3 223.5	2.422160 2.349366
Poorhouse (U. S. and C. B. S.), 1909. ³	45 10 31.441 67 17 30.942	970.7 675.7	326 07 58.4 19 20 50.3	146 08 04.1 199 20 47.4	Harrison.... Gristmill....	315.7 266.2	2.490243 2.425231
Barton (U. S. and C. B. S.) (N. B.), 1909. ³	45 10 36.447 67 17 44.681	1125.2 975.6	65 28 31.6 297 15 22.3	245 27 46.3 117 15 32.1	Todd Moun- tain.... Poorhouse....	1538.9 337.5	3.187209 2.528220
Todd Mtn. (U. S. and C. B. S.) (N. B.), 1908. ²	45 10 15.751 67 18 48.796	486.3 1065.6	215 05 01.4 303 28 24.4	35 08 23.9 123 29 49.1	Collins.... Maguerrewoc...	10826.9 3126.9	4.034506 3.495114
Point A on waste weir (U. S. and C. B. S.) (N. B.), 1909. ^{1,2}	45 10 20.68 67 17 35.92	638.5 784.3	256 11 32 19 15 55	76 11 42 199 15 54	Harrison.... Island....	293.0 140.4	2.466819 2.147274
Cross on boulder near railroad (U. S. and C. B. S.), 1909. ^{1,2}	45 10 14.05 67 17 47.41	433.6 1035.2	19 28 44 185 44 47	199 28 43 5 44 47	Pumping sta- tion.... Railroad....	90.8 52.3	1.958018 1.718268
Eaton's planing mill N. E. eave, west front (U. S. and C. B. S.), 1909. ^{1,2}	45 10 15.43 67 17 43.98	476.2 960.4	39 20 37 97 41 17	219 20 33 277 41 15	Pumping sta- tion.... Railroad....	165.8 70.2	2.219522 1.846456

¹ No check on this position.² This station is not shown on the sketches.

GEOGRAPHIC POSITIONS—Continued.

PASSAMAQUODDY BAY AND ST. CROIX RIVER—Continued.

Station.	Latitude and longitude.	Sec- onds in meters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
Eaton's planing mill, W. gable, west front (U. S. and C. B. S.), 1909. ^{1,2}	45 10 15.21 67 17 43.68	460.5 953.9	42 36 04 101 59 11	222 36 01 281 59 08	Pumping sta- tion. Railroad.....	Meters, 165.0	2.217400 1.891280
Eaton's planing mill, S. eave west front (U. S. and C. B. S.), 1909. ^{1,2}	45 10 14.99 67 17 43.38	462.7 947.3	45 53 50 105 34 30	225 53 46 285 34 28	Pumping sta- tion. Railroad.....	164.6 85.8	2.216421 1.933681
Cross on ledge on N. side of wall holding main stream in present channel (U. S. and C. B. S.) 1909. ^{1,2}	45 10 14.49 67 17 42.54	447.3 920.0	53 59 40 110 45 39	233 59 36 290 45 36	Pumping sta- tion. Railroad.....	168.9 108.1	2.227555 2.033910
Warwig (U. S. and C. B. S.) (N. B.), 1909.	45 10 23.058 67 08 41.960	711.9 916.3	347 00 21.3 17 06 54.2	167 00 37.2 197 06 25.1	Wiley..... Eaton.....	2173.9 3051.0	3.337245 3.484439
Oak Pt. (U. S. and C. B. S.) (N. B.), 1909.	45 10 05.377 67 09 47.234	166.0 1031.6	249.02 29.2 309 23 26.5	69 03 15.4 129 24 28.6	Warwig..... Wiley..... Eaton.....	1526.3 2477.4 2428.2	3.183653 3.394001 3.385291
Ledge (U. S. and C. B. S.) (N. B.), 1909.	45 10 23.822 67 12 18.521	735.4 404.5	300 46 31.2 326 42 55.1	120 46 57.9 146 43 16.0	Brown..... Hymurch.....	954.9 1171.7	2.979967 3.068818
Quarantine (U. S. and C. B. S.), 1909.	45 10 03.827 67 12 35.483	118.2 774.9	210 57 56.8 263 49 52.3	30 58 08.8 83 50 31.0	Ledge..... Brown.....	719.9 1197.8	2.857256 3.078387
Colton Mill chimney, lightning rod (U. S. and C. B. S.), 1909. ²	45 10 29.944 67 17 36.337	924.4 793.5	74 31 44.0 137 46 39.9	254 30 52.6 317 46 33.6	Todd Mtn..... Barton.....	1641.8 271.1	3.215313 2.433176
Fowler (U. S. and C. B. S.), 1909. ²	45 10 42.370 67 17 31.468	1308.1 687.1	358 02 57.8 57 38 08.5	178 02 58.2 237 37 59.1	Poorhouse..... Barton.....	337.6 341.5	2.528384 2.533451
Byre (U. S. and C. B. S.), 1909. ²	45 10 50.189 67 17 35.226	1549.5 769.1	341 13 35.6 25 56 47.5	161 13 38.3 205 56 40.8	Fowler..... Barton.....	255.0 471.8	2.406506 2.673763
Slough (U. S. and C. B. S.), 1909. ²	45 10 55.621 67 17 25.006	1717.2 546.0	19 01 41.2 53 04 27.9	199 01 36.6 233 04 20.6	Fowler..... Byre.....	432.8 279.1	2.636249 2.445814
Union (U. S. and C. B. S.), 1909. ²	45 10 56.776 67 17 32.425	1752.8 707.9	282 24 22.9 357 18 28.9	102 24 28.2 177 18 29.6	Slough..... Fowler..... Byre.....	165.9 445.2 212.3	2.219765 2.648600 2.327020
Big Trees (U. S. and C. B. S.), 1909.	45 10 48.935 67 15 03.546	1510.7 77.4	146 47 14.8 173 59 02.8	326 46 57.3 353 59 01.1	Crocker..... Red house..... Stroud..... Long Point.....	980.1 448.3 383.5 807.3	2.991281 2.688658 2.583807 2.907057
Gate house gable (U. S. and C. B. S.), 1909. ^{1,2}	45 10 31.71 67 17 35.33	978.9 771.5	274 56 37 314 51 34	94 56 40 134 51 43	Poorhouse..... Harrison.....	96.2 383.4	1.983033 2.583592
Watertank (U. S. and C. B. S.), 1909. ^{1,2}	45 10 33.10 67 17 34.80	1021.9 759.9	301 16 58 320 17 33	121 17 00 140 17 42	Poorhouse..... Harrison.....	98.6 407.3	1.993894 2.609877
SE. corner bridge girder (U. S. and C. B. S.), 1909. ^{1,2}	45 10 30.41 67 17 31.75	938.8 693.2	208 51 49 319 57 29	28 51 49 139 57 35	Poorhouse..... Harrison.....	36.4 300.8	1.561019 2.478202

¹ No check on this position.² This station is not shown on the sketches

GEOGRAPHIC POSITIONS—Continued

PASSAMAQUODDY BAY AND ST. CROIX RIVER—Continued.

Station.	Latitude and longitude.	Sec- onds in meters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
Church (U. S. and C. B. S.), 1909. ¹	45 10 13.299 67 17 54.603	410.6 1192.4	296 13 47.9 321 14 51.4 4 26 04.4 28 08 48.6 93 39 55.7	116 13 52.0 141 14 55.1 184 26 02.6 208 08 34.5 273 39 17.4	Pumping sta- tion. Stubbs..... Kelley..... White..... Todd Moun- tain.	Meters. 141.3 182.5 722.9 921.8 1185.9	2.150191 2.261184 2.859080 2.984671 3.074036
Tannery (U. S. and C. B. S.), 1909.	45 10 51.225 67 15 08.913	1581.4 194.6	189 02 11.7 277 43 52.8	9 02 13.8 97 44 00.1	Red house..... Stroud.....	420.1 505.3	2.623353 2.703536
Young (U. S. and C. B. S.), 1909.	45 10 58.904 67 15 37.598	1818.5 820.9	255 35 28.0 290 43 46.2	75 35 50.5 110 44 06.6	Red house..... Tannery.....	714.7 669.7	2.854151 2.825363
Bridgestone (U. S. and C. B. S.), 1909. ^{1,2}	45 11 01.87 67 17 26.33	57.7 574.9	149 28 21 197 09 28	329 28 15 17 09 31	Slope..... Ranch.....	335.9 300.3	2.526222 2.477504
Red house (U. S. and C. B. S.) (N. B.), 1909.	45 11 04.665 67 15 05.891	144.0 128.6	318 00 16.5 341 26 42.0	138 00 30.6 161 26 49.7	Stroud..... Todd Point...	649.7 751.2	2.812721 2.875774
SE. corner brick pier below Todd's mill (U. S. and C. B. S.) 1909. ^{1,2}	45 11 08.82 67 17 30.61	272.3 668.3	222 07 16 248 19 53	42 07 22 68 19 58	Indian Point.. Ranch.....	287.3 195.7	2.458376 2.291683
Young's house, finial on cupola (U. S. and C. B. S.), 1909. ^{1,2}	45 11 27.25 67 17 16.00	841.2 349.3	250 34 57 19 31 27	70 35 07 199 31 23	International Bridge. Indian Point..	318.8 377.6	2.503552 2.576989
Calais, flagstaff on Milltown church (U. S. and C. B. S.), 1908. ²	45 10 06.17 67 16 19.75	190.5 431.4	95 12 26 160 26 13	275 10 41 340 25 43	Todd Moun- tain. International Bridge.	3268.2 2768.9	3.514305 3.442302
Flagstaff on Calais grammar school (U. S. and C. B. S.), 1908. ²	45 11 06.02 67 16 49.82	185.8 1087.7	273 38 28 59 09 37	93 40 26 239 08 12	Sinclair (1908). Todd Moun- tain.	3643.8 3026.0	3.561552 3.480864
Calais Congregational Church spire (U. S. and C. B. S.), 1909.	45 11 13.938 67 16 36.487	430.3 796.6	58 08 25.8 234 10 56.5 248 21 45.4 273 21 11.7 278 05 57.4	238 06 51.9 54 11 20.5 68 22 15.6 93 21 34.4 98 07 46.0	Todd Moun- tain. Hospital..... Haley..... Box..... Sinclair (1908).	3401.8 909.3 969.0 687.0 3379.0	3.531707 2.958700 2.999571 2.836946 3.528788
Calais Baptist Church, 1866.	45 11 16.752 67 16 40.834	517.2 891.5	58 49 14.1 157 55 50.2 279 17 04.3 304 06 46.6	238 47 40.0 337 54 53.3 99 18 56.8 124 09 20.9	Todd..... Curtis..... Sinclair..... Lane.....	3387.4 4654.8 3485.9 5738.1	3.529872 3.667902 3.542316 3.758771
Kirk spire (Scotch Presbyterian Church in St. Stephens) (U. S. and C. B. S.) (N. B.), 1908. ²	45 11 35.82 67 16 55.83	1105.7 1218.8	41 22 17 44 56 59	221 22 12 224 55 39	International Bridge. Todd Moun- tain.	211.1 3491.7	2.324529 3.543030
St. Stephens English Church, (N. B.), 1866.	45 11 38.324 67 16 20.638	1183.2 450.5	54 04 24.5 149 01 39.0 292 16 29.8 312 01 42.8	234 02 36.0 329 00 27.1 112 18 07.2 144 24 29.9	Todd..... Curtis..... Sinclair..... Lane.....	4123.5 4254.6 3241.2 5801.9	3.615270 3.628856 3.510706 3.763569
St. Stephens Methodist spire (U. S. and C. B. S.) (N. B.), 1909.	45 11 41.428 67 16 34.219	1279.0 747.0	298 38 55.6 299 01 16.1 316 43 03.4 324 24 09.2	118 39 24.2 119 02 02.9 136 43 43.5 144 24 29.9	Haley..... Crocker..... Young..... Box.....	1001.7 1849.8 1803.1 1093.1	3.000742 3.217430 3.256026 3.038648
			14 27 59.8	194 27 55.9	Bernard.....	499.8	2.698834

¹ This station is not shown on the sketches.² No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PASSAMAQUODDY BAY AND ST. CROIX RIVER—Continued.

Station.	Latitude and longitude.	Sec- onds in meters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
St. Stephens Catholic Church spire (U. S. and C. B. S.) (N. B.), 1909.	45 11 41.571 67 17 02.169	1283.4 47.4	283 53 01.7 288 01 23.6 315 10 47.8 0 12 36.2	103 53 43.9 108 02 11.9 135 11 03.6 180 12 36.2	Hospital..... Haley..... Barnard..... International Bridge.	Meters. 1337.0 1566.1 688.5 336.1	3.126142 3.194828 2.837927 2.526474
Stable (U. S. and C. B. S.), 1909. ¹	45 11 25.735 67 17 15.145	794.5 330.6	241 33 08.8 3 55 36.5 25 06 48.4 42 50 13.5	61 33 17.9 183 55 36.4 205 06 43.7 222 50 00.0	International Bridge. Lawn..... Indian Point..... Slope.....	320.7 43.6 341.3 610.2	2.506158 1.639512 2.533163 2.785462
Vertical iron rod (U. S. and C. B. S.) (N. B.), 1909. ¹	45 11 00.068 67 17 33.007	1.8 720.7	206 52 16.9 214 20 51.9 308 05 48.3	26 52 24.9 34 20 59.5 128 05 54.0	Indian Point..... Ranch..... Slough.....	542.2 415.2 222.0	2.734158 2.618269 2.346324
West flag, courthouse (U. S. and C. B. S.), 1909. ²	45 11 21.36 67 16 46.67	659.3 1018.9	130 18 13 252 28 06	310 18 02 72 28 38	International Bridge. Hospital.....	445.2 1006.4	2.648542 3.002788
Ranch (U. S. and C. B. S.), 1909. ¹	45 11 11.162 67 17 22.276	344.6 486.4	7 04 48.1 26 30 55.5	187 04 46.2 206 30 48.3	Slough..... Union.....	483.5 496.3	2.684356 2.695774
Slope (U. S. and C. B. S.), 1909. ¹	45 11 11.241 67 17 34.149	347.0 745.6	229 15 28.6 266 12 29.7	49 15 51.3 86 13 10.7	International Bridge. Calais Congregational Church spire.	919.7 1261.6	2.963668 3.100919
Indian Point (U. S. and C. B. S.), 1909. ¹	45 11 15.723 67 17 21.781	485.4 475.6	4 23 13.2 21 39 58.5 62 51 45.8 222 44 43.6	184 23 12.8 201 39 50.9 242 51 37.0 42 44 57.5	Ranch..... Union..... Slope..... International Bridge.	141.3 629.4 303.4 628.9	2.150010 2.798955 2.482033 2.798585
Lawn (U. S. and C. B. S.), 1909. ¹	45 11 24.325 67 17 15.282	751.0 333.6	28 06 49.0 45 33 28.8 235 26 37.3	208 06 44.4 225 33 15.4 55 26 46.6	Indian Point..... Slope..... International Bridge.	301.1 576.9 346.1	2.478680 2.761107 2.539146
Crocker (U. S. and C. B. S.) (N. B.), 1909.	45 11 15.497 67 15 28.137	478.4 614.3	304 32 44.7 330 44 30.5 21 57 41.1	124 33 00.5 150 44 44.2 201 57 41.1	Red house..... Tannery..... Young.....	589.7 858.9 552.3	2.770627 2.933918 2.742180
Box (U. S. and C. B. S.), 1909.	45 11 12.636 67 16 05.074	390.1 110.8	283 44 50.2 305 14 43.2	83 45 16.4 125 15 02.7	Crocker..... Young.....	811.2 734.6	2.909140 2.866029
Haley (U. S. and C. B. S.) (N. B.), 1909.	45 11 25.869 67 15 53.949	798.6 1177.7	299 36 16.6 336 47 09.7	119 36 34.9 156 47 21.2	Crocker..... Young..... Box.....	648.1 905.8 475.3	2.811670 2.957017 2.876928
Hospital (U. S. and C. B. S.), 1909.	45 11 31.174 67 16 02.710	962.4 59.2	310 34 16.2 5 09 01.1	130 34 22.4 185 08 59.4	Haley..... Box.....	251.8 574.6	2.401074 2.759378
Barnard (U. S. and C. B. S.), 1909.	45 11 25.749 67 16 39.936	704.9 871.8	258 21 10.9 269 47 08.4	78 21 37.3 89 47 40.9	Hospital..... Haley..... Calais Congregational Church spire.	829.7 1003.9 372.3	2.918937 3.001712 2.570919
International Bridge (U. S. and C. B. S.), 1908.	45 11 30.683 67 17 02.226	947.3 48.6	269 19 34.9 284 15 17.8 287 22 47.3 312 36 38.4	89 20 17.0 104 17 24.8 107 23 03.1 132 36 56.7	Hospital..... Sinclair (1908). Barnard..... Calais Congregational Church spire.	1299.3 4031.4 509.8 763.5	3.113707 3.605454 2.707438 2.882817
			45 10 42.3	225 09 26.7	Todd Mountain.	3281.0	3.516001

¹ This station is not shown on the sketches.² No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PASSAMAQUODDY BAY AND ST. CROIX RIVER—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of dis- tance.
<i>Supplementary points—Continued.</i>							
Little Ridge church tower (N.B.), 1887.	45 12 39.754 67 24 16.075	1227.3 350.8	251 40 22 302 16 44 7 06 13	71 47 37 122 22 01 187 06 10	Collins..... Maguerrewoc..... Middlemiss.....	14073.8 11540.6 781.0	4.148412 4.062228 2.892673
Meridian mark (N. B.), 1866.	45 12 40.191 67 16 52.701	1240.7 1152.0	310 17 33.5 319 08 17.2 359 59 15.8	130 19 33.8 139 11 00.0 179 59 15.7	Sinclair..... Lane..... Calais Observatory..... Todd.....	4852.4 7660.8 2917.7 5089.5	3.685070 3.884272 3.465035 3.704969
Danforth's house, (N. B.), 1866.	45 13 43.543 67 13 14.116	1344.3 307.9	290 32 07.4 331 13 41.7 358 15 30.7 11 53 34.5	110 33 44.5 151 16 10.6 178 15 38.2 191 52 59.6	Cookson Id..... Devils Head..... Lane..... Sinclair.....	3186.5 9523.7 7755.0 5206.6	3.503312 3.978805 3.889583 3.716552
Hannan (N.B.), 1887.	45 15 04.964 67 26 20.832	153.2 454.2	310 26 52.4 333 27 23.7 355 40 58.3	130 33 37.9 153 28 49.0 175 41 33.1	Maguerrewoc..... Middlemiss..... Rye.....	16402.4 5876.7 14252.6	4.214908 3.769135 4.153894
Scotch Ridge church steeple (N. B.) 1887.	45 17 00.265 67 23 56.483	8.2 1231.1	285 37 41.6 326 42 25.2 3 24 08.1 6 40 54.3 99 31 19.0	105 44 42.9 146 47 28.4 183 23 51.0 186 39 46.7 279 19 09.4	Collins..... Maguerrewoc..... Middlemiss..... Rye..... Neal.....	13429.2 16995.4 8832.8 17892.9 22689.6	4.128049 4.230332 3.946100 4.252681 4.355444
Tower Hill, Whorty's house chimney (N. B.), 1888. ¹	45 21 18.760 67 18 09.383	579.2 204.2	326 01 52.2 20 34 58.4 82 00 40.3 160 31 56.7	146 11 11.5 200 29 44.2 261 44 23.4 349 29 56.9	Chamcook..... Rye..... Neal..... Brandy Hill.....	30812.3 27500.0 30210.8 20097.6	4.488724 4.439333 4.480162 4.303145
Musquash Mountain, 1888.	45 23 21.236 67 47 49.953	655.6 1086.6	228 13 31 229 14 39 312 13 08	48 25 31 49 19 18 132 17 58	Vance Mtn..... Tomah Mtn..... Neal.....	28377.6 11251.8 11971.4	4.468016 4.051222 4.078145
Lambert Lake Mill stack, 1888. ^{1,2}	45 32 39.21 67 31 55.46	1210.5 1203.2	207 39 56 274 55 12	27 40 36 95 03 02	Vance Mtn..... Brandy Hill.....	2065.2 14326.1	3.415837 4.156129
Todd, 1890 ²	45 33 29.96 67 32 29.27	924.9 634.8	114 08 26 228 28 05	294 02 43 48 33 16	Spruce Mtn..... Mount Henry.....	11414.0 12624.3	4.057439 4.101207
Vanceboro, Union Church spire, 1888	45 33 39.249 67 25 49.997	1211.7 1084.3	98 53 44.2 185 40 20.0 290 00 36.4	273 50 03.1 5 40 46.5 116 04 06.2	Vance Mtn..... Mount Henry..... Brandy Hill.....	6731.5 8116.1 7058.2	3.828112 3.900348 3.848604
Vanceboro, U. S. customhouse flagstaff, 1888.	45 33 42.133 67 28 00.623	1300.7 13.5	98 14 53.1 187 21 51.7 295 50 34.6	273 11 19.6 7 22 25.8 115 54 11.0	Vance Mtn..... Mount Henry..... Brandy Hill.....	6498.0 8053.8 7304.4	3.812643 3.906002 3.803584
Vanceboro, 1890 ²	45 34 27.04 67 25 31.40	834.8 680.9	183 27 47 307 34 50	3 28 00 127 38 05	Mount Henry..... Brandy Hill.....	6612.9 7495.1	3.820395 3.874780
McAdam Junction water tower (N. B.), 1888. ^{1,2}	45 35 41.06 67 19 34.55	1267.6 748.9	14 43 51 120 30 47	194 42 51 300 26 45do..... Mount Henry.....	7092.0 8508.2	3.850768 3.929838
La Conte Point, 1890 ² .	45 35 43.89 67 26 46.05	1355.0 998.1	205 29 30 260 30 59	25 30 36 89 32 18do..... Howland.....	4684.8 2389.9	3.670687 3.378383
Howland, (N. B.), 1890. ^{1,2}	45 35 44.53 67 24 55.79	1374.8 1209.3	66 28 13 174 56 56	246 33 53 354 56 43	Vance Mtn..... Mount Henry.....	8596.4 4225.1	3.984315 3.625834
Granite, 1890 ²	45 35 59.84 67 29 00.95	1847.4 20.6	148 34 23 232 52 34	328 32 34 52 55 17	Lee..... Mount Henry.....	6323.4 6193.3	3.800953 3.791924
Aurora (N. B.), 1890 ² .	45 36 13.10 67 34 33.12	404.4 717.8	331 55 33 87 14 29	151 57 01 267 10 14	Todd (1890)..... Spruce Mtn.....	5707.8 7740.6	3.756465 3.888777
Wind, 1890 ²	45 36 19.85 67 35 45.59	612.8 988.0	84 35 52 113 33 37	264 32 29 293 31 22do..... McAllister.....	6188.6 4486.6	3.791589 3.651916

¹ This station is not shown on the sketches.² No check on this position.³ No triangle check but used on topographic sheet.

GEOGRAPHIC POSITIONS—Continued.

PASSAMAQUODDY BAY AND ST. CROIX RIVER—Continued.

Station.	Latitude and longitude.	Sec- onds in meters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
Musquash barn, S. gable (N. B.), 1890.	45 37 35.263 67 32 54.418	1088.7 1178.9	265 26 09.9 336 46 55.2 21 06 24.5	85 31 39.8 156 48 00.1 201 05 39.7	Mount Henry. Birch Point.. Rocky Point..	10026.8 4989.0 3774.2	4.001164 3.668016 3.578320
Bluff, 1890 ¹	45 37 44.88 67 43 28.91	1385.6 626.2	167 17 33 309 35 40	347 16 27 129 37 48	Pemberton Ridge. Spruce Mtn...	9082.4 5035.6	3.958199 3.702054
Pine (N. B.), 1890 ² ...	45 38 14.77 67 29 53.62	456.0 1161.3	274 00 59 305 40 47	94 04 19 125 44 20	Mount Henry. Howland.....	6003.9 7947.0	3.784863 3.900202
Hedge, 1890 ¹	45 38 42.74 67 44 34.03	1319.5 736.9	175 14 13 313 20 53	355 13 54 133 23 48	Pemberton Ridge. Spruce Mtn...	7097.6 7276.7	3.851110 3.861936
Keg (N. B.), 1890....	45 39 39.564 67 41 34.845	1221.4 754.4	336 03 38.6 348 13 04.9 38 42 07.9	156 04 18.1 168 13 51.3 218 41 19.6	Table Rock... Spruce Mtn... Walls Hill, N...	2049.6 6896.6 2340.3	3.469764 3.828638 3.369273
Forest City church spire, 1889. ³	45 39 44.20 67 43 52.39	1364.6 1134.2	128 54 00 163 56 23	308 47 36 343 55 34	Peekaboo Mtn. Pemberton Ridge.	14906.8 5386.2	4.173385 3.731280
Superior schoolhouse chimney (N. B.), 1888. ³	45 40 18.11 67 43 55.40	559.1 1199.2	330 42 24 125 46 46	150 44 51 305 40 24	Spruce Mtn... Peekaboo Mtn.	9104.2 14219.6	3.959243 4.152886
End (N. B.), 1890 ¹ ..	45 40 37.96 67 42 27.58	1171.9 596.9	327 39 23 5 03 36	147 40 01 185 03 26	Keg..... Walls Hill, N...	2133.9 3643.7	3.329174 3.561542
Billy, 1889.....	45 41 29.490 67 47 34.713	910.4 751.1	131 55 39.7 239 52 30.7	311 51 54.6 59 54 20.5	Peekaboo Mtn. Pemberton Ridge.	9133.6 3837.2	3.960644 3.584019
Tracy farm, westerly of 3 buildings, west gable (N. B.), 1890. ³	45 41 33.13 67 28 50.05	1022.8 1082.9	17 40 52 55 58 36	197 38 15 235 50 16	Todd (1890)... Spruce Mtn...	13865.5 18299.6	4.136578 4.262442
Weston Methodist Church, 1889.	45 44 00.665 67 52 35.502	20.5 767.6	168 25 22.3 238 01 46.8	348 25 12.6 58 06 46.9	Peekaboo Mtn. Green Mtn....	1461.7 10666.9	3.164869 4.028038
Cedar Point, 1890 ¹ ...	45 46 21.04 67 48 59.81	649.6 1292.3	253 23 45 354 55 44	105 38 36.6 174 55 51	Pemberton Ridge. Spruce Mtn...	10198.7 21500.5	4.008474 4.334262
Orient Church, 1890. ¹³	45 48 52.46 67 49 00.12	1619.6 2.6	307 26 20 359 55 04	127 28 46 179 55 04	Green Mtn.... Cedar Point...	4580.5 4245.9	3.660915 3.384878
Gull Rock, 1889 ²	45 49 30.16 67 45 47.70	931.1 1029.7	253 04 04 356 58 15	73 06 40 176 58 23	McInelly..... Green Mtn...	4913.4 4537.8	3.691379 3.656842
Spruce (N. B.), 1890.	45 50 47.281 67 46 47.790	1459.7 1031.2	138 42 04.4 278 59 32.8	318 39 18.6 99 02 52.2	Cromwell..... McInelly..... Green Mtn...	7545.6 6071.7 7081.3	3.877694 3.783312 3.850116
Cromwell, 1890.....	45 53 50.826 67 50 38.794	1569.1 836.3	301 02 20.2 322 34 02.6	121 08 25.5 152 37 39.4	McInelly..... Green Mtn...	12817.7 14160.3	4.107809 4.151347
Williams, 1891 ²	45 54 21.34 67 50 13.03	658.9 280.9	247 51 54 305 54 59	67 56 44 126 00 46	Kennedy Hill.. McInelly.....	9387.0 12874.0	3.972527 4.109715
Powers Spruce, 1889 ² .	45 55 52.42 67 48 40.34	1618.4 869.1	219 11 59 263 50 45	39 13 11 83 54 28	Pole Hill..... Kennedy.....	3426.0 6737.1	3.534791 3.828475
Green's barn ventilator, 1889. ³	46 02 02.92 67 49 51.06	90.2 1098.1	322 30 00 337 13 14	142 34 34 157 15 17	...do..... Pole Hill.....	13506.0 9526.5	4.130528 3.978932
Furze windmill, 1889. ²	46 03 35.18 67 47 48.50	1086.2 1042.5	337 38 12 354 50 51	157 41 18 174 51 26	Kennedy..... Pole Hill.....	14869.9 11680.2	4.166428 4.067451

¹ No triangle check but used on topographic sheet.
² No check on this position.

³ This station is not shown on the sketches.

GEOGRAPHIC POSITIONS—Continued.

EAST OF MOUNT DESERT.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Principal points.</i>							
Old Proprietor Spindle (N. B.), 1887.	44° 33' 10.425 66° 39' 56.123	321.8 1238.8	63° 10' 09.1 105° 38' 32.6	243° 05' 14.7 285° 28' 25.2	Gannet Rock Lighthouse. Grand Manan SW. Head Lighthouse.	10392.2 19821.4	4.016706 4.297135
Pothenot, 1887.....	44° 39' 22.591 66° 46' 11.797	607.3 259.9	324° 09' 56.1 355° 44' 43.0 3° 26' 56.0 18° 45' 10.2	144° 14' 19.9 175° 44' 59.0 183° 26' 25.0 198° 41' 45.4	Old Proprietor spindle. Ingalls House. Gannet Rock Lighthouse. Yellow Ledge.	14163.5 6811.9 16214.3 20065.1	4.151171 3.883269 4.209899 4.302441
Gannet Rock Light- house, 1887.	44° 30' 38.250 66° 46' 55.958	1180.7 1236.0	62° 46' 55.1 87° 56' 54.0 114° 18' 09.5 135° 33' 23.6	242° 44' 01.4 267° 43' 26.7 293° 50' 40.8 315° 28' 10.9	do..... Machias Seal Id. SE. L. H. Davis..... Grand Manan SW. Head Lighthouse.	6156.5 2545.3 38185.6 14036.2	3.789833 4.405779 4.581900 4.147250
Yellow Ledge (N. B.), 1887.	44° 29' 06.950 66° 51' 03.711	214.5 82.0	95° 24' 03.6 161° 13' 05.4	275° 13' 30.2 341° 10' 46.6	Machias Seal Id. SE. L. H. Grand Manan SW. Head Lighthouse.	20064.9 13555.0	4.302220 4.132099
Grand Manan SW. Head Lighthouse, 1887.	44° 36' 02.658 66° 54' 21.599	82.0 476.4	54° 54' 34.1 102° 45' 29.8 137° 39' 16.6	234° 46' 18.9 282° 32' 13.4 317° 30' 43.8	Machias Seal Id. SE. L. H. Davis..... Trescott Rock.	19058.2 25614.5 23815.0	4.280081 4.408486 4.376850
Machias Seal Island SE. L. H., 1887.	44° 30' 07.113 67° 06' 07.494	219.6 165.6	150° 23' 28.9 178° 57' 52.5	330° 18' 28.6 358° 57' 36.0	Davis..... Trescott Rock.	19081.7 28561.0	4.280616 4.455774
Bog Creek, 1863.....	44° 43' 06.397 67° 06' 53.301	197.5 1173.1	33° 40' 19.1 48° 25' 52.7 186° 13' 44.1 357° 36' 59.6	213° 38' 32.1 228° 21' 24.1 6° 13' 59.9 177° 37' 31.3	Sandy Point..... Davis..... Trescott Rock. Seal Island East Light.	6046.1 11252.1 4528.5 24059.8	3.781474 4.051234 3.655956 4.381292
Divide, 1883.....	44° 43' 40.081 67° 08' 08.298	1237.2 182.6	349° 56' 15.7 31° 25' 36.2 43° 38' 07.0 211° 43' 46.4	169° 56' 29.8 211° 24' 49.1 223° 35' 38.9 31° 44' 54.9	Pond..... Hill..... Ledge..... Trescott Rock.	2529.6 2824.2 6719.9 4070.8	3.403051 3.450980 3.827361 3.600675
Ravine, 1863.....	44° 41' 19.898 67° 08' 41.477	614.2 913.4	55° 17' 00.9 200° 13' 44.8 350° 43' 15.1	235° 13' 48.4 20° 15' 16.6 170° 45' 02.7	Davis..... Trescott Rock. Seal Island East Light.	7341.7 8301.9 21025.9	3.865797 3.919178 4.322754
Hill, 1883.....	44° 42' 22.006 67° 09' 15.188	679.3 334.3	3° 32' 40.5 52° 11' 58.5	183° 32' 33.3 232° 10' 17.5	Sandy Point..... Ledge.....	3669.3 4004.3	3.564585 3.602532
Sandy Point, 1863...	44° 40' 23.362 67° 09' 25.487	721.1 561.4	61° 27' 18.1 64° 18' 22.9 201° 55' 39.4 347° 04' 18.5	241° 25' 31.2 244° 15' 41.3 21° 57' 42.2 167° 06' 37.0	Lookout..... Davis..... Trescott Rock. Seal Island East Light.	3813.9 5620.7 10279.1 19499.3	3.581367 3.749791 4.011955 4.290020
Ledge, 1883.....	44° 41' 02.471 67° 11' 38.861	76.3 855.8	219° 06' 27.7 112° 21' 14.1 7° 44' 08.6 30° 14' 57.2	39° 10' 04.3 112° 21' 14.1 187° 43' 55.5 210° 13' 49.4	Trescott Rock. Sandy Point.. Lookout..... Davis.....	10735.9 3175.9 3058.4 4220.4	4.030840 3.501866 3.485488 3.625353
Hues, 1883.....	44° 39' 50.087 67° 10' 37.663	1548.0 829.7	65° 39' 54.3 148° 54' 12.3 237° 07' 48.0	245° 38' 58.1 328° 53' 29.2 57° 08' 38.7	Lookout..... Ledge..... Sandy Point..	1931.7 2609.4 1892.8	3.285929 3.416548 3.277112
Lookout, 1863.....	44° 39' 24.293 67° 11' 57.645	749.9 1267.9	35° 57' 46.6 70° 15' 19.3 335° 47' 46.2	215° 56' 10.9 250° 14' 24.6 155° 51' 51.4	Old Man..... Davis..... Seal Island East Light.	5110.3 1821.5 18834.3	3.708450 3.260419 4.274949

GEOGRAPHIC POSITIONS—Continued.

EAST OF MOUNT DESERT—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Principal points—Continued.</i>							
Davis, 1862.....	44 39 04.351 67 13 15.347	134.3 338.2	80 15 09.6 160 03 24.5 216 35 32.3	260 07 46.9 340 00 43.7 36 40 16.7	Howard..... Bell..... Trescott Rock.	Meters. 14091.0 14731.8 14920.1	4.148942 4.168257 4.173773
Dennison, 1863.....	44 38 28.510 67 14 11.024	880.0 243.0	84 13 06.8 227 57 13.1 325 22 25.1	264 06 23.3 47 57 52.2 145 28 03.9	Howard..... Davis..... Seal Island East Light.	Feet. 2725.0 1632.1 18778.7	4.104659 3.218032 4.273665
Huntley, 1883.....	44 39 16.475 67 14 28.490	508.5 627.7	228 46 39.1 283 03 57.5	48 48 38.3 103 04 48.9	Ledge..... Davis.....	Feet. 4966.6 1634.6	3.696062 3.218880
Holway, 1883.....	44 37 45.951 67 15 35.400	1418.4 780.4	154 26 04.5 207 48 54.5 231 53 20.7	334 25 01.8 27 49 41.5 51 54 59.1	Ramsdell..... Huntley..... Davis.....	Feet. 4553.0 3159.5 3922.2	3.658299 3.499616 3.593533
Cross Island Life Saving Station flagstaff, 1913.	44 36 41.869 67 16 33.927	1292.4 748.1	120 15 57.1 131 08 15.0 213 06 38.6 311 22 57.7	300 11 29.8 311 05 21.4 33 07 19.7 131 30 15.5	Bucks..... Avery Rock Lighthouse..... Holway..... Seal Island NW. Light.	Feet. 9704.8 7228.6 2361.7 18373.0	3.986988 3.859053 3.373228 4.264179
Ramsdell, 1883.....	44 39 59.001 67 17 04.591	1821.2 101.1	254 41 40.8 288 26 48.6 290 52 34.1	74 45 29.8 108 29 29.7 110 54 23.8	Ledge..... Davis..... Huntley.....	Feet. 7437.2 5325.0 3681.1	3.871410 3.726321 3.565983
Quaker flagstaff, 1913.	44 37 28.731 67 18 06.578	886.8 145.0	94 15 10.0 118 29 56.0 134 11 16.8	274 11 12.0 298 26 33.8 314 09 28.3	Howard..... Bucks..... Avery Rock Lighthouse.	Feet. 7488.6 7214.9 4745.3	3.874399 3.858229 3.676262
Ackley, 1882.....	44 41 23.411 67 18 33.768	722.6 743.6	56 28 22.8 92 31 54.6 129 52 02.6	236 26 33.6 272 29 50.6 309 50 45.7	Round Island..... Long Point..... Lowell.....	Feet. 4102.0 3834.9 3135.3	3.613000 3.589381 3.496286
Cross Island, NW. Head, 1882.	44 36 43.131 67 19 21.125	1331.3 465.8	36 36 48.2 108 36 31.5 177 08 06.9	216 34 53.2 288 33 25.9 357 07 58.7	Libby Id.L.H..... Howard..... Sprague.....	Feet. 6041.2 6146.0 5160.5	3.781126 3.788592 3.712693
Lowell, 1862.....	44 42 28.506 67 20 23.086	870.9 508.2	13 18 33.6 27 08 00.6 29 49 38.0	193 18 01.3 207 05 38.4 209 47 51.7	Round Island..... Howard..... Bucks.....	Feet. 4393.9 9776.8 6700.8	3.642847 3.990198 3.826128
			38 42 58.6 68 54 56.5 348 37 53.6	218 42 11.5 248 51 44.6 168 38 28.9	Long Point..... Peterson..... Sprague.....	Feet. 2356.6 6441.2 5617.0	3.372234 3.808970 3.749507
Avery Rock Light- house, 1882.	44 39 15.854 67 20 41.006	489.4 903.5	55 52 19.1 92 36 01.5 122 52 28.8	235 50 00.6 272 34 27.9 302 49 29.6	Howard..... Bucks..... Peterson.....	Feet. 4909.3 2941.1 6686.1	3.691021 3.468508 3.825174
Round Island, 1882.	44 40 09.983 67 21 09.004	308.1 198.3	37 54 48.1 56 28 38.1 111 23 19.9	217 52 53.2 236 27 24.1 291 20 40.3	Howard..... Bucks..... Peterson.....	Feet. 5609.4 2784.3 5368.6	3.748914 3.447110 3.729859
Long Point, 1882....	44 41 28.933 67 21 30.023	893.1 661.1	25 03 12.7 83 57 57.0 161 54 04.4	205 02 13.5 263 55 32.2 341 52 53.5	Bucks..... Peterson..... Round Island.	Feet. 4387.7 4561.2 2490.6	3.642234 3.659081 3.394559
Libby Islands Light- house, old, 1862.	44 34 06.002 67 22 04.407	185.3 97.2	59 18 24.7 104 34 48.8 161 54 04.4	239 11 55.8 284 24 42.9 345 57 38	Moose-a-bec..... Ryefield..... Howard.....	Feet. 14245.1 19662.7 7163.6	4.153665 4.293643 3.855130
Bucks, 1862.....	44 39 20.155 67 22 54.351	622.1 1197.6	21 16 21 148 27 38 165 58 42	201 15 45 328 24 37 272 08 00	...do..... Indian Hill..... Dwelleay..... Davis.....	Feet. 3099.5 10843.0 8307.5 12767.2	3.491288 4.035151 3.919469 4.106096

GEOGRAPHIC POSITIONS—Continued.

EAST OF MOUNT DESERT—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Principal points—Continued.</i>							
Starboard, 1862.....	44 36 14.599 67 24 17.041	450.6 375.8	39 38 57.9 93 27 19.0 122 12 50.4 193 48 58.6 250 10 32.3 323 35 37.1	219 34 01.9 273 18 46.0 302 01 42.2 13 49 20.9 70 18 17.2 143 37 10.2	Moose-a-bec... Ryefield.... Mitten Mount... Howard..... Davis..... Libby Id. L.H.	14605.4 16134.3 24730.5 2923.9 15498.9 4931.3	4.164512 4.207750 4.393233 3.465066 4.190302 3.692958
Howard, 1859.....	44 37 46.582 67 23 45.364	1437.9 999.8	171 56 13.08 253 23 31.24	351 53 12.04 73 47 20.36	Cooper..... Grand Manan.	40123.81 46649.31	4.6034021 4.6888452
Dwelley, 1862.....	44 43 41.254 67 24 25.817	1273.4 568.1	107 52 33 300 00 10 355 20 37	287 50 36 120 08 01 175 21 05	Indian Hill... Davis..... Howard.....	3845.0 17059.8 10884.2	3.584900 4.231974 4.040768
Peterson, 1882.....	44 41 13.348 67 24 56.002	412.0 1233.3	294 05 11.9 322 30 09.8 346 17 21.7	114 08 59.1 142 31 35.4 166 18 11.4	Sprague..... Bucks..... Howard.....	7799.3 4403.3 6589.4	3.892055 3.643776 3.817528
Bryant, 1883.....	44 36 31.542 67 26 06.005	973.6 132.4	163 56 09.6 190 02 57.8 233 13 32.9	343 55 25.6 10 03 47.0 53 15 11.7	Marstin..... Peterson..... Howard.....	4986.6 8834.5 3870.4	3.697808 3.946180 3.588755
Little Kennebec, 1863.	44 38 59.819 67 26 40.372	1846.4 889.6	300 21 28.7 326 06 46.0 328 12 22.2 37 41 46.6	120 23 31.6 146 09 59.8 148 14 02.9 217 38 53.9	do..... Libby Id. L.H. Starboard.... Rogue.....	4470.8 10921.8 5990.4 8870.4	3.650381 4.038293 3.778108 3.947945
Marstin, 1883.....	44 39 06.778 67 27 08.627	209.2 190.1	216 46 30.0 298 54 17.7	36 48 03.2 118 56 40.5	Peterson..... Howard.....	4878.5 5118.2	3.688284 3.709116
Indian Hill, 1862.....	44 44 19.455 67 27 12.140	600.5 287.1	41 10 02.0 83 59 57.2 252 49 30.1 297 44 53.5 339 23 55.8	221 03 31.4 263 50 51.3 72 56 38.4 117 54 42.1 159 26 21.2	Ryefield.... Mitten Mount... Bell..... Davis..... Howard.....	18600.8 17164.1 13998.6 20834.7 12854.0	4.269531 4.234620 4.146084 4.318787 4.112403
Cooper (or Western Ridge), 1859.	44 59 13.477 67 28 02.254	416.0 49.4	242 57 02.82 297 37 17.96	63 13 20.02 118 04 12.81	Chamcook.... Grand Manan.	33878.88 56831.51	4.5299291 4.7545892
Kel, 1913.....	44 31 56.770 67 34 06.604	1752.3 145.8	56 30 39.4 74 20 42.8 94 59 44.4	236 28 31.0 254 17 28.3 274 57 37.0	Beals..... Pomp..... Norton.....	4853.8 6364.2 4026.3	3.686078 3.803742 3.604908
Moose-a-bec, 1861....	44 30 10.061 67 31 18.907	310.6 417.6	79 54 10.5 106 40 28.5 126 59 08.1	259 38 42.0 286 21 24.2 306 46 03.1	Pigeon..... Burke..... Epping east base.	29762.4 37557.4 30847.0	4.4736682 4.5746957 4.4892130
Moose-a-bec Reach Light, 1913.	44 31 46.986 67 34 20.439	1450.3 451.3	57 35 06.7 115 17 25.1	237 33 07.9 295 17 05.5	Mitten Mount... Howard.....	27045.0 17284.1	4.4320870 4.2376465
			225 19 28.4	45 19 38.1	Kel.....	429.6	2.633052
Alley, 1913.....	44 30 55.072 67 34 51.404	1699.9 1135.2	126 43 30.8 207 26 49.0	306 41 54.8 27 27 20.4	Norton..... Kel.....	3770.2 2146.1	3.576368 3.331646
Crumple, 1862.....	44 26 34.407 67 35 57.004	1062.0 1260.6	68 31 49.1 101 28 28.8	248 20 40.1 281 22 14.1	Petit Manan Lighthouse. Nash Island L. H. (old).	22750.0 12073.7	4.356963 4.081841
Ryefield, 1862.....	44 36 45.453 67 36 27.439	1403.0 605.0	56 48 21.8 158 19 21.5 263 31 03.7 330 48 40.2	236 42 29.8 338 16 46.7 83 39 59.1 150 52 16.7	White..... Mitten Mount... Howard..... Moose-a-bec...	13227.5 13127.4 16906.6 13975.8	4.121479 4.118178 4.228057 4.145376

TRIANGULATION IN MAINE.

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GEOGRAPHIC POSITIONS—Continued.

EAST OF MOUNT DESERT—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Principal points—Continued.</i>							
Norton, 1862.....	44 32 08.089 67 37 08.273	249.7 182.7	52 23 39 97 23 12 154 34 50 295 14 29 351 18 00 0 38 50	232 18 15 277 17 50 334 34 07 115 18 34 171 18 50 180 39 49	Nash Island L. H. (old). White..... Kelly..... Moose-a-beo..... Crumple..... Beals.....	Meters. 12946.9 10252.8 3196.9 5852.6 10419.4 3029.0	4.112167 4.010842 3.504727 3.931081 4.017846 3.481304
Beals, 1862.....	44 30 29.964 67 37 09.862	924.9 217.8	113 13 10 167 15 51 274 29 48 347 30 19	293 07 49 347 15 09 94 33 54 167 31 10	White..... Kelly..... Moose-a-beo..... Crumple..... Beals.....	11025.7 6065.4 7776.9 7447.1	4.042407 3.782863 3.890802 3.871986
Kelly, 1862.....	44 33 41.628 67 38 10.455	1284.9 230.7	39 27 42.8 79 52 20.1 201 48 55.9 305 39 47.5	219 23 01.2 259 47 40.6 21 50 08.2 125 44 36.1	Nash Island L. H. (old). White..... Ryefield..... Moose-a-beo.....	13975.6 8984.3 6112.3 11190.2	4.145369 3.951061 3.786207 4.048837
Pomp, 1913.....	44 31 01.041 67 38 44.072	32.1 973.3	225 37 07.7 294 44 23.9	45 38 14.9 114 45 30.0	Norton..... Beals.....	2959.4 2291.3	3.471210 3.360085
Doy, 1913.....	44 31 35.441 67 38 50.765	1094.0 1121.0	245 59 10.4 312 11 44.0 352 04 28.9	66 00 22.3 132 12 54.8 172 04 33.6	Norton..... Beals..... Pomp.....	2477.3 3008.5 1072.1	3.393981 3.478347 3.030216
Moose, 1862.....	44 33 21.522 67 39 19.556	664.3 431.6	82 32 11 211 04 52 247 51 02 331 35 03	262 28 21 31 06 54 67 51 51 151 36 34	White..... Ryefield..... Kelly..... Beals.....	7331.9 7351.3 1646.5 6020.2	3.865216 3.866362 3.216567 3.779609
Mitten Mount, 1850..	44 43 20.595 67 40 07.767	635.7 170.9	295 22 52.6 30 41 45.4 60 38 15.8 65 39 19.5	115 34 23.3 210 32 26.2 240 25 20.8 245 32 24.8	Howard..... Pigeon..... Burke..... Epping East Base.	23968.8 34494.9 27898.2 14258.3	4.3796468 4.5377546 4.4455769 4.1504671
Look, 1862.....	44 35 29.243 67 44 07.572	902.6 167.0	10 32 45.3 76 01 10.1 98 53 31.0	190 32 16.3 255 55 31.9 278 52 35.5	White..... Wallace..... Wass.....	4982.9 10962.5 1766.5	3.697482 4.039910 3.247112
Cape Split 2, 1881....	44 29 55.939 67 44 34.160	1726.7 754.7	128 50 07.0 156 01 23.3 176 32 53.0 253 40 12.7	308 48 24.8 336 00 02.4 356 32 42.7 73 41 04.8	Ripley 2..... Ward..... White..... Otter Cove.....	4132.1 6268.4 5399.1 1712.3	3.616176 3.797159 3.732324 3.233571
White, 1861.....	44 32 50.538 67 44 48.887	1560.0 1079.1	25 12 00.1 48 05 16.4 107 36 25.2 153 22 35.8	205 07 02.8 227 59 15.2 287 26 48.9 333 18 59.1	Petit Manan Lighthouse..... Pigeon..... Burke..... Epping East Base.	22064.2 15310.6 19046.4 16169.7	4.343688 4.184991 4.278859 4.180976
Nash Island Light-house (old), 1861.	44 27 51.874 67 44 52.270	1601.2 1155.4	40 56 06.0 84 54 29.1 139 54 54.9 180 27 50.9 256 34 15.7	220 51 11.3 264 48 30.5 319 49 48.2 0 27 53.3 76 43 45.5	Petit Manan Lighthouse..... Pigeon..... Wallace..... White..... Moose-a-beo.....	14223.9 11363.7 14988.6 9219.2 18473.2	4.153020 4.055520 4.175760 3.964691 4.266542
Nash Island Light-house, 1902.	44 27 51.781 67 44 52.436	1598.4 1159.2	40 55 53.6 84 55 16.4	220 50 59.1 264 49 17.9	Petit Manan Lighthouse..... Pigeon.....	14219.3 11359.8	4.1528795 4.0553698
Con, 1913.....	44 35 13.890 67 45 08.619	428.7 190.1	151 53 47.5 191 06 38.7	331 53 34.8 11 07 01.5	Wass..... Addison Point church spire.	846.5 3723.6	2.927640 3.570961
Wass, 1862.....	44 35 38.081 67 45 26.698	1175.4 588.9	350 49 54.3 71 47 50.7	170 50 20.8 251 43 07.9	White..... Wallace.....	5238.5 9360.1	3.719205 3.971281

GEOGRAPHIC POSITIONS—Continued.

EAST OF MOUNT DESERT—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Principal points—Continued.</i>							
Ward, 1881.....	44 33 01.478 67 46 29.562	45.6 652.6	214 28 17.7 278 37 50.3	34 29 57.3 98 39 00.9	Look..... White.....	Meters. 5533.5 2247.8	3.743000 3.351754
Ripley 2, 1881.....	44 31 19.861 67 46 59.911	613.0 1323.0	192 03 20.6 206 16 42.1 225 55 59.0	12 03 41.9 26 18 43.0 45 57 30.9	Ward..... Look..... White.....	3207.4 8586.2 4025.3	3.506152 3.933800 3.604795
Traf, 1913.....	44 29 21.429 67 49 39.157	661.4 865.3	5 17 48.0 52 46 21.8	185 17 37.1 232 43 44.1	Narraguagus Lighthouse. Pigeon.....	3707.2 6249.4	3.569051 3.795838
Epping East Base, 1859.	44 40 09.760 67 49 57.485	301.3 1266.3	10 52 27.62 41 44 28.70 55 19 10.54 81 05 55.19 106 56 23.52	190 50 02.54 221 27 53.11 235 18 10.30 260 54 52.72 286 51 37.26	Pigeon..... Mount Desert. Burke..... Tunk..... Epping West Base.	24288.39 47244.80 13751.30 21027.07 8715.942	4.3843246 4.6743540 4.1383436 4.3227788 3.9403143
Traftons half-tide ledge beacon, 1913.	44 29 57.042 67 50 09.071	1760.7 200.4	328 58 50.4 23 27 00.4 41 28 43.2	148 59 11.4 203 25 31.4 221 26 26.5	Traf..... Bois Bubert. Pigeon	1282.7 7062.2 6514.2	3.108112 3.848941 3.813864
Petit Manan Light- house, 1860.	44 22 03.531 67 51 53.167	109.0 1177.2	82 59 37.1 86 33 44.7 104 27 20.5 161 11 03.5 168 18 53.2	262 51 42.0 266 18 32.7 284 17 31.0 341 04 25.4 348 17 46.9	Schoodic..... Mount Desert. Ash..... Burke..... Pigeon	15164.4 28943.9 19253.0 27151.2 9940.1	4.1808251 4.4615573 4.2844989 4.4337890 3.9973904
Wallace, 1861.....	44 34 03.159 67 52 09.645	97.5 212.8	112 33 39.4 194 25 35.7	292 29 12.3 14 27 08.5	Burke..... Epping East Base. White..... Pigeon	9089.0 11685.2 9982.7 12557.1	3.958518 4.067636 3.999248 4.099927
Bois Bubert, 1861....	44 28 27.123 67 52 16.156	837.2 357.3	136 42 50.4 180 35 05.1 219 49 06.6 255 01 53.9	316 42 02.8 0 35 09.6 39 54 20.0 75 07 04.8	Pigeon	2194.9	3.341422
				356 25 12.0	Wallace..... White..... Nash Island L. H. (old). Petit Manan Lighthouse.	14077.2 15418.2 10157.0 8152.1	4.148517 4.188034 4.006767 3.911267
Pigeon, 1855.....	44 27 18.881 67 53 24.225	582.8 535.7	66 52 25.08 159 01 44.54 243 33 57.30	246 38 16.04 338 52 26.75 63 54 45.06	Mount Desert..... Humpback..... Howard.....	29223.47 48679.59 43789.96	4.4657318 4.6873469 4.6413745
Eagle Hill, 1861.....	44 27 33.730 67 55 46.627	1041.1 1030.8	21 56 12.0 41 53 07.4 278 16 07.7 333 06 05.8	201 54 35.2 221 51 05.5 98 17 47.5 153 08 49.1	Bee..... Newman..... Pigeon	8191.3 5769.8 3181.5	3.913352 3.761162 3.502632
Dyer, 1861.....	44 24 43.236 67 56 02.938	1334.6 65.0	49 07 37.8 54 30 03.6 105 28 43.9	229 06 12.5 234 05 03.0 285 26 53.5	Bee..... Schoodic..... Newman.....	3569.5 11692.5 3622.8	3.552606 4.067906 3.559039
Epping West Base, 1859.	44 41 31.857 67 56 16.139	983.3 355.3	15 55 08.59 64 56 54.22 144 28 35.88 351 47 06.51	195 53 34.38 244 50 17.80 324 21 18.01 171 49 07.17	Burke..... Tunk..... Humpback..... Pigeon	10781.29 13719.18 23488.76 26000.94	4.0326708 4.1373282 4.3708600 4.4248969
Bee, 1861.....	44 23 27.543 67 58 04.886	850.2 108.1	56 49 45.9 101 53 42.5 143 27 57.7 220 58 43.8 287 27 16.9	236 46 10.6 281 48 12.9 323 25 43.1 41 02 00.3 107 31 36.8	Schoodic..... Ash..... Cromer..... Pigeon	8145.5 10647.5 7141.5 9462.3	3.910918 4.027248 3.853789 3.975996
Newman, 1861.....	44 25 14.529 67 58 40.760	448.5 901.7	37 49 15.4 125 09 25.0 241 13 59.1 346 28 48.4	217 46 05.1 305 07 35.5 61 17 40.7 186 29 18.5	Schoodic..... Cromer..... Pigeon	9823.3 4229.6 7988.6 8398.8	3.992250 3.626298 3.802200 3.851012

GEOGRAPHIC POSITIONS—Continued.

EAST OF MOUNT DESERT—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Principal points—Continued.</i>							
Burke, 1850.....	44° 35' 55.956 67° 58' 30.218	1727.2 666.4	36° 11' 51.6 160° 02' 38.2 222° 47' 16.09 265° 32' 53.98 337° 01' 29.12	216° 01' 15.87 339° 56' 55.07 03° 08' 43.98 85° 57' 18.22 157° 05' 03.60	Mt. Desert.... Humpback.... Cooper.... Howard.... Pigeon....	Metres. 34031.33 31363.13 58935.30 46095.52 17331.96	4.5318789 4.4964194 4.7705081 4.6636588 4.2388476
Prospect Harbor Lighthouse, 1902.	44° 24' 12.034 68° 00' 48.247	371.4 1067.5	28° 45' 00.9 71° 22' 25.7	208° 43' 19.9 261° 13' 27.6	Schoodic.... Mt. Desert....	6652.8 17982.7	3.823005 4.254855
Cromer, 1861.....	44° 26' 33.402 68° 01' 17.133	1031.0 378.9	14° 05' 40.9 60° 05' 00.2 168° 40' 34.3 262° 18' 28.4 303° 40' 05.2	194° 04' 20.0 240° 01' 45.1 346° 39' 55.7 82° 23' 59.6 123° 46' 39.8	Schoodic.... Ash.... Hovey.... Pigeon.... Petit Manan Lighthouse.	10513.1 7113.1 5273.8 10505.5 15004.2	4.021730 3.852056 3.722125 4.023274 4.176212
Hovey, 1860.....	44° 29' 19.658 68° 02' 12.137	606.8 268.2	44° 53' 09.1 106° 10' 51.1 287° 40' 01.3 314° 27' 20.3	224° 45' 09.3 286° 04' 39.7 107° 46' 11.2 134° 34' 33.6	Mt. Desert.... Tucker.... Pigeon.... Petit Manan Lighthouse. Schoodic....	21514.7 12186.6 12249.4 19200.7 15387.3	4.332735 4.085883 4.088115 4.283316 4.187163
Schoodic, 1860.....	44° 21' 03.041 68° 03' 12.725	98.9 281.8	90° 20' 27.1 151° 01' 43.8 228° 14' 52.2	270° 13' 10.2 330° 58' 15.2 48° 21' 44.0	Mt. Desert.... Tucker.... Pigeon....	13841.1 21400.6 17440.6	4.1411720 4.3304252 4.241561
Tunk, 1859.....	44° 38' 23.275 68° 05' 40.068	718.5 883.0	18° 16' 26.33 177° 05' 22.11 295° 35' 29.61 321° 32' 51.42	198° 10' 51.61 357° 04' 41.47 115° 40' 31.53 141° 41' 27.61	Mt. Desert.... Humpback.... Burke.... Pigeon....	33733.81 24955.95 10511.44 26161.35	4.5280654 4.3971742 4.0216623 4.4176602
Ash, 1860.....	44° 24' 38.376 68° 05' 55.777	1184.5 1234.1	57° 17' 08.5 150° 44' 00.5 253° 19' 49.7 331° 28' 46.5	287° 11' 45.4 330° 40' 26.0 73° 28' 35.9 151° 30' 40.6	Mt. Desert.... Tucker.... Pigeon.... Schoodic....	12158.2 13837.5 17345.0 7563.5	4.0848690 4.1410587 4.239175 3.878720
Humpback, 1858.....	44° 51' 50.663 68° 06' 37.785	1564.9 829.4	254° 42' 29.88 294° 28' 16.87	75° 09' 45.08 114° 58' 27.80	Cooper.... Howard....	52588.79 62300.35	4.7208632 3.7944905
Tucker, 1860.....	44° 31' 09.338 68° 11' 02.085	238.2 46.0	10° 28' 00.5 236° 49' 21.7	190° 26' 20.5 107° 01' 43.0	Mt. Desert.... Pigeon....	18961.4 24433.9	4.2778699 4.3879634
Tucker 2, 1879.....	44° 31' 10.462 68° 11' 03.163	322.9 66.9	145° 25' 12.3	325° 21' 43.6	Bragdon....	11555.1	4.062773
Baker Island Light-house, 1861–1902.	44° 14' 28.776 68° 11' 58.508	888.2 1298.3	22° 49' 02.0 80° 17' 34.2 169° 49' 30.2 223° 42' 54.3	202° 46' 57.3 260° 11' 52.7 349° 48' 30.0 43° 49' 01.4	Great Duck Id. Bass Harbor.... Mt. Desert.... Schoodic....	10249.1 11022.2 12432.8 16851.0	4.0106851 4.0422695 4.0045684 4.2268255
Hill, 1879.....	44° 30' 34.812 68° 11' 38.900	1074.5 859.4	106° 46' 14.0 122° 23' 44.0 215° 39' 17.8	286° 44' 43.4 302° 22' 35.4 35° 39' 42.9	Hancock.... Narrows.... Tucker 2....	2981.9 2561.5 1354.3	3.474489 3.408486 3.131721
Peak, 1879.....	44° 35' 11.371 68° 12' 38.546	351.0 850.3	68° 06' 33.9 147° 35' 41.3	248° 05' 25.0 327° 35' 17.2	Clarke.... Road....	2334.1 1412.2	3.368115 3.149008
Road, 1879.....	44° 35' 49.997 68° 13' 12.861	1543.3 283.6	32° 18' 00.6 34° 19' 51.3 39° 52' 47.6 40° 34' 03.9 58° 58' 44.2 341° 38' 03.8	212° 16' 13.3 214° 19' 06.5 219° 50' 11.5 220° 32' 39.8 238° 57' 11.4 161° 39' 34.8	Island.... Clarke.... Foundation.... Gordon.... Quarry.... Tucker 2....	6312.8 2497.9 7659.4 4061.8 3402.7 9090.9	3.800220 3.397568 3.884183 3.608722 3.531827 3.958607
Narrows, 1879.....	44° 31' 19.260 68° 13' 16.845	594.5 372.0	53° 29' 47.4 132° 35' 57.6 275° 14' 33.9	233° 29' 25.4 312° 34' 13.1 95° 16' 07.6	Hancock.... Island.... Tucker 2....	861.0 4463.1 2964.7	2.934989 3.649638 3.471987
Mount Desert, 1856..	44° 21' 05.234 68° 13' 37.648	161.5 833.9	189° 11' 26.68 220° 12' 01.03 244° 39' 13.91	9° 16' 21.53 40° 44' 04.08 65° 14' 10.90	Humpback.... Cooper.... Howard....	57712.25 92841.95 72984.22	4.7612860 4.9677442 4.8632200

GEOGRAPHIC POSITIONS—Continued.

EAST OF MOUNT DESERT—Continued.

Station.	Latitude and longitude.	Sec- onds in meters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points.</i>							
Ingalls, Henry, house chimney, 1887.	44° 35' 42.516 66° 45' 48.884	1312.3 1078.1	8° 57' 52.2 29° 40' 51.9 93° 11' 49.4	188° 57' 05.2 208° 37' 11.1 273° 05' 49.4	Gannet Rock Lighthouse. Yellow Ledge. SW. Head Lighthouse.	Meters. 9507.8 14049.7 11325.1	3.979080 4.147665 4.054042
North Rock, 1887....	44° 32' 16.229 67° 05' 15.946	500.9 352.0	140° 02' 17 176° 09' 30 244° 06' 23	319° 56' 41 356° 08' 38 64° 14' 03	Davis..... Trescott Rock SW. Head Lighthouse. Mach. Seal I. SE. L. H.	16447.2 24626.4 16041.5 4144.9	4.216091 4.391402 4.205245 3.617514
Seal Id. E. Light- house (old), 1862.	44° 30' 07.616 67° 06' 08.002	235.1 176.8	90° 16' 26.2 109° 18' 17.4	269° 58' 57.1 289° 07' 06.6	Moose-a-bee... Libby, I. d. s. Lighthouse.	33377.8 22361.6	4.523458 4.349503
Seal Id. NW. Light- house, 1862.	44° 30' 07.900 67° 06' 09.907	243.8 218.9	121° 22' 03.9 150° 23' 52.3 178° 59' 12.0	301° 09' 42.0 330° 18' 52.6 358° 58' 56.0	Howard..... Davis..... Trescott Rock.	27297.1 19062.6 28545.3	4.436117 4.280181 4.455535
Pond, 1883.....	44° 42' 19.393 67° 07' 48.222	598.6 1061.6	30° 53' 21.0 64° 57' 48.6 92° 25' 14.6	210° 52' 12.6 244° 55' 06.4 272° 24' 13.4	Sandy Point.. Ledge..... Hill.....	4173.2 5606.0 1916.2	3.620471 3.748655 3.282443
Little River Light- house tower, 1883. ¹	44° 39' 03.81 67° 11' 34.03	117.6 749.9	140° 39' 35 221° 00' 00	320° 39' 19 41° 00' 40	Lookout..... Hues.....	817.4 1892.7	2.912410 3.277086
Maker's house chim- ney, 1883. ¹	44° 40' 57.19 67° 11' 06.71	1765.3 147.8	295° 05' 10 21° 20' 17	115° 06' 21 201° 19' 41	Sandy Point.. Lookout.....	2461.7 3078.4	3.391241 3.488320
Colville, 1863.....	44° 39' 37.804 67° 18' 08.079	1166.9 178.0	253° 58' 33.3 285° 06' 59.6 76° 19' 30.7	74° 01' 09.8 105° 01' 46.5 256° 12' 03.0	Sandy Point.. Lookout..... Davis..... Howard.....	5101.1 1609.0 1045.0 14457.6	3.707668 3.206556 3.019103 4.160097
Ackley's house chim- ney, 1883.	44° 39' 16.493 67° 13' 13.948	500.1 307.4	212° 37' 19.1 247° 40' 43.7 261° 51' 11.9	32° 38' 25.9 67° 43' 24.3 81° 52' 06.6	Ledge..... Sandy Point.. Lookout.....	3884.4 5439.9 1700.5	3.593926 3.735587 3.230888
Methodist Church, 1883.	44° 39' 35.557 67° 13' 12.154	1097.5 267.8	253° 30' 50.9 281° 56' 07.8 4° 10' 40.6	73° 33' 30.2 101° 57' 00.2 184° 10' 38.3	Sandy Point.. Lookout..... Davis.....	5206.8 1680.2 965.8	3.716568 3.225354 3.250922
Old man, 1863.....	44° 37' 10.270 67° 14' 13.668	317.0 301.3	95° 08' 16.7 181° 22' 56.2 200° 02' 54.1	275° 01' 35.2 1° 22' 58.1 20° 03' 35.1	Howard..... Dennison..... Davis.....	12652.9 2415.8 3748.7	4.102189 3.383060 3.573882
Turner's house chim- ney, 1883. ¹	44° 40' 10.94 67° 15' 01.37	337.7 30.2	336° 41' 15 82° 18' 47	156° 41' 38 262° 15' 20	Huntley..... Ramsdell.....	1830.7 2739.3	3.262607 3.437637
House chimney, with frame of barn to east, 1863. ¹	44° 40' 08.75 67° 15' 49.55	270.1 1091.6	300° 19' 04 324° 58' 12	120° 20' 52 144° 57' 21	Davis..... Dennison.....	3936.2 3779.8	3.595082 3.577473
Huntley, F., house chimney, 1883. ¹	44° 39' 03.02 67° 16' 26.07	93.2 574.5	153° 50' 47 260° 52' 47	333° 50' 20 80° 54' 09	Ramsdell..... Huntley.....	1925.2 2623.9	3.284487 3.418044
Thornton Pt. Ledge Beacon, 1913.	44° 37' 20.676 67° 16' 35.244	638.2 777.0	94° 51' 45.6 113° 51' 12.8 239° 23' 36.7 358° 36' 41.2	274° 46' 43.5 293° 46' 46.4 59° 24' 18.7 178° 36' 42.1	Howard..... Bucks..... Holway..... Cross Id. L. S. S. flagstaff.	9515.5 9133.1 1532.7 1198.2	3.978431 3.960620 3.185445 3.078641

1 No check on this position.

GEOGRAPHIC POSITIONS—Continued.

EAST OF MOUNT DESERT—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Supplementary points—Continued.</i>							
Ramsdell's house chimney, 1883.	44 39 57.935 67 17 06.474	1788.3 142.6	254 32 06.5 287 58 19.2 290 10 20.8	74 35 56.8 108 01 01.7 110 12 11.9	Ledge..... Davis..... Huntley.....	7485.9 5354.1 3708.4	3.874245 3.728688 3.560191
Hoyts Ridge, 1882.	44 40 26.528 67 18 24.507	818.8 539.8	81 59 36.2 115 15 41.2 173 22 32.0	261 57 40.6 295 13 30.8 353 22 25.6	Round Island..... Long Point.... Ackley.....	3659.2 4517.0 1767.7	3.563389 3.654849 3.247406
Holmes Bay church spire, 1913.	44 42 16.859 67 19 42.083	520.4 926.6	338 08 06.0 13 04 50.3 37 50 30.0	158 10 18.2 193 04 08.9 217 48 14.8	Cross Id. L. S. S. flagstaff. Avery Rock Lighthouse. Bucks.....	11140.5 5736.0 6905.2	4.046905 3.758606 3.839176
SW. Head, Cross Island, 1885. ¹	44 35 52.32 67 18 53.50	1615.0 1179.9	52 05 35 118 45 16	232 03 21 298 41 51	Libby Island Light. Howard.....	5339.2 7338.6	3.727479 3.865614
Chaney, 1882.	44 39 01.540 67 19 52.062	47.5 1147.2	98 09 32.2 141 15 52.5 205 40 01.3	278 07 24.1 321 14 58.3 25 40 14.8	Bucks..... Round Island..... Sprague.....	4057.5 2708.7 978.2	3.608200 3.432757 2.990433
Hog Island, 1882.	44 40 55.160 67 19 57.737	1702.6 1271.6	48 23 20.7 53 00 32.1 94 54 52.9 169 02 25.7	228 22 30.6 232 58 28.0 274 51 23.2 349 02 07.9	Round Island..... Bucks..... Peterson..... Lowell.....	2099.7 4572.0 6592.5 2935.0	3.322150 3.687704 3.819047 3.467606
Yellow Head, 1882.	44 38 29.095 67 21 15.834	898.1 349.0	68 18 14.1 205 58 24.1 230 18 26.1	248 16 29.0 305 58 14.9 50 19 38.5	Howard..... Bucks..... Sprague.....	3547.4 3682.7 2949.3	3.549913 3.428577 3.469713
Salt Island, 1882.	44 40 00.830 67 21 34.814	25.6 766.9	34 46 55.7 116 49 16.0 289 25 38.3	214 45 23.9 296 46 54.5 109 27 04.0	Howard..... Peterson..... Sprague.....	5044.6 4964.5 2849.8	3.702828 3.658578 3.454819
Harmon Spruce, 1882	44 42 44.524 67 21 56.128	1374.3 1235.5	14 40 20.8 299 18 57.3 346 09 37.0 347 43 23.8	194 39 04.0 119 21 19.6 166 09 55.3 167 43 56.9	Howard..... Ackley..... Long Point..... Round Island.....	9506.4 5110.6 2403.1 4881.9	3.978016 3.708468 3.380770 3.688592
Stone Island Ledge Beacon, 1913. ¹	44 35 50.19 67 22 01.02	1549.2 22.5	195 31 14 239 30 21	15 32 10 59 33 06	Avery Rock Lighthouse. Quaker flagstaff.	6588.7 5997.9	3.818802 3.778002
Mountain Head, 1882.	44 38 52.763 67 22 12.363	1628.6 272.5	45 06 19.4 132 25 43.2 210 20 55.0	225 05 14.0 312 25 13.7 30 21 39.5	Howard..... Bucks..... Round Island.....	2893.9 1253.4 2762.3	3.461481 3.080779 3.441271
Stone, 1882.	44 35 37.177 67 22 27.167	1147.5 599.2	156 39 34.2 175 01 35.8 243 35 28.5	336 38 39.3 355 01 16.8 63 37 39.2	Howard..... Bucks..... NW. Head, Cross Island.	4350.7 6908.9 4580.2	3.638557 3.839406 3.660882
Birch Point, 1882.	44 40 39.047 67 22 36.597	1205.3 806.0	15 53 40.0 109 02 30.0 221 00 46.2	195 52 51.7 289 00 52.0 41 20 20.1	Howard..... Peterson..... Lowell.....	5535.0 3247.6 4478.7	3.743121 3.511564 3.661163
Fletcher, 1882.	44 41 50.875 67 22 56.062	1570.4 1234.4	359 32 09.3 66 19 44.8 250 57 18.8	179 32 10.6 246 18 20.5 70 59 06.4	Bucks..... Peterson..... Lowell.....	4652.6 2883.9 3562.6	3.667693 3.459980 3.551761
Machiasport, old church opposite, 1862. ¹	44 42 04.63 67 23 08.31	142.9 183.0	127 49 07 150 14 19	307 46 16 330 13 25	Indian Hill..... Dwolley.....	6791.2 3436.1	3.831948 3.536072
Machiasport town hall, 1882. ¹	44 41 51.81 67 23 40.68	1599.2 895.7	313 14 35 347 41 56	133 16 21 167 42 29	Round Island..... Bucks.....	4586.5 4791.1	3.661484 3.680431
Machiasport high school, 1882.	44 41 43.449 67 23 56.296	1341.1 1239.6	277 54 20.5 308 02 50.6 342 51 02.8	97 56 03.4 128 04 48.3 162 51 46.5	Long Point.... Round Island..... Bucks.....	3251.8 4679.5 4628.8	3.512126 3.670202 3.665472

1 No check on this position.

GEOGRAPHIC POSITIONS—Continued.

EAST OF MOUNT DESERT—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
Foster Island, 1882 ^{1..}	44 35 17.38 67 23 41.85	536.5 923.2	125 46 14 179 02 15	305 44 33 359 02 13	Bryant..... Howard.....	Meters. 3917.7 4606.3	3.593033 3.663349
Robinson's house cupola, 1882.	44 41 23.970 67 23 55.118	739.9 1213.8	76 15 50.6 301 57 29.8 340 41 34.8	256 15 07.8 121 59 26.6 160 42 17.6	Peterson..... Round Island..... Bucks.....	1380.2 4312.8 4049.5	3.139954 3.634764 3.670403
Larrabee Cove church spire, 1882.	44 40 15.151 67 23 38.660	467.7 851.6	226 16 29.5 272 45 22.0 330 05 48.0	46 18 47.0 92 47 07.2 150 06 19.2	Lowell..... Round Island..... Bucks.....	5957.5 3300.4 1958.2	3.775065 3.518572 3.291866
Gray, 1883.....	44 37 32.725 67 24 25.614	1010.1 564.7	128 57 23.1 244 15 32.4 49 32 14.3	308 55 28.6 64 16 00.7 229 31 03.8	Marstain..... Howard..... Bryant.....	4619.1 985.0 2909.6	3.664561 2.993433 3.463838
Scabby, 1883.....	44 34 23.173 67 24 26.687	715.3 588.8	151 04 20.4 157 49 33.2 188 15 16.8	331 03 10.6 337 47 39.5 8 15 45.8do..... Marstain..... Howard.....	4527.7 9454.4 6344.5	3.655877 3.975635 3.802399
Point of Main, 1883 ^{1..}	44 35 51.52 67 24 32.30	1590.3 712.4	120 52 46 150 15 18	300 51 40 330 13 28	Bryant..... Marstain.....	2407.5 6942.8	3.381572 3.841534
No. 3, 1883 ^{1..}	44 36 34.70 67 25 16.48	1071.1 363.4	84 53 49 152 14 19	264 53 14 332 13 00	Bryant..... Marstain.....	1096.4 5305.3	3.030988 3.724710
White house, west chimney, 1863. ¹	44 40 12.87 67 25 53.33	387.3 1174.8	328 00 20 24 41 24	148 01 50 204 40 51	Howard..... Little Kennebec.	5323.7 2481.8	3.726216 3.394765
New barn, north gable, 1863. ¹	44 36 47.21 67 26 07.44	1457.2 164.0	169 56 46 239 39 12	349 56 23 59 40 52do..... Howard.....	4157.3 3629.0	3.618808 3.550785
Holway, 1883.....	44 40 23.332 67 26 12.011	720.2 264.6	227 18 30.3 326 14 57.0 27 49 55.7	47 19 28.7 146 16 40.1 207 49 16.0	Peterson..... Howard..... Marstain.....	2277.3 5818.3 2672.1	3.357416 3.764799 3.426845
Narrow Mt., 1885.....	44 38 55.710 67 26 12.788	1719.6 281.8	105 31 21.4 201 42 06.4 303 16 47.4	285 30 42.2 21 43 00.4 123 18 31.0do..... Peterson..... Howard.....	1277.0 4572.9 3887.2	3.106183 3.660195 3.589637
Burnham, Capt., house chimney, 1862. ¹	44 43 16.96 67 26 43.68	523.5 961.3	162 01 01 256 06 21	342 00 41 76 07 58	Indian Hill.... Dwelley.....	2028.1 3125.3	3.307084 3.494837
Old road, 1885.....	44 41 25.700 67 27 08.396	793.3 74.8	219 38 36.0 277 43 37.9	39 40 27.2 97 45 07.5do..... Peterson..... Marstain.....	5435.2 2831.1 4289.8	3.735212 3.451958 3.632435
Machias town hall cupola, 1862. ¹	44 43 02.66 67 27 24.18	82.1 532.2	186 22 36 253 05 58	6 22 44 181 32 19.6	Indian Hill.... Dwelley.....	2385.4 4102.2	3.377553 3.618020
Machias, white spire, 1862.	44 42 57.620 67 27 30.684	1778.6 675.4	189 10 29 251 39 54 332 38 33	9 10 42 71 42 04 152 41 11	Indian Hill.... Dwelley..... Howard.....	2558.9 4285.7 10808.0	3.408045 3.632023 4.033746
Thaxton's house, south chimney, 1885. ¹	44 40 50.08 67 27 32.11	1545.8 707.2	258 10 55 350 46 53	78 12 45 170 47 10	Peterson..... Marstain.....	3512.2 3230.3	3.545584 3.508240
Porter, 1885 ^{1..}	44 42 45.70 67 27 13.65	1410.6 300.5	180 39 34 245 04 45	0 39 35 65 06 43	Indian Hill.... Dwelley.....	2894.4 4072.6	3.461558 3.609870
Dublin Hill church, 1885. ¹	44 42 37.70 67 27 35.57	1163.7 783.0	189 19 14 244 49 07	9 19 30 64 51 20	Indian Hill.... Dwelley.....	3183.2 4614.2	3.502864 3.664098
Yellow house, east chimney (painted whitish-gray in 1913), 1863. ¹	44 40 50.23 67 27 32.09	1550.4 706.8	318 35 22 341 30 35	138 38 02 161 31 11	Howard..... Little Kennebec.	7555.8 3593.5	3.878281 3.555512
Marshfield church, 1885. ¹	44 44 02.34 67 28 35.00	72.2 770.1	276 44 42 322 52 36	96 47 37 142 53 33	Dwelley..... Porter.....	5521.7 2966.9	3.742075 3.472298

1 No check on this position.

GEOGRAPHIC POSITIONS—Continued.

EAST OF MOUNT DESERT—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
Roque, 1862	44 35 12.360 67 30 46.257	381.5 1020.4	44 12 26.2 74 05 44.7 76 50 03.3 110 56 04.0 140 40 14.9 242 48 18.6 4 25 12.5	224 07 57.0 254 00 32.9 256 40 11.9 290 52 04.4 320 33 40.3 62 53 14.2 184 24 49.6	Beals..... Kelly..... White..... Ryefield..... Milten..... Howard..... Moose-a-bec.....	12152.6 10193.2 19102.6 8054.6 19498.6 10430.9 9358.9	4.084668 4.008309 4.281092 3.906048 4.290004 4.018320 3.971225
Harkins Ridge, 1885..	44 41 37.358 67 31 55.233	1153.1 1216.2	231 12 25.6 248 49 12.6 306 20 07.4	51 15 44.8 68 54 28.8 126 23 28.5	Indian Hill..... Dwelly..... Marstin.....	7991.4 10606.2 7839.6	3.902621 4.025561 3.894293
Moose Peak Light- house, 1862.	44 28 28.003 67 31 57.363	867.1 1267.8	85 49 48.9 115 29 59.2 195 06 17.3 231 24 16.5	265 34 47.6 295 20 58.4 15 06 44.3 51 31 12.3	Pigeon .. White..... Moose-a-bec..... Libby Id.L.H.	28526.8 18868.9 3260.1 16741.1	4.455253 4.275747 3.513233 4.223785
Mark, 1862.....	44 31 51.454 67 32 11.325	1588.2 250.1	69 08 50.0 113 15 11 148 06 49 153 46 09 225 28 12 339 41 49	249 05 20 293 10 59 328 03 49 333 40 35 45 34 08 159 42 25	Beals..... Kelly..... Ryefield..... Milten..... Howard..... Moose-a-bec.....	7056.7 8626.3 10690.7 23723.7 15644.9 3336.9	3.848603 3.935827 4.029005 4.375182 4.194373 3.523342
Moose Rock Tripod, 1913.	44 31 14.575 67 32 24.232	449.9 535.1	79 31 17.0 111 18 33.6	259 29 33.8 291 17 12.1	Alley..... Moose-a-bec Reach Light..... Kel.....	3305.6 2754.3 2609.0	3.519255 3.440007 3.416466
Gilchrist Rock Bea- con, 1913.	44 31 53.773 67 32 52.563	1659.8 1160.6	55 23 23.9 83 50 45.0	235 22 00.6 263 49 43.4	Alley..... Moose-a-bec Reach Light..... Kel.....	3189.1 1951.6 1637.4	3.503673 3.290999 3.214167
Sawyer, 1862.....	44 37 33.761 67 32 58.668	1042.1 1283.3	72 04 12.3 138 36 11.4 208 05 15.3 350 51 31.1	252 01 45.6 318 31 09.7 88 11 44.0 170 52 41.1	Ryefield..... Milten..... Howard..... Moose-a-bec.....	4838.4 14281.1 12203.4 13871.6	3.684698 4.154761 4.086478 4.142127
Rogers, 1862.....	44 35 57.091 67 33 34.694	1762.2 765.1	111 24 58.1 147 43 19.1 255 21 47.2 344 21 17.5	291 22 56.8 327 38 42.8 75 28 41.2 164 22 52.8	Ryefield..... Milten..... Howard..... Moose-a-bec.....	4091.5 16190.1 13426.4 11123.3	3.611878 4.209490 4.127961 4.046232
Channel Rock Bea- con, near Jones- port, 1913.	44 30 05.912 67 33 52.150	182.5 1152.0	131 03 51.3 139 13 33.3 174 40 17.6	311 01 33.8 319 12 51.8 354 40 07.5	Norton..... Alley..... Kel.....	5743.1 2003.9 3436.7	3.759147 3.301882 3.536144
Emms Rock Beacon, 1913.	44 31 44.684 67 33 59.146	1379.3 1306.0	37 00 24.7 98 35 36.2	216 59 48.1 278 35 21.3	Alley..... Moose-a-bec Reach Light..... Kel.....	1917.5 475.5 407.8	3.282743 2.677150 2.610435
Snows Rock Beacon, 1913.	44 31 38.670 67 34 24.500	1193.6 541.0	59 52 20.9 199 15 24.0	239 50 25.0 19 15 27.0	Beals..... Moose-a-bec Reach Light..... Kel.....	4223.2 271.9 684.3	3.625640 2.434374 2.835259
Woodard, 1862.....	44 33 34.745 67 34 41.915	1072.5 925.1	324 37 31 29 48 54 92 39 48	144 39 53 209 47 10 272 37 27	Moose-a-bec..... Beals..... Kelly.....	7746.6 6572.8 4607.2	3.889111 3.817752 3.663436
Kelley school cupola flagstaff, 1913.	44 31 56.447 67 34 48.435	1742.4 1069.4	49 29 37.5 96 39 09.0 269 22 35.1	229 27 58.3 276 37 30.9 89 23 04.4	Beals..... Norton..... Kel.....	4106.7 3108.4 923.7	3.613703 3.492533 2.965526
Rake, 1862.....	44 28 43.600 67 35 12.885	1345.8 284.8	13 44 53 120 58 58 156 55 44 242 40 25	193 44 22 300 52 15 336 53 40 62 43 09	Crumple..... White..... Kelly..... Moose-a-bec.....	4105.3 14830.9 10000.2 5818.1	3.613345 4.171168 4.000010 3.764781
Three Falls Life Sav- ing Station cupola, 1913.	44 28 12.360 67 35 38.783	381.5 857.2	87 04 58.9 105 10 28.2 154 39 22.5	266 58 31.1 285 04 13.1 334 38 18.7	Nash Id. L. H. (new)..... Cape Split 2..... Beals.....	12254.9 12255.2 4700.1	4.088310 4.088320 3.672105

GEOGRAPHIC POSITIONS—Continued.

EAST OF MOUNT DESERT—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
Sawyers Cove church spire, 1913.	44 31 58.397 67 35 46.477	1802.5 1026.2	34 00 46.0 65 43 17.0 99 24 47.9 271 17 41.6	213 59 47.6 245 41 12.5 279 23 50.5 91 18 51.6	Beals..... Pomp..... Norton..... Kel.....	3292.8 4302.9 1830.6 2205.7	3.517560 3.633760 3.262596 3.343555
Jonesport church spire, 1862.	44 32 01.764 67 35 49.242	54.4 1087.3	32 09 01 96 23 31 236 14 47 299 58 48	212 08 05 276 22 36 56 23 16 120 01 58	Beals..... Norton..... Howard..... Moose-a-bee..	3346.5 1755.8 10191.6 6894.5	3.524592 3.244483 4.283111 3.838502
Beals north church spire, 1913.	44 31 09.478 67 36 53.453	292.6 1180.4	83 55 34.4 169 44 52.2 248 22 12.4	263 54 16.8 349 44 41.8 68 24 09.3	Pomp..... Norton..... Kel.....	2456.9 1838.5 3963.1	3.380390 3.264468 3.598031
Beals south church spire, 1913.	44 31 00.079 67 36 49.660	2.4 1096.7	90 41 03.7 168 55 25.2 244 03 54.8	270 39 43.5 348 55 12.2 64 05 49.1	Pomp..... Norton..... Kel.....	2527.1 2139.1 4003.4	3.402617 3.330237 3.602432
Beals school cupola, 1913.	44 31 13.023 67 36 50.601	402.0 1117.4	81 36 55.6 167 04 18.1 249 32 05.2	261 35 36.0 347 04 05.7 69 34 00.1	Pomp..... Norton..... Kel.....	2533.2 1743.9 3865.0	3.403664 3.241530 3.587147
Underwood cannery factory chimney, 1913. ¹	44 31 40.34 67 36 59.51	1245.2 1314.1	262 24 57 6 00 28	82 26 59 186 00 20	Kel..... Beals.....	3851.5 2184.2	3.558530 3.339301
Browny, 1862.....	44 27 47.521 67 37 03.368	1466.8 85.5	90 47 19 178 29 15 239 58 29 326 45 56	270 41 52 358 29 11 60 02 31 146 46 43	Nash Island L. H. (old). Beals..... Moose-a-bee.. Crumple.....	10355.3 5015.8 8801.7 2697.9	4.015163 3.700344 3.944558 3.431025
Union Church spire, 1913.	44 31 43.679 67 37 17.813	1348.2 393.3	264 30 51.4 355 35 10.3 55 22 02.9	84 33 05.5 175 35 15.9 235 21 02.5	Kel..... Beals..... Pomp.....	4241.3 2282.1 2315.3	3.627499 3.358341 3.364616
Indian River church No. 1, 1862.	44 34 23.165 67 38 36.426	715.0 803.7	70 51 26 212 55 19 335 54 48	250 47 05 32 56 49 155 55 06	White..... Ryefield..... Kelly.....	8703.0 5233.0 1404.4	3.939670 3.718754 8.147492
Indian River church No. 2, 1862.	44 34 24.144 67 38 38.867	745.3 857.6	70 33 05 213 35 44 334 27 43	250 28 45 33 37 16 154 28 02	White..... Ryefield..... Kelly.....	8662.2 5237.3 1454.4	3.937628 3.719109 3.162686
Pomps Ledge Beacon, 1913.	44 30 21.230 67 39 17.743	655.3 391.9	194 34 39.2 211 10 44.7 220 54 27.8	14 34 58.1 31 11 08.3 40 55 58.6	Doy..... Pomp..... Norton.....	2366.9 1436.4 4363.2	3.374181 3.157274 3.640006
Fessendens Ledge Beacon, 1913.	44 31 06.221 67 40 00.992	192.0 21.9	239 48 45.7 243 23 08.7 275 22 08.8	59 49 34.9 63 25 09.8 95 23 02.7	Doy..... Norton..... Pomp.....	1794.1 4265.4 1706.3	3.253841 3.620956 3.232064
Plummer, 1862.....	44 29 10.192 67 41 53.087	314.6 1173.1	58 37 00 210 22 57 248 29 32 262 25 30 301 23 08	238 34 55 30 25 33 68 32 50 82 32 54 121 27 17	Nash Id. L. H. (old). Kelly..... Beals..... Moose-a-bee.. Crumple.....	4639.8 9714.4 6724.4 14133.0 9224.0	3.666497 3.987416 3.827651 4.150235 3.984917
Flat, 1862.....	44 27 37.780 67 42 31.232	1166.2 690.4	97 57 25 162 31 46 207 07 38 252 22 46 282 36 36	277 55 46 342 30 09 27 10 40 72 30 36 102 41 11	Nash Island L. H. (old). White..... Kelly..... Moose-a-bee.. Crumple.....	3148.0 10121.4 12621.8 15583.6 8933.3	3.498040 4.005242 4.101122 4.192667 3.951012
Dyer's, Briggs house chimney, 1862. ¹	44 30 56.04 67 43 07.46	1729.8 164.8	11 12 12 45 55 09	191 12 03 225 54 08	Otter Cove... Cape Split 2...	1400.7 2666.5	3.146358 3.425037
Donovan's house chimney, 1862. ¹	44 30 19.36 67 43 57.58	597.6 1271.9	286 08 16 48 11 26	106 08 42 228 11 00	Otter Cove... Cape Split 2...	869.3 1084.3	2.939178 3.035145

¹ No check on this position.

GEOGRAPHIC POSITIONS—Continued.

EAST OF MOUNT DESERT—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of dis- tance.
<i>Supplementary points—Continued.</i>							
Batson's house west chimney, 1862.	44 34 36.282 67 44 16.982	1119.9 374.7	45 00 26.6 141 07 47.5 187 14 09.3	224 58 53.6 321 06 58.6 7 14 15.9	Ward..... Wass..... Look.....	Meters. 4138.1 2450.3 1647.9	3.616799 3.389223 3.216925
White house with long L. south chimney, 1862. ¹	44 36 18.33 67 44 17.42	565.8 384.1	351 50 34 50 53 22	171 50 41 230 52 33	Look..... Wass.....	1520.8 1969.3	3.184911 3.294321
Small brown house chimney, 1862. ¹	44 35 52.59 67 44 16.81	1623.3 370.7	344 12 44 73 48 01	164 12 51 253 47 12	Look..... Wass.....	749.1 1605.2	2.874527 3.205529
Addison Point church spire, 1862. ¹	44 37 12.26 67 44 36.07	378.4 795.3	348 49 01 21 00 48	168 49 21 201 00 12	Look..... Wass.....	3241.4 3114.0	3.510729 3.493324
Cape, schoolhouse chimney, 1862. ¹	44 31 03.39 67 44 06.62	104.6 146.2	327 06 53 16 17 19	147 07 26 196 17 00	Otter Cove..... Cape Split 2...	1906.0 2168.9	3.280131 3.336249
Looks, Joe, house chimney, 1862.	44 34 18.880 67 45 01.606	582.8 35.4	167 14 40 208 45 18 354 07 16	347 14 22 28 45 56 174 07 25	Wass..... Look..... White.....	2506.6 2477.6 2741.3	3.399090 3.394024 3.437955
Seavey's house chim- ney, 1881.	44 32 58.018 67 45 32.752	1790.8 722.9	347 01 45.9 32 25 47.1 94 52 26.2	167 02 27.0 212 24 46.0 274 51 46.4	Cape Split 2... Ripley 2..... Ward.....	5767.2 3589.3 1258.5	3.780968 3.555007 3.099860
Coffin Rock Beacon, 1913. ¹	44 34 55.13 67 45 02.59	1701.7 57.1	167 04 15 229 03 07	347 04 11 49 03 46	Con..... Look.....	594.1 1606.8	2.773871 3.205964
Channel Rock Bea- con, 1913. ¹	44 34 41.77 67 45 08.57	1289.3 189.1	179 56 20 222 33 13	359 56 20 42 33 56	Con..... Look.....	991.6 1989.6	2.998319 3.298755
Norton Island Bea- con, 1913. ¹	44 29 30.72 67 45 25.45	948.2 562.3	235 30 35 346 33 49	55 31 11 166 34 12	Cape Split 2... Nash Island L. H. (new).	1374.8 3139.8	3.138226 3.496907
Log, 1861.....	44 30 05.257 67 48 26.888	162.3 594.0	52 01 15.0 146 12 32.2 223 19 02.1 310 56 23.2	231 57 46.7 326 09 56.0 43 21 35.0 130 58 53.7	Pigeon..... Wallace..... White..... Nash Island L. H. (old).	8340.0 8838.2 7014.5 6280.5	3.921164 3.946366 3.845998 3.797993
Jordans Delight Ledge Beacon, 1913.	44 25 29.852 67 48 56.896	921.4 1254.2	111 51 21.9 172 31 20.7 230 55 49.3	291 49 02.2 352 30 50.9 50 58 40 3	Bois Bubert... Traf. Nash Island L. H. (new).	4752.6 7209.4 6954.5	3.676927 3.857900 3.842266
Narraguagus Light- house, 1861.	44 27 21.837 67 49 54.036	674.0 1207.9	166 28 40.6 213 37 22.9 14 57 24.2	346 27 05.9 33 40 57.2 194 58 01 2	Wallace..... White..... Petit Manan Lighthouse.	12741.5 12188.7 10169.0	4.105221 4.085958 4.007278
Foster, 1861.....	44 31 37.571 67 50 01.901	1159.7 42.0	29 15 43.9 125 27 42.0 147 54 16.9 180 21 09.3	209 13 22.1 305 21 45.3 327 52 47.3 0 21 12.4	Pigeon..... Burke..... Wallace..... Epping East Base.	9151.2 13764.0 5305.3 15810.3	3.961479 4.138745 3.724713 4.198839
Pond Island, house, cupola flagstaff, 1913.	44 27 45.167 67 50 18.252	1394.2 403.4	47 16 17.1 78 51 17.2 198 12 37.7	227 14 54.5 258 49 06.9 16 13 05.1	Bois Bubert... Pigeon..... Traf.	3549.5 4190.7 3094.4	3.550168 3.622288 3.490575
Mill River church, 1861.	44 35 52.596 67 50 43.550	1623.5 960.5	12 37 41 29 21 22 103 19 45	192 35 48 209 20 21 283 09 14	Pigeon..... Wallace..... Tunk.	16249.0 3875.4 20305.5	4.210826 3.588311 4.307614
Fort, 1861.....	44 32 34.790 67 50 43.016	1073.9 962.9	20 00 39.7 121 08 23.4 145 09 58.5 184 08 18.7	199 58 47.1 301 02 56.0 325 08 58.2 4 08 51.2	Pigeon..... Burke..... Wallace..... Epping East Base.	10376.7 12023.3 3323.5 14080.6	4.016058 4.080023 3.521597 4.148621

¹ No check on this position.

GEOGRAPHIC POSITIONS—Continued. •

EAST OF MOUNT DESERT—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
Turner, 1861.....	44 30 10.940 67 51 47.258	337.7 1044.0	21 59 01 129 40 18 140 10 15 187 27 09	201 57 53 309 30 35 320 05 32 7 28 27	Pigeon..... Tunk..... Burke..... Epping East Base.	Meters. 5727.0 23846.0 13875.5 18642.0	3.757924 4.377416 4.142248 4.270493
Narragaugus River, Half-tide Ledge Beacon, 1913.	44 31 50.687 67 51 53.821	1564.6 1188.4	327 08 22 91 38 18 122 16 38	147.09 56 271 37 33 302 15 51	Traf..... Millbridge church No. 2. Millbridge church No. 1.	5483.9 1405.3 1742.5	3.739091 3.147777 3.241177
Millbridge church No. 1, 1861.	44 32 20.827 67 53 00.552	642.9 12.2	3 12 50.9 132 25 24.2 195 33 58.9	183 12 34.3 312 21 32.8 15 36 07.3	Pigeon..... Burke..... Epping East Base. Wallace.....	8334.8 9849.5 15027.3 3352.6	3.970106 3.993416 4.176880 3.525386
Millbridge church No. 2, 1861. ¹	44 31 51.98 67 52 57.44	1604.5 1268.3	125 45 01 194 35 59	305 36 06 14 36 32	Tunk..... Wallace.....	20710.1 4184.3	4.316183 3.621618
Pigeon Hill Bay, west side of, house chimney, 1861. ¹	44 26 29.85 67 53 27.34	921.4 604.6	182 36 20 273 03 31	2 36 22 93 04 21	Pigeon..... Bois Bubert.....	1514.9 1576.4	3.180377 3.197676
Pigeon Hill Bay, head of, house, white chimney, 1861. ¹	44 29 24.36 67 53 40.24	751.9 889.1	341 13 36 354 46 35	161 14 35 174 46 46	Bois Bubert..... Pigeon.....	5778.0 3889.4	3.761774 3.589877
Dyer Bay, east side of, house chimney, 1861.	44 25 19.115 67 54 31.630	590.0 699.7	104 22 50.5 158 14 51.0 201 57 18.1	284 18 06.6 338 13 58.5 21 58 05.3	Cromer..... Eagle Hill..... Pigeon.....	9257.4 4473.9 3986.0	3.966487 3.650685 3.600542
Dyer Bay, east side, west gable end of barn, 1861.	44 26 01.683 67 54 37.037	52.0 819.1	74 54 55.2 151 33 59.3 214 02 24.7	254 52 04.6 331 33 10.6 34 03 15.7	Newman..... Eagle Hill..... Pigeon.....	5584.1 3231.1 2875.9	3.746952 3.508357 3.458770
Dyer Bay, west side of, north chimney of house, 1861.	44 25 16.986 67 55 52.396	524.3 1159.1	51 14 11.4 88 50 59.5 221 02 21.3 318 24 50.9	231 09 03.4 268 49 01.7 41 04 05.1 138 27 38.3	Schoodic..... Newman..... Pigeon..... Petit Manan Lighthouse.	12507.6 3725.3 4089.4 7980.6	4.097174 3.571164 3.698050 3.902033
Dyer Bay, west side of, red house chim- ney, 1861. ¹	44 26 26.07 67 56 05.73	804.7 126.7	191 26 03 245 27 04	11 26 16 65 28 57	Eagle Hill..... Pigeon.....	2130.6 3925.7	3.328511 3.593916
Salmon-colored two- story house chim- ney, 1861. ¹	44 28 52.14 67 56 22.56	1609.4 498.6	306 07 19 341 49 46	126 09 24 161 50 11	Pigeon..... Eagle Hill.....	4881.2 2547.4	3.688528 3.406082
Steuben church, 1861.	44 30 37.741 67 57 45.911	1165.0 1014.1	22 12 09.1 50 04 49.2 143 59 26.0	202 08 20.3 229 53 42.9 323 53 53.4	Schoodic..... Mount Desert..... Tunk.....	19155.3 27484.7 17774.7	4.282288 4.439091 4.249802
Rogers Point, west chimney of house, 1861. ¹	44 28 21.63 67 58 21.61	667.7 477.7	4 11 41 49 17 35	184 11 27 229 15 32	Newman..... Cromer.....	5790.6 5120.2	3.762721 3.700288
Frame building to west, house chim- ney, 1861.	44 24 05.138 67 58 36.601	158.6 810.0	47 25 47.7 177 32 25.9 328 49 42.7	227 22 34.6 357 32 23.0 148 50 04.9	Schoodic..... Newman..... Bee.....	8304.3 2143.8 1356.2	3.919304 3.331191 3.132320
Corea church spire, 1902. ¹	44 24 06.58 67 58 37.85	203.0 837.6	292 56 13 47 04 32	113 00 56 227 01 20	Petit Manan Lighthouse. Schoodic.....	9729.8 8314.2	3.988104 3.919821
Hemlock, 1861.....	44 26 47.768 67 58 58.484	1474.5 1293.2	352 14 29.9 31 47 02.2 137 37 19.1	172 14 42.3 261 45 25.1 317 35 03.4	Newman..... Cromer..... Hovey.....	2904.6 3097.9 6348.5	3.463080 3.491061 3.802671

1 No check on this position.

GEOGRAPHIC POSITIONS—Continued.

EAST OF MOUNT DESERT—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>	• • "	• • "	• • "	• • "			
Pearl, 1861.....	44 23 37.974 67 59 18.026	1172.1 399.0	47 23 56.9 154 03 47.1 198 27 45.1 281 14 28.9	227 21 12.8 334 02 22.8 15 28 11.2 101 15 20.1	Schoodic..... Cromer..... Newman..... Bee.....	Meters. 7061.9 6022.0 3092.3 1660.5	3.848924 3.779738 3.490282 3.217622
Gouldsborough Bay, head of west chimney of house, 1861.	44 27 58.317 67 59 34.767	1800.1 768.5	278 32 07.8 346 42 11.5 40 49 12.4	98 34 47.6 166 42 49.3 220 48 00.7	Eagle Hill..... Newman..... Cromer.....	Meters. 5100.1 5194.8 3463.0	3.707579 3.715565 3.539450
Hatch, 1861.....	44 24 31.934 68 00 58.476	985.7 1293.9	24 45 33.3 173 43 13.6 297 20 20.9	204 43 59.4 353 43 00.6 117 22 22.4	Schoodic..... Cromer..... Bee.....	Meters. 7009.7 3771.9 4252.2	3.851242 3.576565 3.630011
Hathaway, 1861.....	44 22 32.345 68 01 44.360	998.4 982.1	220 21 16.4 250 39 12.5 35 22 42.1	40 25 26.7 70 41 46.0 215 21 40.3	Eagle Hill..... Bee..... Schoodic.....	Meters. 12213.7 5148.4 3380.4	4.086848 3.711673 3.528966
Hale, 1861.....	44 19 53.114 68 01 56.202	1639.5 1245.2	141 51 42.7 184 00 00.0 217 42 54.8	321 50 49.2 4 00 27.3 37 45 36.5	Schoodic..... Cromer..... Bee.....	Meters. 2744.5 12385.7 8369.3	3.438456 4.092920 3.922688
Gouldsborough, two- story white house, east chimney, 1861. ¹	44 28 53.48 68 02 21.22	1650.8 469.0	324 10 37 341 51 06	144 13 11 161 51 51	Newman..... Cromer.....	Meters. 8332.7 4549.9	3.920788 3.658000
Winter Harbor light keeper's house chimney, 1860. ¹	44 21 41.70 68 05 17.95	1287.1 397.5	293 16 12 84 14 27	113 17 39 264 08 37	Schoodic..... Mount Desert.	Meters. 3019.1 11123.6	3.479871 4.046246
Winter Harbor church, 1860 ¹	44 23 31.95 68 05 26.97	986.2 596.9	327 05 52 67 25 08	147 07 26 247 19 25	Schoodic..... Mount Desert.	Meters. 5473.6 11770.0	3.738270 4.070776
Winter Harbor Light- house, 1861-1902.	44 21 41.447 68 05 17.903	1279.3 394.2	33 40 02.8 84 16 57.9 171 15 12.8 293 09 23.0	213 35 23.0 264 11 08.4 351 14 46.2 113 10 50.6	Baker Id. L. H..... Mount Desert..... Ash..... Schoodic.....	Meters. 16038.9 11126.0 5525.5 3018.0	4.205175 4.046339 3.742369 3.479000
Grindstone, 1860.....	44 22 51.057 68 05 43.831	1603.7 970.3	72 36 53.2 155 24 22.9 175 23 59.3 315 07 16.5	252 31 21.9 335 20 40.1 355 20 50.9 135 09 02.2	Mount Desert..... Tucker..... Ash..... Schoodic.....	Meters. 10996.5 16888.4 3295.4 4743.1	4.041255 4.227588 3.517908 3.676061
St. Bernard, 1860....	44 24 11.640 68 05 51.823	359.3 1146.8	60 53 13.4 173 56 57.3 328 48 31.0	240 47 47.5 353 56 54.5 148 50 22.3	Mount Desert..... Ash..... Schoodic.....	Meters. 11809.1 829.9 6804.0	4.072217 2.919008 3.832763
Square house, south chimney, 1860. ¹	44 28 14.16 68 05 54.00	437.1 1193.5	37 48 56 128 29 35	217 43 31 308 25 59	Mount Desert..... Tucker.....	Meters. 16748.7 8693.2	4.223980 3.939181
Small white house, with dark roof, chimney, 1860. ¹	44 25 50.21 68 06 23.34	1549.8 516.2	47 34 53 148 00 17	227 29 49 327 57 02	Mount Desert..... Tucker.....	Meters. 13029.8 11618.3	4.114937 4.065141
Mount Desert Rock Lighthouse, 1859.	43 58 08.256 68 07 44.046	254.9 981.9	108 38 52.47 169 33 36.58 182 05 57.7	287 56 11.00 349 29 30.24 2 07 24.2	Ragged Mtn.. Mount Desert..... Tunk.....	Meters. 86252.4 43220.7 74592.2	4.9357713 4.6356917 4.8726936
Ironbound Island, house chimney, 1860.	44 23 29.859 68 08 17.795	921.6 393.9	57 48 19.8 165 39 03.1 236 02 54.3 303 49 43.8	237 44 36.2 345 37 08.1 56 04 33.7 123 53 17.2	Mount Desert..... Tucker..... Ash..... Schoodic.....	Meters. 8371.3 14640.4 3788.1 8133.8	3.922793 4.165552 3.578425 3.910296
Egg, 1860.....	44 21 14.800 68 08 18.910	456.8 418.8	87 38 09.1 206 44 42.8 273 02 02.0	267 34 26.2 26 46 22.9 93 05 36.1	Mount Desert..... Ash..... Schoodic.....	Meters. 7065.5 7037.3 6791.0	3.849142 3.847406 3.831936
Egg Rock Light- house, 1902.	44 21 14.886 68 08 19.266	459.5 426.7	206 48 43.8 273 03 09.9 21 12 52.2	26 50 24.0 93 06 44.2 201 10 19.1	Ash..... Schoodic..... Bakers Island Lighthouse.	Meters. 7038.5 6799.0 13444.2	3.847479 3.832448 4.128535

¹ No check on this position.

GEOGRAPHIC POSITIONS—Continued.

EAST OF MOUNT DESERT—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
Calf, 1860.....	44 27 42.963 68 09 08.042	1326.1 177.8	323 14 48.8 327 28 17.6 25 56 36.1	143 17 03.4 147 32 26.2 208 53 27.4	Ash..... Schoodic..... Mount Desert.....	7109.4 14635.3 13649.2	3.851833 4.165403 4.13108
Sullivan's house, chimney No. 1, 1860.	44 30 38.504 68 09 56.750	1188.5 1253.4	333 15 13.5 334 22 15.7 15 27 25.9 123 24 46.3	153 19 56.3 154 25 44.5 195 24 51.3 303 24 00.5	Schoodic..... Ash..... Mount Desert..... Tucker.....	19883.8 12326.6 18357.1 1728.6	4.298500 4.090842 4.263803 3.237697
Sullivan's house, chimney No. 2, 1860.	44 29 25.710 68 10 09.020	793.6 199.5	16 39 13.5 159 52 54.6 327 42 30.4 329 16 03.8	196 36 47.5 339 52 17.4 147 45 27.7 149 20 55.2	Mount Desert..... Tucker..... Ash..... Schoodic.....	16122.6 3406.6 10488.9 18043.0	4.207435 3.532325 4.020728 4.256309
Wheeler, 1860.....	44 23 12.604 68 10 52.662	389.0 1165.7	248 01 27.0 291 23 42.2 42 54 49.4	68 04 54.7 111 29 03.8 222 52 53.9	Ash..... Schoodic..... Mount Desert.....	7083.6 10940.8 5366.6	3.850251 4.030951 3.729703
Young, 1860.....	44 18 37.347 68 11 26.968	1152.8 597.7	147 37 33.9 213 19 07.6 247 37 32.6	327 36 02.5 33 22 59.1 67 43 18.0	do..... Ash..... Schoodic.....	5405.5 13340.5 11837.9	3.732834 4.125173 4.073274
Newport, 1860.....	44 21 03.038 68 11 40.522	98.8 897.5	01 30 28.7 182 35 49.6 228 54 46.1 269 57 00.8	271 29 06.9 2 36 16.6 48 58 47.2 90 02 55.8	Mount Desert..... Tucker..... Ash..... Schoodic.....	2595.0 18733.7 10120.3 11246.9	3.414143 4.272624 4.005195 4.051033
Bar Harbor church, 1860. ¹	44 23 14.70 68 12 24.44	453.7 541.0	253 14 57 288 20 52	73 19 29 108 27 18	Ash..... Schoodic.....	8980.6 12874.0	3.953304 4.109715
Red Beacon, 1879....	44 29 52.498 68 12 33.679	1620.5 744.1	181 07 13.6 219 42 43.9 222 48 19.8	1 07 15.3 39 43 47.4 42 48 58.2	Hotel..... Tucker 2..... Hill.....	2720.0 3128.7 1780.4	3.434561 3.495364 3.250513
Black Beacon, 1879..	44 29 48.262 68 12 55.516	1489.7 1226.5	190 38 20.7 224 21 20.5 229 39 35.2	10 38 37.7 44 22 39.3 49 40 28.9	Hotel..... Tucker 2..... Hill.....	2900.1 3549.2 2220.0	3.462408 3.550129 3.346356
Crabtree Ledge Lighthouse ¹	44 28 18.90 68 13 17.34	583.4 383.2	1 55 27 315 06 11	181 55 13 135 13 14	Mt. Pleasant.. Schoodic.....	13393.1 18972.3	4.126881 4.278121
Beacon, 1860 ¹	44 16 48.24 68 13 25.06	1489.0 555.7	177 59 15 239 50 47	357 59 06 59 57 55	Mount Desert..... Schoodic.....	7937.3 5684.8	3.899672 4.195478
Bunker Ledge Mon- ument, 1863–1870.	44 16 48.199 68 13 25.046	1487.8 555.4	335 57 03.1 55 25 18.4 108 46 17.8 121 46 10.1	155 58 03.5 235 20 37.2 288 42 28.5 301 44 01.2	Baker Island Lighthouse..... Bass Harbor..... Fernald Hill..... Savage Mtn.....	4712.1 10862.4 7089.7 4812.6	3.673217 4.035927 3.885912 3.682384

MOUNT DESERT TO PENOBSQUIT BAY.

Principal points.							
Hancock, 1879.....	44 31 02.667 68 13 48.181	82.3 1064.1	163 20 06.9 266 12 23.0	343 18 34.0 86 14 18.7	Bragdon..... Tucker 2.....	10179.2 3652.4	4.007714 3.562576
Clarke, 1879.....	44 34 43.167 68 14 16.712	1332.4 368.7	50 18 29.7 101 34 36.1	230 17 50.5 281 33 48.2	Gordon..... Quarry.....	1601.9 1538.7	3.204633 3.187156
Great Duck Island Lighthouse, 1902.	44 08 32.252 68 14 47.291	995.5 1051.3	142 05 26.7 162 58 10.8 183 47 49.6 198 47 39.2	322 01 43.2 342 53 19.1 3 48 38.1 18 49 36.9	Bass Harbor.. Fernald Hill... Mount Desert.. Baker Island Lighthouse.	11585.2 18599.0 23292.4 11625.1	4.063904 4.269489 4.367214 4.065396
Great Duck Island, 1863.	44 09 22.662 68 14 57.366	609.5 1274.8	92 57 14.4 137 43 40.9	272 49 59.1 317 40 04.4	Swan Island.. Bass Harbor..	13901.7 10249.7	4.1430686 4.0107128

1 No check on this position.

GEOGRAPHIC POSITIONS—Continued.

MOUNT DESERT TO PENOBCOT BAY—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Principal points—Continued.</i>							
Gordon, 1879.....	44 34 10.019 68 15 12.575	309.3 277.5	17 59 13.9 39 04 48.1 168 19 58.7	197 58 50.7 219 03 36.1 348 19 50.0	Island..... Foundation... Quarry.....	2366.4 3598.2 1359.9	3.374083 3.556082 3.133507
Quarry, 1879.....	44 34 53.165 68 15 25.040	1641.0 552.4	7 14 50.6 25 47 20.0	187 14 36.1 205 46 16.7	Island..... Foundation... do.....	3611.4 4581.3 1630.4	3.557675 3.660990 3.212303
Island, 1879.....	44 32 57.102 68 15 45.680	1762.6 1008.3	70 33 42.1 176 58 52.1 297 47 35.6 323 41 34.0	250 32 53.3 356 58 41.7 117 50 53.8 143 42 56.5	Bragdon..... Tucker 2..... Hancock..... do.....	6227.4 7053.0 4382.7 6227.4	3.794304 3.848373 3.641738 3.794304
Bragdon, 1865.....	44 36 18.568 68 16 00.552	573.1 12.1	3 52 32.8 43 48 01.7 325 21 43.6	183 52 04.1 223 44 11.3 145 25 13.5	Commons..... McFarland... Tucker.....	13377.0 10473.0 11597.1	4.126360 4.020071 4.064349
Sands Point, 1865....	44 26 16.036 68 16 00.884	495.0 19.6	93 47 06.8 112 49 48.4 136 22 23.1	273 45 03.7 292 46 57.7 316 20 45.7	Richards..... Bunker..... Trenton Point	3897.6 5848.3 4456.2	3.590795 3.767026 3.648967
Savage Mountain, 1870.	44 18 10.250 68 16 29.631	316.4 656.8	318 38 18.7 29 06 59.7	138 41 28.0 209 04 27.3	Baker Island Lighthouse.. Bass Harbor..	9104.2 9960.3	3.9592420 3.9982742
Commons, 1865.....	44 29 06.183 68 16 41.471	190.8 916.4	47 03 17.3 243 04 48.8 350 18 03.7	227 02 08.3 63 08 47.1 170 18 32.1	Trenton Point Tucker..... Sands Point...	2974.6 8406.2 5328.0	3.473433 3.924599 3.726562
Foundation, 1879....	44 32 39.518 68 16 55.328	1219.8 1221.4	190 07 43.9 289 26 06.5	10 08 22.3 109 30 13.5	Bragdon..... Tucker 2.....	6868.6 8247.4	3.836871 3.916318
Springer, 1865.....	44 32 03.354 68 17 41.217	103.5 910.1	6 31 14.8 280 40 22.4	186 30 47.7 100 45 02.7	Trenton Pt.... Tucker..... Commons.....	7544.5 8970.0 5625.7	3.877628 3.952790 3.750179
Brown Mtn., 1870....	44 19 27.902 68 17 49.583	861.2 1098.7	323 31 00.7 29 57 08.9 88 43 58.6	143 31 56.5 209 56 24.3 268 48 05.5	Savage Mtn... Fernald Hill... Robinson Mtn.	2980.6 2837.7 1683.9	3.4743095 3.4529709 3.2268151
Richardson, 1870....	44 21 29.788 68 18 09.402	919.5 208.2	353 20 30.5 75 25 23.5 18 07 59.1	173 20 44.3 255 24 21.6 198 07 19.9	Brown Mtn .. Parker..... Robinson Mtn	3787.7 2026.6 3998.1	3.5783793 3.0767640 3.6018529
Trenton Pt., 1865....	44 28 00.514 68 18 19.977	15.9 441.5	15 18 50.2 18 06 24.3 30 25 10.6 67 31 40.5 238 53 30.6 333 59 24.8	195 18 33.5 198 05 52.1 210 22 30.3 247 30 27.2 58 58 37.8 154 02 42.6	Richards..... Hadleys Pt... Higgins..... Bunker..... Tucker..... Mt. Desert ...	3078.0 3275.0 10021.8 2505.3 11295.1 14259.4	3.488273 3.515207 4.000944 3.398854 4.052890 4.154100
Fernald Hill, 1870...	44 18 08.239 68 18 53.499	254.3 1186.0	268 52 13.4 306 18 44.8 10 49 52.9	88 53 53.8 126 23 34.5 190 49 00.9	Savage Mtn... Baker Id. L. H. Bass Harbor..	3189.7 11427.8 8797.9	3.503747 4.057962 3.944378
Richards, 1865.....	44 26 24.334 68 18 56.743	751.1 1254.9	83 34 17.3 143 14 20.9	263 31 44.2 323 13 33.3	Goose Cove... Bunker.....	4867.4 2510.1	3.687298 3.399687
Robinson Mtn, 1870..	44 19 26.688 68 19 05.557	823.8 123.1	304 18 26.4 353 42 03.8	124 20 15.3 173 42 12.3	Savage Mtn... Fernald Hill...	4184.3 2436.1	3.6216227 3.3866994
Hadleys Pt., 1865....	44 26 19.665 68 19 06.000	607.0 132.7	36 15 20.4 65 26 45.3 85 03 07.3 230 03 18.5 323 08 36.3	216 13 12.2 245 22 34.7 265 00 40.7 50 08 57.8 143 12 26.2	Higgins..... Oak Pt.... Goose Cove... Tucker..... Mt. Desert...	6857.8 8713.0 4649.4 13939.9 12124.4	3.836185 3.940166 3.687393 4.144260 4.083662
Parker, 1870.....	44 21 13.256 68 19 37.961	409.2 840.7	347 41 09.2 323 33 01.6	167 41 31.8 143 34 17.3	Robinson Mtn Brown Mtn...	3366.7 4042.1	3.5272082 3.6066116
Scrag Island, 1875....	44 09 32.067 68 20 02.055	989.8 45.7	93 20 29.9 120 47 28.3	273 16 46.9 300 41 24.4	Swan Id..... Pond Id.... Bass Harbor..	7125.4 13489.8 7291.7	3.852811 3.130005 3.862829

GEOGRAPHIC POSITIONS—Continued.

MOUNT DESERT TO PENOBCOT BAY—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of dis- tance.
<i>Principal points—Continued.</i>							
Bunker, 1865.....	44 27 29.477 68 20 04.692	909.9 103.7	328 56 09.1 52 31 01.8	148 56 50.2 232 29 16.3	Hadleys Pt... Goose Cove...	2515.5 4201.4	3.400619 3.623396
Bass Harbor, 1863...	44 13 28.272 68 20 07.985	872.7 177.2	45 26 21.4 211 29 44.7	225 22 42.4 31 34 17.3	Swan Id.... Mt. Desert...	9798.6 16548.0	3.9911626 4.2187467
Bass Harbor Head Lighthouse, 1861.	44 13 19.498 68 20 16.292	601.8 361.7	315 52 20.1 45 49 18.9 52 38 43.1 95 21 02.3	135 56 02.4 225 45 45.7 232 27 01.0 275 12 50.8	Great Duck Id. Swan Island... Isle au Haut... Naskeag Pt...	10178.7 9477.4 28227.6 15708.9	4.007693 3.976689 4.450674 4.196146
McFarland, 1865....	44 32 13.552 68 21 28.880	418.3 637.6	273 33 39.6 278 05 18.1 312 18 23.6	93 36 19.3 98 12 38.1 132 21 45.1	Springer.... Tucker.... Commons....	5036.4 13981.8 8587.8	3.702117 3.445563 3.933881
Higgins, 1865.....	44 23 20.464 68 22 09.231	631.7 204.3	52 27 40.8 116 13 41.7 290 10 45.2	232 28 03.6 296 11 39.3 110 16 43.0	Bartlett.... Oak Point.... Mt. Desert...	6278.9 4314.9 12071.6	3.7977883 3.6349966 4.081765
East Sister Id., 1908..	44 08 41.430 68 22 14.799	1278.8 328.9	197 02 19.8 242 04 20.8 271 35 16.8	17 03 42.4 62 05 53.3 91 40 28.5	Bass Harbor Head L. H. Scrag Id.... Great Duck Id. L. H.	8977.2 3338.5 9950.5 3.997845	3.953140
Placentia Id., 1908...	44 10 58.948 68 22 41.264	1819.5 916.6	307 09 07.6 352 06 36.7	127 10 58.5 172 06 55.1	Scrag Id.... East Sister Id..	4438.6 4285.0	3.647246 3.631954
Swan Id. church spire, 1908.	44 10 20.107 68 24 50.425	620.6 1120.2	227 41 05.0 283 00 08.8 283 53 26.7	47 44 16.1 103 03 29.8 104 00 26.9	Bass Harbor Head L. H. Scrag Id.... Great Duck Id. L. H.	8228.9 6576.3 13809.6	3.915342 3.817981 4.140180
Seal Cove, 1863.....	44 17 16.642 68 24 41.910	513.7 929.3	319 12 31.4 3 40 38.8 58 57 22.0	139 15 42.4 183 40 10.7 238 52 15.5	Bass Harbor... Swan Id.... Naskeag Pt...	9306.6 13966.5 11375.1	3.968790 4.144776 4.055955
Oak Point, 1864.....	44 24 22.207 68 25 04.153	685.5 91.9	10 54 25.5 31 07 13.9 102 43 55.3 105 36 56.9	190 53 50.6 211 04 17.4 282 36 38.3 285 33 33.0	Bartlett.... Hopkins.... Blue Hill.... Morgan....	5838.3 10823.3 14156.5 6691.0	3.766322 4.034359 4.150956 3.825492
Bluff Point, 1864....	44 27 55.268 68 25 44.617	1706.0 988.3	3 19 27.4 49 16 48.0 75 55 06.6	183 19 16.9 229 13 52.3 255 53 26.7	Haynes.... Morgan.... Smith....	5719.2 7321.4 3250.2	3.757335 3.864593 3.511910
Townsend, 1875.....	44 09 00.405 68 25 28.346	12.5 630.0	63 59 22.8 185 37 09.3	243 58 07.8 5 37 13.6	Burnt Coat... Swan Id....	2684.6 1395.5	3.425634 3.144716
Bartlett, 1863.....	44 21 16.457 68 25 54.037	508.0 1196.6	347 48 31.1 31 32 28.8 91 35 09.5 124 51 47.7	167 49 21.4 211 28 12.5 271 27 28.3 304 45 05.9	Seal Cove.... Naskeag Point... Cunningham.... Blue Hill....	7572.7 15570.7 14615.9 15484.3	3.879251 4.192309 4.164825 4.189891
Haynes, 1864.....	44 24 50.292 68 25 59.606	1552.4 1318.8	358 55 46.0 41 56 42.4 100 08 24.3	178 55 49.9 221 53 24.9 280 05 39.2	Bartlett.... Carter.... Morgan....	6601.5 9355.4 6300.1	3.819641 3.971060 3.724285
Harbor Island, 1875 .	44 07 47.566 68 26 28.607	1468.2 635.9	135 38 45.6 210 46 49.7	315 38 12.5 30 47 31.7	Burnt Coat... Townsend....	1509.5 2617.0	3.178324 3.417799
Burnt Coat, 1875....	44 08 22.532 68 27 16.082	695.5 357.5	151 02 16.3 224 41 15.0	331 01 32.0 44 42 34.3	Stewart.... Swan Island...	2915.5 3598.3	3.464712 3.556092
Bar Island, 1863....	44 15 20.739 68 27 29.872	640.2 662.7	69 08 32.7 162 22 41.7 226 08 31.2 289 27 07.7	249 05 23.5 342 21 27.2 46 10 28.5 109 32 15.9	Naskeag Pt... Hopkins.... Seal Cove.... Bass Harbor...	6440.5 7811.9 5164.7 10401.8	3.808922 3.882757 3.713046 4.017110
			344 40 19.1	164 41 48.2	Swan Island...	10731.5	4.030681

GEOGRAPHIC POSITIONS—Continued.

MOUNT DESERT TO PENOBCOT BAY—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Principal points. Continued.</i>							
Peaked Mount, 1856.	44 49 44.496 68 27 51.646	1373.5 1134.5	261 56 52.14 340 22 25.39 30 36 30.51 71 40 23.99 86 21 02.68	82 11 50.48 160 32 24.93 210 30 31.96 251 11 30.06 265 01 39.86	Humpback.... Mt. Desert.... Saunders.... Mt. Harris.... Mount Blue....	28245.07 56313.31 22040.41 57158.18 149081.99	4.4509427 4.7506111 4.3422196 4.7570784 5.1734252
Smith, 1864.....	44 27 29.624 68 28 07.214	914.4 150.5	330 08 18.0 30 59 24.9	150 09 47.4 210 58 09.1	Haynes..... Morgan.....	5670.3 4650.4	3.753604 3.667490
Hopkins, 1863.....	44 19 21.942 68 29 16.596	677.3 367.8	20 32 37.8 111 13 04.4 175 33 28.7 231 45 10.8 302 23 49.8 311 50 44.5	200 30 43.0 291 07 44.9 355 33 02.5 51 47 32.4 122 27 01.7 131 57 07.4	Naskeag Point Cunningham... Morgan..... Bartlett..... Seal Cove..... Bass Harbor..	10401.3 10860.7 11094.9 5712.2 7213.1 16346.1	4.017086 4.035858 4.045298 3.756806 3.858174 4.231415
Morgan, 1864.....	44 25 20.455 68 29 55.455	631.4 1226.8	324 37 12.9 7 25 58.8 52 23 26.6 100 05 47.5	144 40 01.8 187 25 26.3 232 18 34.0 280 01 54.4	Bartlett..... Carter..... Cunningham... Blue Hill....	9234.4 7959.2 11694.1 7481.6	3.965411 3.900869 4.067966 3.873992
Hat Island, 1907.....	44 08 35.179 68 30 08.737	1085.9 194.2	22 23 32.9 39 59 54.5 86 01 51.0	202 21 10.5 219 56 21.6 265 57 31.0	Great Spoon Island.... York Island... Spruce Island.	11957.5 10590.9 8319.9	4.077641 4.024934 3.920119
Marshall Island, 1907.	44 05 49.398 68 30 14.784	1524.8 328.8	36 39 38.9 65 48 59.7 119 04 40.9	216 37 20.8 245 45 31.1 299 00 25.2	Great Spoon Island.... York Island... Spruce Island.	7403.7 7314.9 9343.2	3.869448 3.864207 3.970494
Carter, 1863.....	44 21 04.759 68 30 41.944	146.9 929.0	7 44 36.4 95 14 05.1 145 26 49.2 266 43 52.6 311 23 38.2	187 43 41.2 275 09 45.2 325 23 28.8 86 47 13.9 131 27 49.7	Naskeag Point Cunningham... Blue Hill.... Bartlett..... Seal Cove....	13033.0 8288.9 11173.9 6386.7 10641.0	4.115043 3.917447 4.048206 3.805275 4.026983
Herriman Pt. 1864..	44 18 01.157 68 32 02.666	35.7 59.1	134 52 43.1 235 52 03.6 277 57 40.3	314 49 19.7 55 53 59.6 98 02 48.1	Cunningham... Hopkins..... Seal Cove....	9097.8 4445.7 9867.6	3.958937 3.647944 3.994211
Wood, 1864.....	44 24 17.140 68 32 26.076	529.1 577.0	338 46 21.1 48 49 13.2 128 57 55.9	158 47 33.9 228 46 06.0 308 55 48.3	Carter..... Cunningham... Blue Hill....	6369.8 7376.6 5188.8	3.804129 3.896339 3.715065
Great Spoon Island, 1868.	44 02 36.925 68 33 33.338	1139.6 742.2	119 35 46.91 160 17 50.31	299 33 20.06 340 15 52.86	Isle au Haut... Spruce Island.	5405.03 11128.91	3.7327979 4.0464526
<i>Supplementary points.</i>							
Sullivan Hotel flag- staff, 1879.	44 31 20.600 68 12 31.271	635.9 690.6	71 57 21.7 87 39 02.3 279 07 41.4 320 42 11.0	251 56 27.8 267 38 30.4 99 08 43.2 140 42 47.7	Hancock..... Narrows.... Tucker 2..... Hill.....	1786.5 1007.3 1970.8 1826.2	3.251995 3.003163 3.294641 3.261544
Sullivan Waukeag Silver Mining Co., barn, red-roofed, cupola flagstaff, 1879.	44 31 50.126 68 14 12.067	1547.2 266.4	286 20 17.3 307 59 41.7 340 11 42.4	106 22 29.7 128 00 20.4 160 11 59.1	Tucker 2..... Narrows.... Hancock....	4347.5 1547.5 1557.0	3.638235 3.189624 3.192290
McFarland's, S. N., house chimney, 1865.	44 28 10.016 68 13 51.184	309.2 1131.3	39 11 44.2 87 12 00.4 114 45 00.8	219 10 13.3 267 08 52.1 294 43 01.5	Sands Point... Trenton Point... Commons....	4538.8 5948.7 4143.6	3.656944 3.774422 3.617378
Dyer, 1879.....	44 34 46.701 68 14 30.874	1441.5 681.1	39 06 05.7 99 29 04.3 289 14 40.5	219 05 36.4 278 28 26.3 109 14 50.4	Gordon..... Quarry..... Clarke.....	1459.0 1211.5 330.9	3.164047 3.053399 2.519735
Franklin spire, 1879..	44 35 16.967 68 14 04.734	523.7 104.4	14 12 51.5 35 55 18.0	194 12 43.1 215 54 30.4	...do..... Gordon..... Peak.....	1076.3 2551.6 1909.1	3.031925 3.406151 3.280819

GEOGRAPHIC POSITIONS—Continued.

MOUNT DESERT TO PENOBCOT BAY—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
Mercers, A., house chimney, 1865. ¹	44 28 56.82 68 14 38.00	1753.9 839.8	70 30 58 96 03 38	250 28 22 276 02 11	Trenton Pt.... Commons.....	5204.8 2743.8	3.716404 3.438350
Wooster's, J., house, south chimney, 1865. ¹	44 29 01.46 68 14 41.94	45.1 926.8	18 52 39 68 41 53	198 51 44 248 39 20	Sands Point... Trenton Point.	5396.0 5173.0	3.732068 3.713744
Cranberry Island house, chimney, 1863-1870.	44 14 19.302 68 15 21.342	595.8 473.6	76 07 17.5 146 21 40.9 168 00 41.5 286 15 47.3	256 03 57.5 326 19 12.8 347 59 53.8 86 18 08.8	Bass Harbor... Fernald Hill... Savage Mtn... Baker Id. L. H.	6553.6 8489.6 7287.5 4510.4	3.816483 3.928866 3.862579 3.654216
Crabtree Neck Bap- tist Church chim- ney, 1865. ¹	44 29 57.26 68 15 22.90	1767.4 505.9	47 45 47 117 31 55	227 44 52 297 27 38	Commons.... McFarland....	2345.0 9112.0	3.370149 3.959616
Hancock, Union Church spire, 1879.	44 31 51.460 68 15 37.511	1588.4 828.3	130 48 57.9 174 54 51.6 281 46 18.6 287 43 47.2	310 48 03.3 354 54 45.9 101 49 31.0 107 45 25.9	Foundation... Island..... Tucker 2..... Narrows....	2269.8 2034.2 6189.1 3261.3	3.355994 3.308394 3.791626 3.513387
Macomber's, H. E., new barn, east gable, 1879.	44 34 50.492 68 15 40.378	1558.5 890.8	256 17 43.4 276 58 32.0 333 50 41.8 1 54 54.5	76 17 54.2 96 59 30.7 153 51 01.3 181 54 50.8	Quarry..... Clarke..... Gordon..... Island.....	348.3 1859.6 1391.8 3502.0	2.541933 3.269426 3.143570 3.544317
Cranberry Id. church spire, 1863-1870.	44 15 05.072 68 16 06.647	156.6 147.5	60 36 53.9 146 40 05.2 174 52 44.0 281 47 10.5	240 34 05.4 326 38 08.8 354 52 28.0 101 50 03.6	Bass Harbor... Fernald Hill... Savage Mtn... Baker Id. L. H.	6147.7 6730.9 5707.6 5624.7	3.788710 3.828074 3.756451 3.750101
Bear Island Light- house, 1902.	44 17 00.705 68 16 13.842	21.8 306.9	309 35 55.5 38 24 33.9 120 30 32.6 204 37 17.8	129 38 53.7 218 21 50.5 300 28 41.0 24 39 07.1	Baker Id. L. H... Bass Harbor... Fernald Hill... Mount Desert	7353.1 8365.1 4107.8 8303.5	3.866472 3.922471 3.613610 3.919260
Butlers Point barn, SW. gable, 1879. ¹	44 33 46.20 68 16 16.27	1426.1 359.1	242 23 00 22 43 47	62 23 45 202 43 20	Gordon..... Foundation...	1586.1 2231.7	3.200332 3.249367
Hodgkins, D., house, E. chimney, 1865.	44 28 33.391 68 16 19.119	1030.7 422.5	69 12 37.1 285 41 24.6 354 33 58.5	249 11 12.5 105 43 12.8 174 34 11.3	Trenton Pt.... Crabtree.... Sands Point...	2857.6 3344.0 4258.8	3.455999 3.549491 3.629292
Moseleys, W. F., house chimney, 1865.	44 29 39.327 68 16 50.880	1213.9 1124.1	127 48 50.9 165 57 51.4 185 08 45.9	307 45 36.0 345 57 16.1 5 09 21.3	McFarland.... Springer.... Bragdon....	7769.2 4582.6 12373.4	3.890379 3.661112 4.092489
Desiles, W., house chimney, 1865.	44 27 13.202 68 17 07.031	407.5 155.4	58 08 21.3 251 15 10.9 320 20 12.0	238 07 04.5 71 17 32.5 140 20 58.3	Richards.... Crabtree.... Sands Point...	2856.7 4721.5 2291.9	3.455859 3.674077 3.360200
Cline's barn, E. ga- ble, 1879.	44 32 37.641 68 17 14.007	1161.9 309.2	193 21 42.4 223 12 49.8 252 52 05.7 288 09 22.8	13 22 34.0 43 14 15.0 72 53 07.7 103 13 43.0	Bragdon.... Gordon..... Island..... Tucker 2.....	7009.3 3913.3 2040.2 8619.1	3.845677 3.592540 3.309676 3.935464
House near sea wall, chimney, 1863-1870.	44 14 51.760 68 17 49.482	1597.7 1097.9	186 49 48.9 196 06 50.3 275 10 16.6	346 49 04.2 16 07 46.0 95 14 21.5	Fernald Hill... Savage Mtn... Baker Id. L.H.	6228.4 6377.3 7819.8	3.794376 3.804638 3.893196
Greening Island house, NW. chim- ney, 1870.	44 16 41.509 68 18 09.486	1281.2 210.4	159 58 35.5 218 56 15.5 296 25 47.9	339 58 04.8 38 57 25.2 116 30 06.8	Fernald Hill... Savage Mtn... Baker Id. L.H.	2849.3 3521.9 9192.7	3.454739 3.546783 3.963444
Trenton Point schoolhouse cupola, 1865.	44 27 36.158 68 18 24.220	1116.1 535.4	84 42 20.2 17 58 27.9 21 22 23.0	264 41 09.8 197 58 05.1 201 21 53.7	Bunker..... Richards.... Hadleys Pt....	2230.7 2330.7 2535.4	3.348450 3.367482 3.404042
Trenton Point Bap- tist Church, SW. spire, 1865.	44 28 02.838 68 19 16.013	87.6 353.9	46 15 57.3 352 01 15.9 358 01 20.8	226 15 23.2 172 01 29.4 173 01 27.8	Bunker..... Richards.... Hadleys Pt....	1489.4 3070.2 3192.3	3.173015 3.487166 3.504101

1 No check on this position.

GEOGRAPHIC POSITIONS—Continued.

MOUNT DESERT TO PENOBCOT BAY—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
One-story white house chimney, 1865. ¹	44° 29' 35.10 68° 18' 33.87	1083.4 748.4	141° 41' 49" 194° 15' 11"	321° 39' 46" 14° 15' 48"	McFarland.... Springer.....	6234.0 4721.6	3.794766 3.674092
Merchant's, H., barn, N. gable, 1865. ¹	44° 31' 27.32 68° 19' 26.70	843.3 589.6	117° 53' 10" 244° 27' 53"	297° 51' 44" 64° 29' 07"	McFarland.... Springer.....	3052.0 2681.0	3.484588 3.411788
Southwest Harbor schoolhouse, 1863-1870.	44° 16' 49.753 68° 19' 35.571	1535.7 788.8	201° 03' 16.0 238° 54' 16.0 293° 11' 02.2	21° 03' 45.4 58° 56' 25.8 113° 16' 21.2	Fernald Hill... Savage Mtn... Baker Id. L.H.	2595.9 4813.3 11033.0	3.414283 3.682441 4.042695
Southwest Harbor church spire, 1863-1870.	44° 15' 57.666 68° 18' 36.353	1780.0 806.3	174° 36' 45.7 214° 27' 43.2 287° 13' 46.1	354° 36' 33.7 34° 29' 11.7 107° 18' 23.8	Fernald Hill... Savage Mtn... Baker Id. L.H.	4048.1 4964.1 9242.8	3.607252 3.695842 3.965804
Gotts Island, Welsh's house chimney, 1863. ¹	44° 11' 59.66 68° 19' 57.70	1841.5 1281.3	175° 13' 45" 305° 57' 50"	355° 13' 38" 126° 01' 20"	Bass Harbor... Great Duck Id.	2744.4 8245.7	3.438447 3.916227
Somesville church spire, 1863-1870.	44° 21' 37.724 68° 20' 11.134	1164.4 246.5	275° 10' 43.7 315° 47' 16.2 340° 14' 14.0	95° 12' 08.8 135° 47' 39.4 160° 14' 59.9	Richardson... Parker..... Robinson Mtn.	2706.9 1053.6 4297.5	3.432471 3.022681 3.633217
East Trenton, tall white spire, 1865.	44° 28' 43.700 68° 20' 39.228	1348.9 867.0	11° 17' 31.1 26° 48' 08.0 332° 12' 53.0 335° 07' 08.5	191° 16' 28.1 208° 44' 27.8 152° 14' 04.6 155° 08' 13.8	Higgins..... Bartlett... Richards... Hadleys Pt..	10173.8 15462.2 4862.0 4900.4	4.007484 4.189271 3.686811 3.690231
McFarland's hill flag-staff, 1865.	44° 32' 07.815 68° 21' 28.874	241.2 637.5	179° 57' 37.7 223° 04' 28.3 277° 22' 08.3	359° 57' 37.5 43° 08' 18.7 97° 29' 27.8	McFarland.... Bradgon..... Tucker.....	177.0 10601.5 13957.9	2.248082 4.025369 4.144820
Lopaus Point, dead tree, 1863.	44° 13' 41.970 68° 21' 52.508	1295.5 1165.5	32° 32' 49" 112° 11' 28" 280° 19' 06"	212° 30' 22" 292° 07' 32" 100° 20' 18"	Swan Island... Bar Island... Bass Harbor..	8660.2 8082.8 2358.2	3.937530 3.907563 3.372572
Alley Island, house, N.E. chimney, 1865.	44° 24' 25.031 68° 23' 19.161	772.6 424.0	87° 51' 40.6 197° 08' 22.0 322° 09' 45.5	267° 50' 27.1 17° 08' 52.5 142° 10' 34.4	Oak Point... Goose Cove... Higgins.....	2324.8 3281.5 2523.3	3.366391 3.516069 3.401968
Poplar tree, 1865.....	44° 25' 45.703 68° 23' 51.217	1410.7 1132.9	18° 07' 29.3 248° 55' 29.8 333° 16' 15.3	198° 06' 03.5 68° 56' 22.8 153° 17' 26.7	Bartlett... Goose Cove... Higgins.....	8743.9 1796.1 5018.9	3.941704 3.254341 3.700608
West Trenton Union Church, 1865.	44° 26' 14.411 68° 24' 03.385	444.8 74.9	14° 55' 17.3 268° 33' 30.7 334° 47' 47.3	194° 53' 59.9 88° 36' 58.8 154° 49' 07.2	Bartlett... Hadleys Pt.. Higgins.....	9517.2 6578.8 5933.5	3.978509 3.318149 3.773311
Mount Desert Old Congregational Church, 1864.	44° 20' 07.098 68° 24' 03.975	219.1 88.1	9° 04' 58" 78° 39' 11" 101° 27' 10	189° 04' 32" 258° 35' 33" 281° 22' 32"	Seal Cove... Hopkins... Carter.....	5328.0 7062.2 8993.4	3.726566 3.848941 3.953922
Reed's chimney, 1875. ¹	44° 11' 00.10 68° 25' 00.10	3.0 2.2	12° 01' 25" 130° 03' 08"	192° 01' 10" 310° 00' 32"	Swan Island... Pond Island..	2357.2 6496.1	3.372408 3.812655
White house (one-story) chimney, 1864. ¹	44° 29' 41.16 68° 25' 13.17	1270.5 291.0	12° 00' 21" 43° 28' 09"	191° 59' 59" 123° 26' 07"	Bluff Point... Smith.....	3341.7 5592.9	3.523966 3.747639
Oak Point red house, W. chimney, 1864.	44° 23' 59.060 68° 25' 35.636	1823.0 788.6	4° 38' 32" 29° 47' 36" 51° 36' 11" 113° 37' 57"	184° 38' 19" 209° 45' 01" 231° 32' 36" 293° 34' 55"	Bartlett... Hopkins... Carter..... Morgan.....	5035.5 9854.2 8656.3 6273.7	3.702040 3.993620 3.937333 3.797524
Ship and barge beacon, 1908. ¹	44° 13' 33.00 68° 25' 54.19	1018.6 1202.8	273° 08' 48" 346° 36' 54"	93° 12' 43" 166° 37' 38"	Bass Harbor... Head L. H. Swan Island church spire.	7511.7 6119.6	3.875736 3.788726
Weymouth Point, marked tree, 1864. ¹	44° 28' 59.40 68° 26' 17.15	1833.5 379.0	340° 01' 58" 41° 17' 21"	160° 02' 21" 221° 16' 04"	Bluff Point... Smith.....	2106.2 3687.0	3.323501 3.566728

¹ No check on this position.

GEOGRAPHIC POSITIONS—Continued.

MOUNT DESERT TO PENOBSOT BAY—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>	° ° "	• ' "	• ' "	• ' "			
Pattens Bay, white house, E. chimney, 1864. ¹	44 29 32.90 68 27 36.70	1015.5 810.9	320 34 21 10 03 18	140 35 40 190 02 57	Bluff Point... Smith.....	Meters. 3891.0 3864.6	3.591172 3.587100
Burnt Coat Light- house, 1875-1907.	44 08 03.514 68 26 52.130	108.5 1158.8	41 33 45.7 47 26 58.4 91 50 46.4	221 29 06.5 227 24 37.3 271 44 09.5	Great Spoon Id... Marshall Id... Spruce Island.	12463.8 6119.0 12676.8	4.129169 3.786684 4.103010
Hardwood Island, 1863.	44 17 58.602 68 27 03.123	1808.9 69.2	6 56 38 131 01 18 292 27 39	186 56 20 310 59 45 112 29 18	Bar Island... Hopkins... Seal Cove...	4908.5 3920.2 35933.3	3.600951 3.593313 3.529939
Newbury Neck, Union Church, 1864.	44 24 29.054 68 27 47.418	896.8 1049.2	119 15 54 203 05 43 254 37 25	299 14 24 23 07 08 74 38 40	Morgan... Bluff Point... Haynes....	3246.8 6920.3 2473.9	3.511449 3.840126 3.393374
Newbury Neck, white house, south chimney, 1864.	44 26 48.456 68 27 53.927	1495.7 1192.4	234 10 57 325 15 22 44 42 36	54 12 27 145 16 42 224 41 11	Bluff Point... Haynes.... Morgan....	3525.1 4438.1 3821.3	3.547171 3.647197 3.582215
Newbury Neck, house, east chim- ney, 1864.	44 22 56.075 68 28 02.585	1730.9 57.2	217 39 19 317 11 53 13 56 09	37 40 45 137 13 23 193 55 18	Haynes.... Bartlett... Hopkins....	4453.8 4190.0 6809.7	3.648729 3.622212 3.833130
Surry Methodist Church, chimney, 1864.	44 27 30.009 68 28 13.516	926.3 298.8	256 39 35 328 59 32 29 25 19	74 41 19 149 01 05 209 24 07	Bluff Point... Haynes.... Morgan....	3382.8 328 59 32 4590.6	3.529270 3.759750 3.661865
Tinkers Island, south house, east chim- ney, 1863.	44 16 00.649 68 28 28.102	20.0 578.9	53 31 53 169 47 28 244 43 15	233 29 23 349 46 53 64 45 52	Naskeag Point... Hopkins... Seal Cove....	5932.3 6313.1 5497.2	3.773220 3.800242 3.740143
Tinkers Island, north house, north chim- ney, 1863.	44 16 30.999 68 29 06.684	956.8 148.2	165 58 52 177 36 58 256 28 52	345 57 46 357 36 51 76 31 57	Carter... Hopkins... Seal Cove....	8709.6 5280.9 6037.9	3.940000 3.722706 3.780884
Collomore's chimney, 1875. ¹	44 09 25.25 68 29 25.00	779.4 555.5	187 16 43 247 02 58	7 17 12 67 03 44	Pond Island... Stewart....	7163.5 1577.5	3.855128 3.197967
Blue Hill Bay (Flye Id.) Lighthouse, 1864.	44 14 55.925 68 29 54.421	1726.2 1207.4	61 26 50 180 15 28 185 49 42 237 53 50 256 33 13	241 25 23 340 11 37 5 50 09 57 57 29 76 34 55	Naskeag Point... Blue Hill... Hopkins... Seal Cove.... Bar Island....	3199.8 21874.0 8253.5 8179.7 3297.1	3.505125 4.339028 3.916640 3.912738 3.518130
Long Island fish house, north gable, 1864.	44 23 03.763 68 30 22.555	116.2 499.3	129 15 34 188 05 13 299 05 45	309 11 59 8 05 32 119 08 53	Blue Hill... Morgan... Bartlett....	8738.7 4261.6 6805.7	3.941449 3.629575 3.832873
Egg Rock Beacon, 1907. ¹	44 11 06.96 68 30 34.43	214.7 764.6	25 58 37 55 45 23	205 55 22 235 41 21	York Island... Spruce Island.	14236.8 9349.7	4.153412 3.970796
Halibut Rock Bea- con, 1907.	44 08 03.501 68 31 34.072	108.1 757.4	34 31 01.8 93 34 19.6 242 43 22.2	218 28 23 273 30 59.0 62 44 21.6	York Island... Spruce Island... Hat Island....	8662.2 8415.6 2134.0	3.937027 3.807234 3.329198
Flye Point flagstaff, 1864.	44 16 06.635 68 31 59.416	204.8 1317.8	210 53 47 283 18 12 0 34 04	30 55 40 103 21 20 180 34 02	Hopkins... Bar Island... Naskeag Point	7026.3 6144.5 3712.7	3.846729 3.788486 3.569688
Wood's, G. J., house, west chimney, 1863.	44 24 13.649 68 32 23.342	421.3 516.6	338 55 56 49 42 12 129 27 37	158 57 07 229 39 03 309 25 28	Carter... Cunningham... Blue Hill...	6247.5 7852.1 5303.8	3.795707 3.884986 3.724585
Long Ledge Beacon, 1907.	44 10 47.357 68 32 52.519	1461.8 1166.6	14 32 17.7 45 00 03.6 318 15 02.0	194 30 38.8 224 57 37.6 138 16 56.1	York Island... Spruce Island... Hat Island....	12599.2 6588.2 5466.9	4.100342 3.818832 3.737745
Candage's, S., house, S. chimney, 1863.	44 21 27.119 68 32 59.760	837.1 1323.4	158 52 04 209 30 34 282 43 40	338 50 20 29 32 43 102 45 16	Blue Hill... Morgan.... Carter....	9124.0 8277.3 3120.3	3.960187 3.917887 3.495444

¹ No check on this position.

GEOGRAPHIC POSITIONS—Continued.

MOUNT DESERT TO PENOBCOT BAY—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
Blue Hill Falls, white house, N. chimney, 1863.	44 22 14.312 68 33 30.918	441.8 684.6	159 45 48 200 43 44 299 49 41	339 44 26 20 44 29 119 51 39	Blue Hill..... Wood..... Carter.....	7517.5 4053.8 4314.0	3.876074 3.607862 3.634878
White Ledge, 1907...	44 05 04.309 68 33 45.346	133.0 1008.9	356 38 11.4 51 01 09.2 253 25 59.0	176 38 19.7 231 00 07.1 73 28 25.5	Great Spoon Island..... York Island... Marshall Id...	4556.8 2556.2 4886.5	3.658658 3.407600 3.689002
Brooklin church spire, 1861.	44 16 02.096 68 34 09.219	64.7 204.5	9 58 29 58 58 41 314 46 13	180 56 27 238 54 29 134 52 20	Isle au Haut... Deer Isle..... Swan Island..	22523.1 9361.6 16494.4	4.352629 3.971351 4.217337
White house with red end, chimney, 1863. ¹	44 19 32.33 68 34 14.60	997.9 323.5	272 45 02 313 53 23	192 48 31 33 54 56	Hopkins..... Herriman Pt..	6611.1 4058.2	3.820272 3.608333

PENOBCOT BAY AND RIVER.

<i>Principal points.</i>							
Matinicus Rock Lighthouse (north), 1859.	43 47 02.660 68 51 21.047	83.0 470.6	119 19 35.22 137 13 58.76 174 13 12.96 203 38 15.99	299 08 20.14 317 07 38.32 354 11 44.84 23 40 07.59	Metinic..... Green Island... Hurricane Id... Woodenball...	24952.36 18050.41 28093.52 8978.40	4.3971117 4.2564872 4.4486062 3.9531987
Matinicus Rock Lighthouse (south), 1859.	43 47 01.260 68 51 19.610	38.9 438.5	119 22 43.71 137 15 12.31 203 20 17.71 211 04 41.98	299 11 27.64 317 08 50.88 23 22 08.32 31 14 35.18	Metinic..... Green Island... Woodenball... Isle au Haut...	25001.99 18104.62 9006.05 36864.75	4.3979747 4.2577894 3.9545345 4.5666133
Ragged Island, 1913..	43 49 18.436 68 53 40.749	569.0 910.6	131 44 27.3 195 32 39.4 238 58 54.1 233 17 08.6	314 39 43.5 15 33 39.9 59 03 22.5 143 18 45.3	Green Island.. No Mans Land Woodenball... Matinicus Rock L. H. (N.).	12866.3 7267.9 7839.8 5225.4	4.109455 3.861410 3.894305 3.71817
Woodenball, 1858....	43 51 29.160 68 48 39.856	900.1 890.0	145 24 20.57 161 58 44.54 168 57 21.27 213 35 40.99	325 10 08.74 341 55 24.50 348 54 32.12 33 43 43.69	Ragged Mtn... Hurricane Id... Fox Rocks... Isle au Haut...	47018.30 20746.89 28278.92 27967.06	4.6905014 4.3169530 4.4514627 4.4666469
John, 1913.....	43 52 10.351 68 54 05.934	319.4 132.5	353 56 42.8 113 36 58.1 235 56 44.7	173 57 00.2 293 32 31.6 55 58 02.6	Ragged Island Green Island... No Mans Land	5335.6 9360.9 3029.4	3.727184 3.971317 3.481357
No Mans Land, 1913.	43 53 05.300 68 52 13.500	163.6 301.3	301 51 42.3 354 01 01.1	121 54 10.4 174 01 37.4	Woodenball... Matinicus Rock L. H. (north). Green Island..	5617.8 11252.5	3.749569 4.061250
Metinic, 1858.....	43 53 37.519 69 07 35.719	1157.9 797.2	100 30 56.8	280 25 12.3		11275.4	4.052131
Green Island, 1859...	43 54 11.675 69 00 30.266	360.5 675.4	104 11 48.26 129 45 17.73	284 01 56.86 309 37 11.49	Monhegan Turkey Church... St. George church. High Island... Green Island..	19779.93 11173.28 15296.06 14347.25 9553.65	4.2962247 4.0481806 4.1845796 4.1567681 3.9801693
Two-Bush Island Lighthouse, 1902.	43 57 51.644 69 04 28.064	1503.9 625.7	111 43 18.6 191 42 44.9	291 41 12.7 11 43 20.3	Whitehead Lighthouse. High Island...	4350.1 5597.3	3.638500 3.747975

¹ No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PENOBLSCOT BAY AND RIVER—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Principal points—Continued.</i>							
Whitehead Light-house, 1859.	43 58 43.768 69 07 29.380	1350.7 654.9	69 31 34.96 126 04 11.32	249 28 34.11 306 00 55.90	Turkey church. St. George church. High Island... Green Island... Metinic....	10316.62 7752.37 6464.42 12565.51 9452.99	4.0135376 3.8894346 3.8105204 4.0991801 3.9755693
Norton Island, 1860..	43 59 01.284 69 08 37.980	39.6 846.4	243 33 04.8 352 04 58.0 62 57 55.6	63 36 33.9 172 05 41.2 242 53 42.4	High Island... Metinic.... Turkey church.	7486.7 10088.6 9133.1	3.874292 4.003833 3.800620
False White Head, 1859.	43 59 53.853 69 06 44.881	1682.1 999.9	178 52 38.3 196 09 48.5 247 46 09.8	358 52 32.6 311 11 17.4 67 48 20.3	Ingraham Hill Post Hill.... High Island...	9365.5 10223.2 4519.8	3.971532 4.009582 3.655120
High Island, 1858....	44 00 49.214 69 03 37.054	1518.9 825.3	63 17 14.75 161 45 20.26 234 12 02.63 259 44 22.05 260 15 14.49 310 44 00.36	243 09 32.47 341 41 31.76 54 19 37.71 79 51 25.25 80 33 41.57 130 54 22.89	Turkey church. Ragged Mtn ... Fox Rocks... Hurricane Id. Isle au Haut... Woodenball...	16619.67 23278.74 17922.28 13779.76 35960.40 26443.01	4.2206224 4.366505 4.2533933 4.1392416 4.5558245 4.4223109
Saddleback Ledge Lighthouse, 1861.	44 00 52.098 68 43 37.222	1608.0 829.1	149 41 32.9 168 32 15.2 191 34 19.5 235 56 10.8	329 39 02.5 336 28 03.1 11 36 00.7 56 00 43.8	Combs Hill... North Fox... Burnt Cove... Isle au Haut...	9538.1 20220.1 16003.2 10549.7	3.979463 4.305784 4.204207 4.023239
Hay Island, 1868....	44 00 56.169 68 47 38.647	1733.7 860.8	105 59 41.64 144 05 01.47	285 55 39.23 324 03 02.26	Hurricane Id. Isle au Haut Mountain... Coombs Hill...	8094.61 6506.48 8126.35	3.9081958 3.8133446 3.9098954
Duck Harbor Mountain, 1868.	44 01 23.541 68 38 59.188	726.6 1318.2	123 28 10.34 168 35 23.94 207 21 07.71 252 37 57.47	303 22 26.56 348 33 51.00 27 22 27.43 72 41 43.57do... Burnt Cove... Isle au Haut... Great Spoon Id	13185.10 15003.82 5554.21 7601.21	4.1200835 4.1762020 3.7446224 3.8808825
Hurricane Island, 1859	44 02 08.289 68 53 28.103	255.9 625.7	70 51 26.01 133 25 48.35 187 03 15.75 260 41 28.44	250 36 40.60 313 14 55.84 7 03 46.82 80 52 52.33	Turkey church. Ragged Mtn ... Fox Rocks... Isle au Haut...	30089.40 28651.15 8088.27 22181.54	4.4754135 4.4571421 3.9078558 4.3459917
Hall, 1860.....	44 02 49.386 69 10 40.982	1524.2 912.4	33 30 17.3 63 24 05.9 99 37 28.3	213 29 14.9 243 19 43.2 279 34 49.4	St. George church. Raccoon.... Smith....	3620.9 9418.8 5160.9	3.558812 3.973994 3.712722
Isle au Haut Mountain, 1868.	44 03 46.861 68 50 30.134	1446.4 670.6	52 29 44.23 149 15 38.27 236 59 38.99	232 27 40.95 329 14 05.53 57 01 55.71	Hurricane Id. Fox Rocks... Coombs Hill...	4995.26 5800.14 5214.20	3.6985582 3.7634383 3.7171878
Robinson Point Lighthouse, 1910.	44 03 53.705 68 39 06.778	1657.7 150.8	47 04 36 64 22 17 103 40 35	227 01 29 244 16 21 283 34 56	Saddleback Ledge L. H. Hay Island... Coombs Hill, 2	8226.5 12645.7 11148.1	3.915217 4.101942 4.047201
One, 1905.....	44 04 03.169 69 03 03.502	97.8 77.9	156 06 12.2 203 02 34.3 215 32 41.5	336 05 57.1 23 02 46.5 35 32 46.4	Barn..... Tripod.... Outer south beacon top.	1190.6 999.3 269.0	3.075751 2.999707 2.429748
Isle au Haut, 1854....	44 04 03.361 68 37 04.520	103.8 100.5	110 51 39.84 147 41 32.53 180 50 13.35 224 35 05.73	290 29 22.16 327 19 16.84 0 50 33.78 44 51 26.72	Ragged Mtn .. Mount Harris... Saunders.... Mount Desert.	45634.04 78733.76 65637.58 44389.25	4.6592889 4.8961610 4.8171525 4.8472778
Ten 2, 1911.....	44 04 04.443 69 02 43.357	137.1 964.9	84 50 16.2 138 25 50.5	264 59 02.2 318 25 21.4	One..... Barn....	450.0 1402.4	2.653257 3.146874
B, 1911.....	44 04 09.374 69 02 56.140	289.3 1249.4	298 08 30.0 40 32 57.3	118 08 38.9 220 32 52.2	Ten 2..... One..... Barn....	322.6 252.0 1105.5	2.508689 2.401449 3.043548

GEOGRAPHIC POSITIONS—Continued.

PENOBSQUIT BAY AND RIVER—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Principal points—Continued.</i>							
Outer South Beacon, top, 1905.	44 04 10.260 69 02 56.475	316.7 1256.8	143 42 27.4 198 31 29.4	323 42 07.4 18 31 36.7	Barn..... Tripod.....	Meters. 1079.0 739.0	3.033003 2.868647
York Island, 1868....	44 04 12.200 68 35 14.639	376.6 325.8	168 44 26.9 322 30 34.1	348 43 39.9 142 31 44.5	Spruce Island. Great Spoon Id	7683.7 3705.6	3.885573 3.568859
Tripod, 1905.....	44 04 32.963 69 02 45.923	1017.5 1021.9	100 56 54.6 163 04 53.2	280 56 27.3 343 04 39.7	Barn..... Hill..... Inner N. Bea- con Ecc.	889.6 1537.9 1164.6	2.949204 3.186938 3.066174
Barn, 1905.....	44 04 38.435 69 03 25.176	1186.4 560.2	198 05 58.1 210 45 22.0	18 06 11.4 30 45 53.0	Hill..... Owls Head Lighthouse. Inner N. Bea- con Ecc.	1370.3 1932.2 1199.8	3.136906 3.286055 3.079104
Cross, 1911.....	44 04 39.426 69 02 41.844	1217.0 931.1	1 47 09.2 23 18 07.7 88 11 13.6 157 03 37.6 180 50 56.9	181 47 08.2 203 17 52.7 268 10 43.5 337 03 20.8 0 50 57.7	Ten 2..... One..... Barn..... Hill..... Owls Head Lighthouse.	1080.3 1218.4 964.7 1381.1 1630.0	3.033530 3.085805 2.984381 3.140229 3.212179
Ingraham Hill, 1859..	44 04 57.236 69 06 53.128	1766.6 1182.0	34 41 04.6 45 27 25.0	214 35 38.4 225 23 44.2	Turkey church St. George church.	18404.8 9924.9	4.2649311 3.9967248
A, Monroe Id. steel beacon, 1911.	44 05 09.478 69 02 19.885	292.6 442.4	56 35 59.7 108 32 32.3 146 31 37.7	236 35 14.3 288 32 00.2 326 31 23.2	Barn..... Hill..... Owls Head Lighthouse.	1740.2 1083.1 841.9	3.240603 3.034649 2.925264
Outer North Beacon, top, 1905.	44 05 10.104 69 02 19.328	311.9 430.0	24 06 42.9 56 17 49.9 90 17 04.4	204 06 17.1 236 17 04.1 270 16 40.2	Outer S. Bea- con.	2023.6	3.306114
			90 25 12.7	270 24 48.5	Barn..... Inner N. Bea- con Ecc.	1761.2 774.6	3.245810 2.889088
			107 22 18.8	287 21 46.3	Inner N. Bea- con top.	774.8	2.889188
					Hill.....	1088.9	3.036977
Post Hill, 1859.....	44 05 11.969 69 04 36.961	369.4 822.3	350 39 20.7 40 55 24.4 81 28 36.8 159 27 36.0	170 40 02.4 220 48 23.6 261 27 02.1 339 26 20.9	High Id..... Turkey church Ingraham Hill Bear Hill.....	8218.7 20624.3 3063.4 6842.7	3.0148034 4.3143795 3.4862103 3.8352270
Coombs Hill 2, 1910..	44 05 18.816 68 47 13.576	580.8 304.2	329 38 15 3 55 30 42 03 07	149 40 46 183 55 13 222 01 00	Saddleback Ledge L. H. Hay Id..... Vinalhaven water tower.	9538.6 8125.5 6105.7	3.979485 3.909851 3.785739
Coombs Hill, 1861....	44 05 18.839 68 47 13.581	581.4 302.1	106 19 59.44 162 31 56.28 227 06 23.96 279 41 41.35	286 16 09.89 342 30 14.56 47 10 35.15 99 48 45.04	Fox Rocks..... North Fox..... Burnt Cove..... Isle au Haut..	7644.44 10800.91 10944.43 13750.92	3.8833455 4.0338320 4.0391933 4.1383319
Hill, 1905.....	44 05 20.634 69 03 06.041	636.9 134.4	193 04 58.9 237 31 34.0	13 05 04.1 57 31 51.6	Shag Rock Beacon.	733.5	2.865408
Owls Head Light- house, 1858.	44 05 32.231 69 02 40.758	994.9 906.9	8 10 10.23 139 15 00.81	188 09 31.09 319 12 24.72	Owls Head Lighthouse.	666.7	2.823912
			262 30 47.14 297 02 51.95	82 37 42.82 117 09 16.31	Bear Hill..... Fox Rocks..... Hurricane Id..	7634.65 13398.40 13817.07	3.8827890 4.1270548 4.1404160

¹ No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PENOBSQUIT BAY AND RIVER—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Principal points—Continued.</i>							
Starboard Rock, 1868	44 05 39.938 68 49 23.839	1232.8 530.3	22 55 05 108 37 27 282 39 13	202 54 19 288 35 09 102 40 44	Isle au Haut Mountain. Fox Rocks... Coombe Hill...	3789.0	3.578525 3.670647 3.472753
Rockland Break- water Lighthouse, 1902.	44 06 14.932 69 04 41.150	460.9 915.3	152 39 51.4 190 58 21.0	332 38 39.1 10 59 02.5	Bear Hill... Indian Island Lighthouse. Owls Head Lighthouse.	5025.5 6953.6 2984.7	3.701179 3.842210 3.474901
Fox Rocks, 1858....	44 06 28.359 68 52 43.438	875.3 966.0	58 41 55.19 118 10 08.63 212 14 29.99 282 00 06.92	238 26 38.25 207 58 44.58 32 26 32.44 102 11 00.18	Turkey church. Ragged Mtn... Blue Hill... Isle au Haut...	34433.54 24727.12 42906.31 21362.40	4.5366817 4.3931736 4.6325212 4.3296500
Ames, 1902.....	44 06 55.654 68 49 36.956	1717.9 822.0	313 07 28.4 78 32 04.8	133 09 08.2 258 29 55.0	Combs Hill... Fox Rocks...	4370.2 4231.7	3.640500 3.626519
Mark Island, 1907....	44 07 12.919 68 34 22.447	398.8 499.1	11 45 45.3 126 21 28.2	191 45 09.0 306 20 04.9	York Island... Spruce Island... Hat Island...	5697.4 3303.4 6185.3	3.755677 3.518966 3.791361
Dyer, 1861.....	44 08 41.616 68 54 37.879	1284.6 841.9	173 31 12.4 238 31 28.9 328 14 50.5	353 30 34.8 58 34 56.7 148 16 10.2	Gillkey... North Fox... Fox Rocks...	10665.4 7766.8 4836.3	4.027978 3.890242 3.684517
Pigeon Hill, 1860....	44 08 05.181 68 53 08.843	159.9 196.6	349 17 37.3 119 36 54.2 221 54 06.5	169 17 55.0 299 35 52.5 41 56 31.8	do..... Dyer... North Fox...	3041.3 2276.3 6957.1	3.483063 3.357223 3.842431
Goose Rocks Light- house, 1902.	44 08 07.868 68 49 52.141	242.9 1159.1	351 23 06.0 51 08 01.5	171 23 16.6 231 06 02.3	Ames... Fox Rocks...	2254.3 4892.8	3.353011 3.689555
Spruce Island, 1868..	44 08 16.351 68 36 22.130	504.7 492.0	6 53 19.90 69 20 47.11 106 57 06.54	186 52 50.40 249 33 13.65 286 53 44.12	Isle au Haut... Coombe Hill... Burnt Cove...	7865.19 15488.23 6751.67	3.8957091 4.1900018 3.8294112
Bear Hill, 1858.....	44 08 39.559 69 06 24.980	1220.9 555.2	26 46 49.74 29 07 18.02	206 41 03.65 209 03 17.49	Turkey church. St. George church.	24637.80 15823.25	4.3916020 4.1992957
			154 52 04.73 282 25 15.43 304 52 08.51 345 33 00.22	334 50 12.98 102 34 47.42 125 01 09.05 165 34 57.04	Ragged Mtn... Fox Rocks... Hurricane Id... High Island...	8381.93 18708.75 21083.95 14990.17	3.9223442 4.2720447 4.3229520 4.1758064
Deer Island Thoro- fare Lighthouse 1861.	44 08 04.130 68 42 13.794	127.5 306.4	52 36 19 117 46 32 210 03 52	232 32 50 297 41 22 30 04 35	Combs Hill... North Fox... Burnt Cove...	8395.0 11193.7 2706.9	3.924023 4.048973 3.432473
Porterfield Ledge Beacon, 1904.	44 09 14.974 69 03 43.271	462.2 961.6	181 41 43.2 213 59 51.6 252 21 18.5 348 33 52.0	1 41 44.4 34 00 57.3 72 24 33.5 168 34 35.4	Indian Island Lighthouse. The Graves Spindle. Mark..... Owls Head Lighthouse.	1270.0 3747.4 6526.3 7014.0	3.103793 3.573725 3.814664 3.845967
Burnt Cove, 1861....	44 09 20.028 68 41 12.759	618.1 283.5	71 01 40.44 104 19 42.87 190 18 20.28 330 31 03.35	250 53 39.53 284 13 49.68 10 19 03.57 150 33 56.15	Fox Rocks... North Fox... Deer Isle... Isle au Haut...	16242.86 11620.92 7704.85 11225.14	4.2106626 4.0652405 3.8867642 4.0501917
Indian Island Light- house, 1902.	44 09 56.102 69 03 41.580	1731.7 923.9	350 34 02.7 56 58 00.9 293 36 11.1	170 34 45.0 236 56 07.1 113 43 49.5	Owls Head Lighthouse. Bear Hill... Fox Rocks...	8255.8 4332.0 15973.2	3.916760 3.636686 4.203392
Mark, 1904.....	44 10 18.971 68 59 03.325	585.6 73.8	28 39 46.6 83 30 47.3 105 21 35.0	208 37 15.1 263 27 33.4 285 19 25.6	Owls Head Lighthouse. Indian Island Lighthouse. The Graves Spindle.	10084.2 6222.1 4275.5	4.003640 3.793940 3.630985

GEOGRAPHIC POSITIONS—Continued.

PENOBSCT BAY AND RIVER—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Principal points—Continued.</i>	• • "	• • "	• • "	• • "			
North Fox, 1858.....	44 10 52.895 68 49 39.603	1632.6 880.9	26 35 41.05 97 45 08.58 139 27 23.48 213 48 29.58 249 29 00.53 306 54 06.31	206 33 33.06 277 31 35.97 319 17 51.80 33 58 24.15 69 35 37.24 127 02 52.06	Fox Rocks.... Ragged Mtn.... Patterson.... Blue Hill.... Deer Isle.... Isle au Haut....	Meters. 9129.80 26116.95 27892.79 33833.88 13485.07 21015.72	3.9604519 4.4169225 4.4454919 4.5293489 4.1298534 4.3228444
The Graves Spindle, 1904.	44 10 55.620 69 02 08.936	1716.8 198.5	4 03 24.5 48 15 25.5	184 03 02.3 228 14 20.9	Owls Head Lighthouse.... Indian Island Lighthouse....	10006.4 2758.7	4.000278 3.440706
Graves, 1861.....	44 10 56.73 69 02 08.49	1751.1 188.6	128 05 39 189 00 35	308 04 40 9 01 20	Ojier..... Garey.....	2411.1 9060.9	3.382222 3.957173
Goose Island, 1911.....	44 11 04.446 68 57 04.539	137.2 100.8	220 47 42.7 238 47 36.9 244 32 07.2 272 01 23.9 36 07 09.6	40 51 25.8 58 52 54.8 64 35 41.8 92 06 33.9 216 03 15.4	Mark Island.... Spruce Head 2.... Compass Id.... North Fox.... Owls Head Lighthouse.... Negro Island Lighthouse....	10860.8 11829.0 7568.0 9887.9 12688.4 8069.3	4.035862 4.072947 3.878983 3.995102 4.103407 3.906838
Bald Island, 1911.....	44 11 21.350 68 47 05.356	659.0 119.0	313 11 16.2 75 38 28.2	133 14 39.3 255 36 40.7	Deer Island Thorofare Lighthouse.... North Fox....	8889.7 3538.0	3.948886 3.548759
Ojier, 1861.....	44 11 44.915 69 03 33.937	1386.4 753.6	33 36 31.5 104 15 54.6 245 09 49.8 274 52 18.3 303 59 26.2	213 34 32.3 284 12 03.5 65 15 25.8 95 01 59.8 124 06 59.3	Bear Hill.... Ragged Mtn.... Gilkey..... North Fox.... Fox Rocks....	6868.0 7591.2 11781.1 18598.2 17448.3	3.836833 3.880308 4.071185 4.289471 4.241754
Negro Island Light- house, 1904.	44 12 05.283 69 02 57.920	163.1 1286.2	302 10 43.5 333 09 30.5	122 13 27.0 153 10 04.6	Mark..... The Graves Spindle.... Owls Head Lighthouse....	6157.5 2409.7 12137.5	3.789408 3.381962 4.084131
Ragged Mountain, 1854.	44 12 45.385 69 09 05.331	1400.7 118.3	180 16 03.41 228 27 02.55 257 52 04.70	0 16 10.87 49 10 50.97 78 30 48.9	Mount Harris.... Humpback.... Mount Desert....	50297.37 109935.2 75384.39	4.7015453 5.0411376 4.8772814
Compass Island, 1911.	44 12 49.754 68 51 56.756	1535.7 1280.0	183 05 32.3 228 51 52.1 319 49 18.2	3 05 40.7 48 53 35.4 139 50 53.7	Mark Island.... Spruce Head 2.... North Fox....	4975.3 4365.1 4719.9	3.696815 3.639992 3.673931
Eagle Island Light- house, 1861.	44 13 03.936 68 46 08.012	121.5 133.4	118 26 33.3 166 45 05.5 316 40 07.8 324 08 34.4 5 58 40.9	298 24 11.9 316 43 49.4 136 43 32.2 144 14 51.5 185 57 53.8	Spruce Head.... Blake Point.... Burnt Cove.... Isle au Haut.... Coombs Hill....	5111.5 10536.9 9496.9 20572.7 14433.6	3.708551 4.022712 3.977562 4.313292 4.159374
Deer Isle, 1862.....	44 13 25.625 68 40 10.659	790.8 236.6	52 28 31.46 194 56 56.37 247 57 17.67 346 34 25.14	232 19 46.98 15 00 13.55 68 16 20.01 166 36 34.79	Fox Rocks.... Blue Hill.... Mount Desert.... Isle au Haut....	21109.28 24193.13 38062.96 17840.58	4.3244734 4.3836920 4.5805026 4.2514089
Spruce Head 2, 1911..	44 14 22.761 68 49 28.601	702.5 634.7	203 49 35.1 298 23 53.2	23 51 20.5 118 26 14.5	Spectacle Id.... Eagle Island Lighthouse....	8284.9 5112.4	3.918286 3.708623
Gilkey, 1861.....	44 14 24.953 68 55 32.122	770.2 712.8	80 24 57.1 144 47 19.5 232 32 29.5 309 52 36.4 345 41 31.3	260 15 29.9 324 41 53.7 52 37 48.6 129 56 42.2 165 43 28.9	Ragged Mtn.... Patterson.... Blake Point.... North Fox.... Fox Rocks....	18309.1 17911.1 12764.5 10201.5 15179.9	4.262668 4.253122 4.106003 4.008662 4.181270
Mark Island, 1911....	44 15 30.710 68 51 44.657	947.9 990.7	219 12 35.4 304 46 39.9	39 14 12.9 124 48 14.8	Western Id.... Spruce Head 2....	4900.6 3675.7	3.690251 3.565340

¹ No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PENOOSSET BAY AND RIVER—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Principal points—Continued.</i>							
Mark Island No. 2, 1862.	44 15 30.696 68 51 44.814	947.5 994.2	125 47 57.5 204 12 01.5 304 43 59.6	305 43 07.5 24 13 39.4 124 45 34.7	Temperance... Cape Rosier... Spruce Head...	11352.2 7581.6 3679.1	4.055081 3.879758 3.565744
Little Deer Isle, 1862.	44 17 11.455 68 42 31.430	353.6 696.9	60 40 17.4 110 04 17.6 223 50 32.2 335 51 09.2	240 35 26.3 290 00 31.6 43 52 09.1 155 52 47.5do..... Blake Point... Billings..... Deer Isle.....	10617.0 7634.4 4432.7 7638.0	4.026001 3.882773 3.616664 3.882978
Western Island, 1911.	44 17 33.709 68 49 24.921	1040.5 552.5	242 42 15.1 332 03 34.6 0 47 37.7	62 43 58.0 152 05 53.4 180 47 35.1	Spectacle Id... Eagle Island Lighthouse... Spruce Head 2...	3674.4 9423.7 5894.3	3.565186 3.974221 3.770432
South Islesboro Ob- servatory, 1911.	44 18 05.066 68 53 25.194	156.4 558.5	280 16 31.2 322 34 14.3 334 54 48.2	100 19 19.0 142 36 59.4 154 55 58.4	Western Id... Spruce Head 2... Mark Island...	5413.7 8638.0 5260.1	3.733498 3.936415 3.720906
Spectacle Island, 1872.	44 18 28.274 68 46 57.603	872.7 1276.8	172 23 41.4 239 32 34.4	352 23 33.4 59 34 58.3	Wire Cove Mt. Quarry.....	1906.2 5294.0	3.280170 3.723782
Blake Point, 1862...	44 18 36.212 68 47 54.962	1117.8 1218.0	230 05 49.84 312 54 18.05 9 14 13.69	50 14 31.87 132 59 42.14 189 13 00.64	Blue Hill..... Deer Isle..... North Fox....	21521.46 14069.64 14488.03	4.3328717 4.1482829 4.1610094
Billings, 1862.....	44 18 55.010 68 40 12.886	1698.0 285.6	86 48 08.3 205 27 56.9 309 11 47.7 359 43 17.3	266 42 45.4 25 31 15.8 129 17 31.0 179 43 18.8	Blake Point... Blue Hill... Naskeag Pt... Deer Isle.....	10257.3 14629.0 14083.3 10166.8	4.011034 4.165215 4.148705 4.007184
Flat Island, 1911.....	44 19 01.570 68 55 59.125	48.5 1310.3	92 01 24.7 126 29 16.2	271 59 32.1 306 26 17.5	Temperance... Flanders.....	3573.9 7043.8	3.553148 3.847806
Temperance, 1860....	44 19 05.627 68 58 40.298	173.7 893.1	25 37 00.4 197 04 47.0 238 45 45.2 268 38 28.2 273 34 10.4 305 27 28.2 334 15 45.2 341 14 28.9	205 33 35.4 17 05 30.6 58 52 32.5 88 44 56.5 93 41 41.1 125 33 53.3 154 17 56.5 161 18 37.7	Ojier..... Dickey Bluff... Castine..... Cape Rosier... Blake Point... Spruce Head... Gilkey..... Fox Rocks...	15082.1 4701.0 15082.4 12138.4 14330.9 15030.9 9615.8 24679.5	4.178461 3.672189 4.178523 4.090555 4.156273 4.176984 3.982987 4.392337
Cape Rosier, 1861....	44 19 14.715 68 49 24.564	454.2 544.4	10 35 30.7 42 22 44.7 107 10 39.9 184 31 50.3	190 33 12.1 222 18 28.1 287 00 57.0 4 32 09.2	Fox Rocks... Gilkey..... Patterson... Castine.....	24062.4 12100.5 19327.0 7552.8	4.381339 4.082804 4.286174 3.878110
Wire Cove Mount, 1872.	44 19 29.488 68 47 08.989	910.2 199.2	161 13 40.5 175 28 02.7	341 12 24.6 355 27 54.7	Castine..... Bakemans Hill... Quarry.....	7471.1 3201.4 4880.8	3.873386 3.505346 3.688487
Orrs Hill, 1911.....	44 20 03.317 68 49 32.103	102.4 711.3	19 15 51.0 54 46 40.3	199 14 18.4 234 43 57.4	Mark Island... South Islesboro Observatory... Dice Head Lighthouse...	8912.6 6324.9 5420.9	3.950005 3.801054 3.734070
Bird, 1871.....	44 20 17.763 68 59 56.102	548.3 1242.9	233 27 13.3 322 57 50.5	53 28 49.9 142 58 43.5	Dickey Bluff... Temperance...	3808.2 2789.0	3.580718 3.445450
Bakemans Hill, 1862- 1872.	44 21 12.884 68 47 20.412	397.7 452.1	37 01 52.2 104 54 52.0 151 00 22.0	217 00 25.4 284 50 29.3 330 59 14.0	Cape Rosier... Kedears Hill... Castine.....	4568.2 8609.7 4438.5	3.659742 3.934988 3.647233
Flanders, 1871.....	44 21 17.193 69 00 14.830	530.7 328.5	262 53 14.1 332 42 38.0 347 15 21.1	82 55 03.8 152 43 44.1 167 15 34.2	Dickey Bluff... Temperance... Bird.....	3501.1 4569.1 1880.7	3.544201 3.659833 3.274316
Cunningham, 1863...	44 21 29.034 68 36 53.771	896.2 1190.8	42 52 34.7 192 34 56.3 334 34 07.3	222 50 15.6 125 35 56.0 154 37 31.7	Billings..... Blue Hill... Naskeag Point	6485.3 8658.8 15126.1	3.811933 3.937456 4.179727

GEOGRAPHIC POSITIONS—Continued.

PENOBCOT BAY AND RIVER—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Principal points—Continued.</i>							
Dickey Bluff, 1860...	44 21 31.208 68 57 37.953	963.3 840.5	101 03 17.2 181 28 40.8 253 53 26.0 291 01 53.8 320 35 17.4 348 01 03.6	280 59 19.0 1 28 55.8 73 59 29.9 111 07 38.6 140 40 59.1 168 02 31.4	Patterson.... Mt. Ephraim.... Castine.... Cape Rosier.... Spruce Head.... Gilkey....	Meters. 7684.0 18416.2 11988.1 11713.7 17105.0 13449.2	3.885588 4.265199 4.078751 4.068695 4.233124 4.128695
Coombs Point, 1911...	44 21 53.679 68 51 42.391	1656.9 938.7	239 20 03.5 319 43 04.4 0 14 37.1 17 53 55.4	59 21 49.7 139 44 35.5 180 14 35.5 197 52 43.5	Dice Head Lighthouse.... Orrs Hill.... Mark Island.... South Islesboro Observatory....	3909.8 4464.5 11820.8 7414.8	3.592151 3.640769 4.072646 3.870101
Patterson, 1858.....	44 22 15.801 69 03 18.570	581.2 411.2	228 09 11.61 259 14 25.87 298 00 23.49 334 16 39.63 23 30 44.08	48 28 05.67 79 33 54.42 118 16 32.78 154 24 02.73 203 26 41.92	Saunders.... Blue Hill.... Deer Isle.... Fox Rocks.... Ragged Mtn....	47841.77 37598.10 34992.38 32345.74 19296.55	4.6798072 4.5751659 4.5427306 4.5124941 4.2854797
Kedears Hill, 1861...	44 22 24.503 68 53 36.189	756.3 801.3	47 41 13.8 72 56 30.2 254 48 37.2 316 24 05.8	227 37 41.2 252 53 41.1 74 51 52.0 136 27 01.6	Temperance.... Dickey Bluff.... Castine.... Cape Rosier....	9113.6 5600.4 6389.4 8085.8	3.959688 3.748218 3.805457 3.907721
Marshall Point, 1911	44 22 41.874 68 54 12.175	1292.5 269.5	41 41 12.8 64 24 23.4	221 38 05.4 244 21 59.6	Temperance.... Dickey Bluff Observatory flagstaff.	8934.2 5051.6	3.951058 3.703427
Dice Head Light-house, 1862.	44 22 58.256 68 49 10.469	1798.2 231.8	2 35 31.2 8 48 21.2 60 25 07.5 76 36 03.7	182 35 21.3 188 46 22.5 240 18 29.1 256 30 08.8	Cape Rosier.... Fox Rocks.... Temperance.... Dickey Bluff....	6906.9 30917.1 14520.8 11553.0	3.839283 4.490199 4.161982 4.062694
Castine, 1861.....	44 23 18.647 68 48 57.610	575.5 1275.0	84 32 52.58 143 53 39.31 254 07 02.09	264 22 50.41 323 47 49.94 74 16 28.31	Patterson.... Mt. Ephraim.... Blue Hill....	19148.69 18693.62 18605.68	4.2821391 4.2716933 4.2696456
Taplins Hill, 1872....	44 24 15.125 68 45 09.445	466.9 209.0	356 37 29.9 70 58 32.8 118 17 09.0 181 03 11.0	176 37 36.8 250 55 53.2 298 16 06.1 1 03 13.4	Wassons Hill.... Castine.... Emerson.... Penobscot....	3708.3 5342.0 2258.0 4165.0	3.569179 3.727705 3.353373 3.619617
Moose Point 2, 1911.	44 25 45.267 68 56 39.001	1397.3 862.6	330 07 53.0 9 26 27.2	150 09 35.7 189 25 46.0	Marshall Pt.... Dickey Bluff Observatory flagstaff.... Flanders....	6526.9 7952.1 9554.4	3.814704 3.900480 3.980202
Blue Hill, 1862.....	44 26 02.813 68 35 28.487	86.8 630.0	3 00 14.65 120 18 29.22 177 20 24.59 218 25 40.78 287 26 24.44	182 59 07.64 299 55 01.32 357 19 47.75 38 45 57.07 107 41 41.47	Isle au Haut.... Mount Harris.... Saunders.... Humpback.... Mount Desert....	40781.33 51192.06 24931.82 61135.65 30431.58	4.6104614 4.7092026 4.3967540 4.7862803 4.4833245
Penobscot, 1872.....	44 26 30.039 68 45 05.984	927.2 132.3	16 55 01.5 33 43 04.0 40 57 45.1	196 53 27.5 213 41 58.7 220 55 03.1	Bakemans Hill.... Emerson.... Castine....	10231.5 3720.0 7820.5	4.009939 3.570548 3.893236
Webster, 1863.....	44 26 38.391 68 47 13.588	1185.0 300.5	20 28 45.3 100 04 58.7 123 53 19.6 214 07 58.6	200 27 32.5 280 02 11.0 303 46 17.2 34 09 45.5	Castine.... Cape Jellison.... Mt. Ephraim.... Little Ball....	6580.9 5378.9 16037.2 6007.7	3.818285 3.730693 4.205129 3.778710
Patershall Hill, 1860.	44 26 51.464 69 01 16.629	1588.5 367.8	211 52 57.6 333 53 45.7	31 55 45.9 153 56 18.8 197 45 47.8	Mt. Ephraim.... Dickey Bluff.... Patterson....	10042.0 11006.0 8838.1	4.001822 4.041631 3.946357

GEOGRAPHIC POSITIONS—Continued.

PENOBSKOT BAY AND RIVER—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Principal points—Continued.</i>							
Cape Jellison, 1861....	44 27 08.830 68 51 13.108	272.6 289.8	337 06 44.5 350 39 57.3 19 50 56.4 39 17 30.9 60 55 15.4 134 53 37.8 245 00 33.7	157 06 19.3 170 41 13.3 199 49 16.3 219 13 01.7 240 46 47.8 314 49 23.2 65 08 08.4	Castine..... Cape Rosier..... Kedears Hill..... Dickey Bluff..... Patterson..... Mt. Ephraim..... Little Ball.....	771.4 14830.1 9329.6 13458.0 18378.7 11326.0 9558.4	3.867131 4.171143 3.969864 4.128982 4.264316 4.054077 3.980387
Little Ball, 1861....	44 29 19.467 68 44 41.028	600.9 906.6	27 01 24.49 103 24 43.84 139 24 10.54 296 22 15.18	206 58 24.85 283 15 54.30 310 17 50.22 116 28 42.19	Castine..... Mt. Ephraim..... Waldo..... Blue Hill.....	12499.55 17149.52 15710.33 13639.99	4.0968943 4.2342519 4.1961852 4.1348140
Sandy Point, 1863....	44 30 37.024 68 48 58.304	1142.8 1287.8	359 56 05.5 141 03 23.7 202 48 53.0 342 32 50.1	179 56 05.9 320 00 13.8 112 51 53.3 162 34 04.3	Castine..... Waldo..... Little Ball..... Webster.....	13531.3 10003.8 6167.4 7720.9	4.131338 4.000163 4.3790103 3.887667
Mount Ephraim, 1860.	44 31 27.647 68 57 16.443	853.3 363.1	217 06 10.36 239 00 10.01 25 19 59.77	37 08 39.89 109 15 28.43 205 15 46.19	Waldo..... Blue Hill..... Patterson.....	7795.05 30595.40 18788.08	3.8918187 4.4856562 4.2727244
McClouds, 1863....	44 33 00.118 68 47 15.062	3.6 332.4	27 18 33.7 333 26 38.6	207 17 21.3 153 28 26.6	Sandy Point..... Little Ball.....	4970.5 7613.1	3.696401 3.881564
Perry, 1863.....	44 33 33.608 68 43 55.943	1037.4 1234.7	7 14 15.5 50 47 55.7 76 46 59.6 100 14 12.7	187 13 43.9 230 44 23.6 256 44 39.9 207 00 25.5	do..... Sandy Point..... McClouds..... Waldo.....	7907.5 8618.4 4514.8 13167.8	3.889039 3.935426 3.654640 4.119512
Bucksport, 1863....	44 34 46.037 68 47 20.170	1421.0 445.0	15 44 58.7 90 39 27.8 206 21 58.3 358 01 29.6	195 43 49.9 270 34 58.9 116 24 21.7 178 01 33.3	Sandy Point..... Waldo..... Perry..... McClouds.....	7985.8 8453.1 5036.6 3271.4	3.903817 3.9270145 3.701617 3.514729
Waldo, 1857.....	44 34 49.002 68 53 43.299	1512.7 955.2	26 37 48.54 28 49 31.54 115 15 31.13 249 14 33.44 295 19 14.91 303 46 43.03	204 27 03.47 205 42 48.51 295 04 50.59 69 26 45.55 115 47 20.40 123 49 30.49	Ragged Mtn..... Patterson..... Mount Harris..... Saunders..... Mount Desert..... Blue Hill.....	45867.72 26417.08 22199.64 22199.64 24558.36 58943.27	4.6500003 4.4218848 4.3463459 4.3901993 4.7704342 4.4643650
Treats, 1863.....	44 36 27.620 68 51 34.445	852.5 759.5	43 02 49.2 299 11 02.8	223 01 18.7 119 14 01.3	Waldo..... Bucksport.....	4164.6 6425.5	3.619575 3.807908
Cobbs Hill, 1863-64....	44 38 53.746 68 48 37.656	1659.0 829.8	40 50 38.4 41 45 51.3 347 23 48.8	220 48 34.2 221 42 16.6 167 24 43.2	Treats..... Waldo..... Bucksport.....	5960.9 10123.7 7834.7	3.775313 4.005338 3.894024
Trevetts, 1863-64....	44 39 04.592 68 51 13.231	141.7 291.6	5 30 52.7 22 46 20.5 275 33 45.8	185 30 37.8 202 44 17.1 95 35 35.2	Treats..... Waldo..... Cobbs Hill.....	4867.9 8555.2 3444.5	3.687340 3.932231 3.537123
Saunders, 1856.....	44 39 29.652 68 36 21.001	915.3 462.6	41 27 10.76 91 13 37.14 93 50 30.24 239 34 21.16 272 42 42.03 291 23 00.14 318 24 28.92	221 04 15.51 270 50 43.86 272 37 12.86 59 55 16.82 93 04 15.78 111 53 08.05 138 40 24.59	Ragged Mtn..... Mount Harris..... Mount Blue..... Humpback..... Tunk..... Pigeon..... Mount Desert.....	65874.20 43048.27 137883.52 45402.23 40618.21 61181.17 45487.93	4.8187158 4.6339557 5.1395125 4.6570772 4.6087205 4.6578961
Mount Harris, 1855..	44 39 54.874 69 08 54.668	1693.9 1204.3	254 35 08.43 295 07 33.52	75 18 59.97 115 46 18.83	Humpback.... Mount Desert....	85099.58 81142.90	4.9269274 4.9092505
Stubbe, 1864.....	44 40 47.280 68 47 54.444	1459.4 1199.2	15 12 04.7 54 07 17.5	195 11 34.3 234 04 57.7	Cobbs Hill..... Trevetts.....	3631.6 5406.0	3.560092 3.732875
Bald Hill, 1864.....	44 41 47.124 68 49 47.379	1454.6 1043.2	306 35 35.4 343 58 53.2	126 36 54.8 163 59 42.2	Stubb..... Cobbs Hill.....	3098.0 5567.8	3.491076 3.745636
Baker, 1864.....	44 41 24.737 68 50 38.059	763.6 888.1	238 13 36.0 287 46 29.2	58 14 11.7 107 48 24.3	Bald Hill..... Stubb..... Cobbs Hill.....	1312.6 3784.1 5362.6	3.118122 3.577967 3.7293374

GEOGRAPHIC POSITIONS—Continued.

PENOOSCAT BAY AND RIVER—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Principal points—Continued.</i>							
Orrington, 1864.....	44 43 28.963 68 48 55.882	1203.3 1218.7	18 20 40.1 28 37 10.9 345 47 23.1	198 20 63.5 208 35 58.6 165 48 05.9	Bald Hill..... Baker..... Stubbs.....	3637.6 4720.3 5467.3	3.560280 3.673966 3.737773
Hampden, 1864.....	44 43 26.671 68 50 37.086	823.3 816.2	260 21 11.4 323 56 17.5 340 23 44.0 0 19 34.9 5 37 21.7	80 22 23.0 143 58 11.9 160 24 10.0 180 19 34.2 185 36 56.3	Orrington..... Stubbs..... Bald Hill..... Baker..... Trevets.....	2270.2 6085.1 3361.8 3764.0 8128.9	3.356065 3.784270 3.513463 3.575644 3.910033
Nichols, 1864.....	44 44 50.171 68 48 33.404	1548.6 734.8	12 24 46.3 46 34 02.5	192 24 30.8 226 32 35.4	Orrington..... Hampden.....	2250.0 3748.3	3.352191 3.573829
Academy, 1864.....	44 44 24.033 68 50 12.678	743.7 278.9	249 45 26.3 309 18 00.7 16 51 34.1	89 46 36.2 129 18 55.1 196 51 16.9	Nichols..... Orrington..... Hampden.....	2327.7 2198.1 1852.1	3.366619 3.342049 3.267663
Stewart, 1864.....	44 45 55.442 68 48 37.728	1711.3 829.7	29 46 18.9 36 32 06.7 216 58 13.8	209 44 54.8 216 31 01.8 36 56 02.4do..... Academy..... Bangor brick church..... Nichols.....	5290.0 3509.1 5643.4 2017.1	3.723458 3.545190 3.751541 3.304719
Doane, 1864.....	44 45 16.029 68 47 24.260	494.8 533.6	62 19 01.2 126 56 04.3	242 18 12.5 306 58 12.6do..... Stewart.....	1717.7 2022.7	3.234947 3.305923
Horseback, 1864.....	44 46 03.916 68 47 37.045	120.9 814.6	28 34 32.4 78 54 56.6 349 13 41.6	208 33 52.7 258 54 13.9 169 13 50.6	Nichols..... Stewart..... Doane.....	2592.0 1359.9 1504.7	3.413639 3.133505 3.177455
Hink, 1864.....	44 46 36.220 68 45 47.349	1118.0 1041.1	67 33 08.4 71 26 45.2 131 37 43.0 188 41 47.7	247 31 46.1 251 24 45.3 311 37 06.3 8 42 00.6	Horseback..... Stewart..... High Head..... Chamberlin.....	2610.1 3652.4 1534.6 2674.3	3.416657 3.596857 3.186006 3.427208
High Head, 1864.....	44 47 09.242 68 46 39.528	285.3 869.0	15 43 28.6 32 05 58.7 48 46 33.3 199 27 50.4	195 42 57.1 212 05 18.1 228 45 10.0 19 28 15.7	Doane..... Horseback..... Stewart..... Bangor brick church.....	3630.5 2380.3 3456.1 2370.2	3.559968 3.376626 3.538581 3.374791
Chamberlin, 1864....	44 48 01.858 68 45 28.952	57.4 636.3	26 21 35.0 43 41 35.8 46 46 57.3 128 44 04.7	206 20 13.8 223 40 46.2 226 44 44.3 308 43 40.4	Doane..... High Head..... Stewart..... Bangor brick church.....	5712.3 2246.0 5696.7 975.8	3.756813 3.851414 3.755623 2.989382
Thomas Hill, 1857....	44 48 23.812 68 47 00.888	735.1 19.5	10 26 46.62 61 36 21.01	199 22 03.60 241 20 56.32	Waldo..... Mount Harris.....	26666.72 32900.09	4.4256696 4.5171971
Bangor brick church, 1857.	44 48 21.637 68 46 03.589	668.0 78.9	321 57 55.46 29 01 14.45 93 03 29.54	142 04 45.49 201 55 51.13 273 02 49.16	Saunders..... Waldo..... Thomas Hill...	20632.71 27049.80 1261.00	4.3187458 4.4321641 3.1007158
<i>Supplementary points.</i>							
Brig Ledge, 1913....	43 49 05.531 68 52 45.529	170.7 1017.5	107 53 32.7 231 02 59.2 333 30 44.7	287 52 54.5 51 05 49.4 153 31 43.2	Ragged Id..... Woodenball... Matinicus Rock L. H. (north).	1296.7 7055.1 4235.6	3.112840 3.848501 3.626914
Ragged Id., north- ernmost windmill, 1913. ¹	43 50 05.28 68 53 03.85	163.0 86.0	337 48 21 127 23 00	157 49 32 307 17 51do..... Green.....	6085.7 12537.6	3.784313 4.098215
Young's, Judd y., house, chimney, 1913.	43 51 25.131 68 53 41.007	775.6 915.9	212 17 04.0 268 54 42.4 359 54 57.2	32 18 04.6 88 58 11.1 179 54 57.3	No Mans Land Woodenball... Ragged Id....	3657.2 6726.9 3910.2	3.563153 3.327812 3.592203

GEOGRAPHIC POSITIONS—Continued.

PENOBSCOT BAY AND RIVER—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
Congregational Church cupola, 1913.	43 51 48.367 68 53 34.281	1492.7 765.5	275 07 23.8 341 19 43.7	95 10 47.8 161 21 15.9	Woodenball... Matinic u... Rock L. H. (north). Ragged Id....	6601.8 9306.0	3.8196663 3.968764
Seal Island, 1913....	43 53 05.227 68 45 01.370	161.3 30.6	37 12 12.0	217 07 49.0	Matinic u... Rock L. H. (north). Woodenball... No Mans Land	14041.1 5708.8 9646.5	4.147401 3.756541 3.984372
Metinic Id., house, chimney, 1910.	43 53 37.962 69 07 33.028	1171.6 737.2	110 57 55.3 147 25 33.3 180 29 36.3	290 54 09.2 327 23 04.5 0 29 38.8	Mosquito Id... Tenant Har... bor L. H. Whitehead Id. Lighthouse.	7789.7 8881.2 9438.6	3.891522 3.948472 3.974908
Green Island, westernmost building, 1913.	43 54 19.931 69 00 36.794	615.1 821.0	281 32 22.0 294 35 17.4 315 00 15.9	101 38 11.0 114 39 48.4 135 05 04.2	No Mans Land John..... Ragged Id....	11466.9 9597.8 13149.3	4.059446 3.982170 4.118902
Little Green Island, 1913.	43 54 52.153 69 02 10.180	1609.7 227.1	283 51 07.5 294 45 04.1 312 06 35.5 314 55 02.6	103 58 01.2 114 50 39.8 132 12 28.5 135 02 32.2	No Mans Land John..... Ragged Id.... Matinic u... Rock L. H. (north).	13718.8 11906.5 15345.4 20498.0	4.137316 4.075783 4.185978 4.311712
Large house, north chimney, 1859.	43 59 50.367 69 07 02.284	1554.6 50.9	181 13 55.5 198 02 24.1 248 18 54.0 254 29 34.2	1 14 01.9 18 04 05.1 68 21 16.6 74 29 46.3	Ingraham Hill Post Hill.... High Island.... False White Head. Nortons Id....	9473.5 10440.1 4919.7 402.4 2615.8	3.976511 4.018703 3.691936 2.604660 3.417602
Rackleys Id., 1858...	43 59 55.849 69 03 07.269	1723.7 162.0	77 09 33.9 89 17 35.3	257 05 44.2 269 15 04.1	Nortons Id.... False White Head. High Island.... Post Hill....	7559.3 4848.9 1775.7 9959.1	3.878482 3.683645 3.249373 3.998220
Beale's house, chimney, 1859.	44 00 43.441 69 04 21.306	1340.8 474.6	64 26 35.1 94 47 21.3	244 24 55.4 274 41 55.2	False White Head. St. George church.	3545.9 10491.8	3.549726 4.020850
Brimstone Island, 1910.	44 00 47.224 68 46 10.561	1457.5 235.2	98 01 05 154 33 15	278 00 04 334 31 00	Hay Island... Starboard Rock. Saddleback Ledge L. H.	1981.4 10006.6	3.296978 4.000287
Garden Id., red spindle on ledge, 1859. ¹	44 00 47.34 69 05 46.92	1461.1 1045.2	268 50 39 38 02 08	88 52 09 218 01 28	High Island... False White Head.	2893.4 2095.9	3.461401 3.321379
Saddleback Id., 1861 ¹	44 00 51.47 68 43 37.63	1588.7 838.2	149 47 53 191 35 22	329 45 23 11 37 03	Coombs Hill... Burnt Cove...	9550.5 16024.1	3.980024 4.204773
Otter Id., black spindle on ledge, 1859. ¹	44 01 30.72 69 04 52.34	948.2 1165.7	307 22 22 39 59 32	127 23 14 219 58 14	High Island... False White Head.	2110.1 3901.7	3.324304 3.591258
Crescent Island, 1858.	44 01 19.615 69 02 09.957	605.4 221.8	64 11 48 136 50 43 155 29 15	244 10 47 316 47 26 335 27 33	High Island... Ingraham Hill Post Hill.....	2154.9 9211.4 7882.8	3.333434 3.964326 3.896680

¹ No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PENOBCOT BAY AND RIVER—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of dis- tance.
<i>Supplementary points—Continued.</i>							
Heron Neck Light- house, 1868.	44 01 31.162 68 51 45.093	961.9 1004.3	85 24 03.7 116 33 13.9 149 57 07.6 212 00 41.5	265 15 49.0 296 32 02.2 329 55 18.5 32 01 31.4	High Island... Hurricane Id... Leadbettors Island. Sands.....	Meters. 15910.2 2564.2 6971.1 3017.6	4.201675 3.408950 3.843302 3.479644
Lane's (Capt.) house, S. chimney, 1868.	44 02 19.989 68 50 07.580	617.0 168.8	85 23 43 128 39 46	265 21 24 308 36 50	Hurricane Id... Leadbettors Island. Sands.....	4479.5 7249.0	3.651226 3.860280
White Island, 1868...	44 02 38.355 68 54 41.886	1183.9 932.6	186 23 07 264 58 19 299 27 14	6 23 21 85 01 11 119 28 05	Leadbettors Island. Sands..... Hurricane Id... 1886.8	3984.2 5556.8 3.275718	3.600339 3.744821 3.275718
Vinalhaven water tower, 1910.	44 02 51.385 68 50 17.381	1601.5 386.9	192 55 55 292 29 41 315 16 52	12 56 32 112 34 20 135 18 43	Starboard Rock..... Saddleback Ledge L. H. Hay island...	5322.0 9647.5 5024.9	3.726073 3.984413 3.701129
South Thomaston, white spire, 1859.	44 03 10.427 69 07 19.185	321.8 427.1	186 45 48.5 189 58 27.3 202 25 55.9 223 53 08.4	6 46 26.3 9 58 45.4 22 27 28.7 43 55 01.2	Bear Hill..... Ingraham Hill... Jameson..... Post Hill.....	10229.9 3347.2 7772.0 5206.3	4.009871 3.524686 3.890534 3.716529
Dog Point, 1868....	44 03 14.957 68 52 21.806	461.7 485.4	35 39 31 136 37 46	215 38 45 316 36 22	Hurricane Id... Leadbettors Island. Sands.....	2532.3 3893.5	3.403517 3.590339
Farmhouse, center of chimney, 1863. ¹	44 03 53.89 69 09 41.10	1663.3 914.7	33 48 43 100 05 27	213 48 01 280 04 25	Hall..... Browns Hill...	2395.8 2021.3	3.379456 3.305622
Sheep Island, steel beacon, 1911. ¹	44 04 09.67 69 02 56.14	298.5 1249.4	0 32	180 32	B.....	9.24	0.96567
Wind, 1911.....	44 04 09.782 69 04 18.787	301.9 418.1	247 00 24.8 270 23 04.6 276 56 18.7	67 01 32.2 90 24 02.1 96 57 11.1	Cross..... B..... One.....	2343.2 1839.3 1687.8	3.366818 3.264648 3.227324
Crescent Beach, steel beacon, 1911. ¹	44 04 10.22 69 04 17.98	315.5 400.1	270 48 55 53 00 35	90 49 52 233 00 34	B..... Wind.....	1821.4 22.54	3.260410 1.352954
Outer South Beacon, 1905.	44 04 10.263 69 02 56.475	316.8 1256.9	90 25 49.8	270 25 23.1	Inner South Beacon.	853.6	2.931272
Inner South Beacon, top, 1905.	44 04 10.467 69 03 34.832	323.1 775.1	206 06 44.9 237 27 32.9 270 25 27.0	26 07 13.2 57 28 06.9 90 25 53.7	Inner North Beacon top. Tripod..... Outer South Beacon top.	2056.2 1291.0 853.6	3.313075 3.110922 2.931272
Inner South Beacon, 1905.	44 04 10.469 69 03 34.832	323.2 775.1	206 06 44.0 197 45 50	26 07 12.3 17 47 02	One.....	732.7	2.864940
Isle au Haut church spire, 1868. ¹	44 04 25.95 68 38 04.63	801.0 103.0	155 16 24 197 45 50	335 14 13 17 47 02	Burnt Cove... Spruce Island..	9994.5 7467.9	3.999760 3.873196
Basin, 1868.....	44 04 31.091 68 52 42.483	959.7 945.4	316 08 30 12 58 44 102 14 26	136 09 59 192 58 12 282 13 17	Sands..... Hurricane Id... Leadbettors Island.	4152.6 4523.0 2265.2	3.618317 3.655427 3.355097
Red schoolhouse chimney, 1859.	44 04 36.942 69 06 07.802	1140.2 173.6	121 50 52.4 196 59 03.0 241 50 59.7	301 50 20.9 16 59 46.1 61 52 03.0	Ingraham Hill Jameson..... Post Hill.....	1187.2 4719.0 2292.1	3.074519 3.673847 3.360242

¹ No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PENOBCOT BAY AND RIVER—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
Leadbetters Island, 1868.	44° 04' 46.640 68° 54' 31.971	1439.6 488.9	59° 23' 00.3 214° 54' 40.4 346° 12' 38.2	239° 16' 43.4 84° 55' 48.9 168° 13' 15.6	High Island.... Fox Rocks.... Hurricane Id....	14367.0 3829.0 5032.4	4.157367 3.583063 3.701771
Large white house, center of chimney, 1860. ¹	44° 04' 51.66 69° 06' 21.64	1504.4 481.5	103° 47' 34 254° 55' 47	283° 47' 12 74° 57' 00	Ingraham Hill.... Post Hill.....	721.4 2411.8	2.858165 3.382345
North Buoy, 1905....	44° 05' 09.561 69° 00' 39.160	295.1 871.3	0° 27' 48.3 59° 05' 26.9 90° 26' 26.9	180° 27' 47.8 239° 03' 51.4 270° 25' 17.2	South end of course. Outer South Beacon. Outer North Beacon.	1853.96 3561.7 2228.6	3.268109 3.551653 3.348029
P. H., 1911 ¹	44° 05' 09.88 69° 04' 30.92	304.9 687.9	270° 13' 50 351° 43' 07	90° 15' 21 171° 43' 15	A..... Wind.....	2915.3 1874.4	3.464677 3.272966
D. steel beacon on Post Hill, 1911. ¹	44° 05' 10.35 69° 04' 31.00	319.4 689.7	270° 30' 50 352° 48' 07	90° 32' 22 172° 48' 07	A..... P. H.....	2917.1 14.55	3.464958 1.162863
Inner North Beacon, eccentric, 1905.	44° 05' 10.227 69° 02' 54.145	315.7 1204.6	140° 31' 03.9 203° 40' 38.8	320° 30' 55.6 23° 40' 48.1	Hill..... Owls Head Lighthouse.	416.2 741.6	2.619298 2.870157
Inner North Beacon top.	44° 05' 10.266 69° 02' 54.153	317.5 1204.8	350° 58' 02.0 1° 35' 50.9 35° 04' 38.1 140° 22' 28.0	170° 58' 07.7 181° 35' 49.3 215° 04' 16.5 320° 22' 19.7	Tripod..... Outer South Beacon top. Barn..... Hill.....	1166.4 1853.4 1201.2 414.7	3.066860 3.267970 3.079613 2.617707
Inner North Beacon, 1905. ¹	44° 05' 10.29 69° 02' 54.15	317.6 1204.8	1° 35' 51	181° 35' 49	Outer South Beacon.	1853.4	3.267970
Outer North Beacon, 1905.	44° 05' 10.103 69° 02' 19.328	311.8 430.0	24° 06' 47.4 90° 25' 40.2	204° 06' 21.6 270° 25' 16.0	Outer South Beacon. Inner North Beacon.	2023.5 774.8	3.306093 2.889189
North's house chim- ney, 1860.	44° 05' 10.625 69° 04' 39.435	327.9 877.4	350° 13' 41.1 160° 00' 40.9 290° 34' 23.7	170° 14' 24.5 339° 59' 27.4 110° 42' 10.5	High Island.... Bear Hill.... Hurricane Id....	8186.9 6882.5 15966.7	3.913121 3.536485 4.203215
Shag Rock Beacon, 1902.	44° 05' 43.782 69° 02' 58.577	1351.4 1303.0	139° 47' 28.2 173° 00' 19.9 311° 58' 15.8	319° 45' 04.5 352° 59' 50.0 131° 58' 28.3	Bear Hill..... Indian Island Lighthouse. Owls Head Lighthouse.	7106.1 7846.2 533.1	3.851633 3.894662 2.726838
Fiddlers Ledge stone beacon, 1859.	44° 06' 06.234 68° 56' 24.144	192.4 837.1	331° 54' 18.9 44° 36' 11.2 109° 33' 52.2 126° 08' 29.7	151° 56' 21.4 224° 31' 10.2 289° 26' 53.9 305° 59' 39.4	Hurricane Id.... High Island.... Bear Hill.... Ragged Mtn.	8323.7 13732.9 14172.5 20925.6	3.920816 4.137761 4.151445 4.320677
White spire, vane, heart, and arrows, 1859.	44° 06' 14.262 69° 06' 42.132	440.2 937.1	184° 51' 31.5 234° 49' 20.7 304° 36' 51.0	4° 51' 43.4 54° 50' 27.7 124° 38' 18.1	Bear Hill..... Jameson..... Post Hill.....	4500.8 2820.3 3383.7	3.653266 3.418356 3.529388
Channel Rock white beacon, 1909. ¹	44° 06' 14.54 68° 41' 02.60	448.8 57.8	41° 56' 00 78° 16' 02	221° 51' 24 258° 11' 44	Hay Island.... Coombs Hill....	13201.0 8429.4	4.120666 3.925796
Channel Rock Bea- con, 1910.	44° 06' 14.635 68° 41' 02.450	451.7 54.5	78° 15' 04 84° 33' 49	258° 10' 46 264° 28' 00	Coombs Hill 2. Starboard Rock. Burnt Cove....	8435.4 11203.7 5726.9	3.926106 4.049360 3.757916
Rockland Catholic Church, 1859.	44° 06' 07.231 69° 07' 04.055	223.2 90.2	190° 27' 56.7 236° 42' 17.4 297° 31' 04.0	10° 28' 23.9 56° 43' 39.7 117° 32' 46.4	Bear Hill..... Jameson..... Post Hill.....	4781.2 3145.6 3690.0	3.679536 3.497707 3.567021

¹ No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PENOBSQUIT BAY AND RIVER—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
Rockland Universal- ist Church spire, 1911. ¹	44 06 13.92 44 06 42.26	428.7 938.9	184 53 04 268 19 20	4 53 16 89 26 45	Bear Hill..... Rockland Breakwater Lighthouse.	4511.6 2693.9	3.654332 3.490961
Rockland Congrega- tional Church, 1859.	44 06 23.976 44 06 37.377	740.0 831.3	183 46 01.8 239 16 57.0 306 40 20.0 7 27 28.2	3 46 10.4 59 18 00.7 126 41 43.7 187 27 17.2	Bear Hill..... Jameson..... Post Hill..... Ingraham Hill.	4193.8 2368.4 3480.5 2700.0	3.622611 3.374447 3.541642 3.431368
Rockland Methodist Church, 1859.	44 06 11.572 44 06 41.763	357.2 928.9	184 40 08.0 233 15 37.2 303 31 07.1	4 40 19.7 53 16 44.0 128 32 34.0	Bear Hill..... Jameson..... Post Hill.....	4582.8 2662.5 3330.4	3.661133 3.425284 3.522494
Rockland Baptist Church spire, 1869.	44 06 22.609 44 06 36.750	697.8 817.4	183 32 29.8 238 14 16.4 309 16 49.5 7 52 24.7	3 32 38.0 58 15 19.7 126 18 12.8 187 52 13.3	Bear Hill..... Jameson..... Post Hill..... Ingraham Hill	4235.0 2378.3 3442.9 2660.1	3.626856 3.376267 3.530930 3.424900
Rockland steam mill, tall chimney, 1860. ¹	44 06 29.69 44 06 38.75	916.3 861.8	243 25 51 311 30 38	63 26 56 131 32 03	Jameson..... Post Hill.....	2310.7 3618.5	3.363746 3.558523
Rockland First Bap- tist Church, clock faced tower, 1859. ²	44 06 51.008 44 06 31.228	1574.2 694.4	182 22 24.0 238 45 57.8 320 14 45.1 7 54 01.5	2 22 28.3 78 49 57.2 140 16 04.6 187 53 46.2	Bear Hill..... Jameson..... Post Hill..... Ingraham Hill	3353.5 1936.1 3975.3 3545.0	3.525492 3.286929 3.599369 3.549620
Rockland church cupola, 1859	44 07 08.110 44 06 11.526	250.3 256.3	275 57 40.5 329 35 19.4 12 54 23.0	95 58 26.3 149 36 25.3 197 53 54.1	Jameson..... Post Hill..... Ingraham Hill	1469.2 4156.2 4144.0	3.167081 3.618688 3.617422
Browns Heads L.H., 1859.	44 06 42.755 44 04 36.179	1319.6 804.8	47 51 41.9 102 57 17.2 120 10 45.1	227 45 25.7 282 49 03.7 300 00 39.6	High Island... Bear Hill..... Ragged Mt..	16247.6 16185.3 22321.0	4.210789 4.208584 4.348714
Calderwood's, Jesse, house chimney, 1861.	44 06 50.254 44 48 33.650	1551.2 748.3	168 55 21 244 42 20 327 43 58	348 54 35 64 47 27 147 44 53	North Fox... Burnt Cove... Coombs Hill..	7631.4 10836.3 3336.5	3.882607 4.034883 3.523294
Jameson Pt., white house chimney, 1859.	44 07 01.006 44 06 12.872	31.0 286.3	30 17 01.7 152 13 03.9 247 02 03.4	210 15 51.9 332 12 13.7 67 02 08.3	Ingraham Hill Bear Hill..... Jameson.....	4423.4 3438.4 170.5	3.645753 3.536356 2.231748
Samoset Hotel cu- pola pole, 1902.	44 07 02.876 44 06 07.090	88.7 157.6	149 52 57.6 199 33 40.2	329 52 03.4 19 34 39.8	Bear Hill..... Indian Island Lighthouse....	3450.2 5674.4	3.537838 3.753919
Center of dark barn on hillside, 1860. ¹	44 07 12.36 44 08 10.74	881.5 238.8	273 55 49 307 59 11	93 57 58 128 01 40	Jameson..... Post Hill.....	4121.7 6034.4	3.615090 3.780633
Large white house, green blinds, west chimney, 1859. ¹	44 07 28.12 44 06 38.88	867.9 864.5	19 31 51 316 19 35	190 30 59 136 19 58	Ingraham Hill Jameson.....	4941.1 1065.0	3.693820 3.027337
Widows Island Hos- pital cupola, 1902.	44 07 48.969 44 49 50.155	1511.5 1115.2	349 53 13.4 57 09 54.0 175 40 13.5	169 53 22.6 227 07 53.4 355 40 12.1	Ames..... Fox Rocks... Goose Rocks Lighthouse.	1671.5 4586.5 585.0	3.223114 3.661484 2.767132
Channel Rock tripod beacon, 1902.....	44 07 49.494 44 48 32.820	1525.7 729.7	339 14 12.4 40 38 24.9 65 49 33.9 107 50 11.5	159 15 07.6 220 37 40.4 245 46 39.5 287 49 16.4	Coombs Hill... Ames..... Fox Rocks... Goose Rocks Lighthouse.	4972.6 2189.7 6109.4 1852.3	3.696587 3.340389 3.788000 3.287711
St. Helena Id., 1868..	44 07 58.407 44 38 46.097	1802.8 1024.7	127 42 46 260 10 04 342 41 31	307 41 03 80 11 44 162 42 42	Burnt Cove... Spruce Island.. Isle au Haut..	4119.8 3247.9 7598.3	3.614872 3.511599 3.880716

¹ No check on this position.² Now (1911) known as First Church of Christ Scientist.

GEOGRAPHIC POSITIONS—Continued.

PENOBSCOT BAY AND RIVER—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
North Haven water tower, 1913.	44 08 00.361 68 52 24.623	11.1 547.4	46 32 06.1 71 36 23.1 78 49 59.9	226 25 18.9 251 29 14.2 258 41 27.2	Crescent Id... Owls Head Lighthouse. Rockland Breakwater Lighthouse.	17961.6 14444.2 16697.3	4.254346 4.159694 4.222646
Stimpson Island, 1860.	44 08 11.173 68 49 24.833	344.9 552.0	54 19 01.9 87 53 40.9 137 21 41.4	234 16 43.6 267 51 04.9 317 20 57.8	Fox Rocks... Pigeon Hill... Kents Hill....	5437.8 4983.0 2053.8	3.735425 3.697493 3.812566
Dodge Homestead, south chimney, 1859.	44 08 11.339 69 07 51.930	350.0 1154.4	245 43 54.3 299 39 26.3 321 54 51.8 337 24 24.8	65 44 54.9 119 41 22.0 141 57 07.5 157 27 22.2	Bear Hill.... Jameson.... Post Hill.... High Island...	2119.9 4250.7 7032.0 14777.6	3.326311 3.628456 3.847078 4.169605
Babbidges Island, house northeast gable, 1911.	44 08 43.096 68 47 02.807	1390.2 62.4	138 59 38.5 179 20 09.6 280 34 31.8	318 57 49.2 359 20 07.8 100 37 53.0	North Fox.... Bald Island.... Deer Isle Thorofare Lighthouse.	5310.0 4884.9 6535.9	3.725096 3.688852 3.815308
Crotch Island stack, 1910. ¹	44 08 45.86 68 40 32.17	1415.6 715.0	54 26 41 139 27 41	234 22 01 319 27 13	Coombs Hill 2... Burnt Cove...	10979.4 1387.7	4.040579 3.142308
Pulpit Harbor church spire, 1910. ¹	44 09 00.94 68 52 51.33	29.0 1140.9	230 55 22 12 45 01	50 57 35 192 44 49	North Fox.... Pigeon Hill....	5484.0 1764.4	3.739101 3.246603
Russ Island, 1868....	44 09 03.883 68 38 39.461	119.8 877.0	295 39 27 347 10 01 98 20 14	115 41 03 167 11 07 278 18 27	Spruce Island... Isle au Haut... Burnt Cove...	3386.6 9512.8 3443.0	3.529760 3.978309 3.536833
Stonington water tower, 1910.	44 09 29.893 68 40 24.538	922.7 545.3	15 02 02 31 23 16 49 36 44 59 25 44	194 59 48 211 18 14 229 31 59 239 19 29	Saddleback Ledge L. H. Hay Island.... Coombs Hill 2... Starboard Rock.	16546.5 18565.7 11950.1 13933.4	4.218706 4.268711 4.077371 4.144056
West Stonington church spire, 1910.	44 10 07.027 68 41 29.000	216.9 644.3	346 01 36 40 46 32 52 03 29	166 01 48 220 42 32 231 57 59	Burnt Cove... Coombs Hill 2... Starboard Rock.	1494.7 11740.9 13393.6	3.174557 4.069703 4.126897
Mark Island Point Spindle, 1904.	44 10 13.122 68 59 00.139	405.0 3.1	29 31 08.0 85 13 29.3 107 23 09.5 123 16 05.0 158 35 32.8	209 28 34.2 265 10 13.2 287 20 58.0 303 13 19.3 338 35 30.6	Owls Head Lighthouse. Indian Island Lighthouse. The Graves Spindle. Negro Island Lighthouse. Mark.....	9960.8 6274.9 4394.3 6314.7 193.9	3.998295 3.797605 3.642888 3.800355 2.287576
Turner's house chimney, 1861. ¹	44 10 04.02 68 52 15.12	124.1 336.0	151 30 42 246 23 23	331 28 24 66 25 12	Gilkey..... North Fox....	9164.8 3768.5	3.962124 3.576168
Rockport Universalist Church, 1860. ¹	44 11 04.23 69 04 33.45	130.6 742.9	29 02 16 117 22 19	209 00 59 297 19 10	Bear Hill.... Ragged Mount	5106.8 6796.7	3.708148 3.832300
Rockport Congregational Church, square spire, 1860. ¹	44 11 16.22 69 04 08.45	500.6 187.7	32 06 49 112 41 14	212 05 14 292 37 47	Bear Hill.... Ragged Mount	5708.2 7143.5	3.756497 3.853914
Rockport school-house clock tower, 1911.	44 11 20.637 69 04 23.475	637.0 521.3	340 21 57.0 347 01 41.3	160 22 26.2 167 02 09.3 28 30 47.1	Indian Island Lighthouse. Porterfield Ledge Beacon. Bear Hill.....	2770.2 3980.1 5657.3	3.442514 3.599899 3.752610

¹ No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PENOBSKOT BAY AND RIVER—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Supplementary points—Continued.</i>							
Lasell Island, 1911.	44 11 47.655 68 57 54.230	1471.0 1204.3	62 57 11.6 94 38 32.6	242 51 15.7 274 35 00.9	Bear Hill..... Negro Island Lighthouse. Seven-hundred-acre Island house, west gable.	Meters. 12745.9 6765.5	4.105371 3.830301
Ojier's, Edwin, house, 1860.	44 11 54.60 69 03 40.28	1685.2 894.4	31 18 24 102 17 03	211 16 29 282 13 16	Bear Hill..... Ragged Mount	7044.9 7385.3	3.847872 3.868371
Mouse Island Ledge Spindle, 1911.	44 12 07.95 68 56 28.88	245.4 641.3	22 00 15 89 29 32	201 59 50 269 25 01	Goose Island.. Negro Island Lighthouse.	2113.9 8638.8	3.325083 3.936455
Northeast Point Ledges Spindle, 1904.	44 12 31.048 69 02 49.464	958.4 1098.2	309 05 39.4 343 00 16.6	129 05 17.0 163 00 44.8	Mark..... The Graves Spindle. Negro Island Lighthouse.	6468.5 3079.8	3.810806 3.488528
Inner Ledges Spindle, 1904.	44 12 26.287 69 02 48.980	811.4 1087.5	308 04 42.6 342 22 02.8	128 07 19.9 162 22 30.7	Mark..... The Graves Spindle. Negro Island Lighthouse.	6368.5 2956.3	3.804038 3.467806
Eagle Island, highest house chimney, 1910.	44 13 00.88 68 46 13.05	27.2 289.7	315 35 48 49 17 24	135 39 17 229 15 00	Burnt Cove... North Fox....	9536.8 6054.4	3.979404 3.782070
Bear Island, house chimney, 1911.	44 13 01.49 68 49 37.79	46.0 838.9	312 23 17 0 35 57	132 25 03 180 35 56	Bald Island... North Fox....	4583.7 3969.5	3.661218 3.598735
Deer Isle, Northwest Harbor, church spire, 1861.	44 13 14.970 68 40 37.959	462.1 842.6	6 05 14 52 09 59	186 04 49 232 01 33	Burnt Cove... Fox Rocks....	7292.6 20428.6	3.862883 4.310239
Deer Isle, Northwest Harbor, parsonage, 1861.	44 13 20.880 68 40 18.431	644.5 409.1	9 13 28 52 30 16	241 30 32 229 41 22	Deer Isle..... Isle au Haut	689.5 17673.9	2.838515 4.247333
Deer Isle, north end, south church spire, 1861.	44 15 52.230 68 40 26.727	1612.2 592.8	43 18 18 53 04 55	189 12 50 232 58 29	Burnt Cove... Fox Rocks....	7531.1 20833.2	3.876860 4.319798
Deer Isle, north end, north church spire, 1861.	44 16 12.095 68 40 23.136	373.3 513.1	42 27 14 51 28 42	222 18 38 231 22 13	Deer Isle..... Isle au Haut...	226.2 17739.4	2.354481 4.248938
Mount Battie, hotel cupolas, 1911.	44 13 22.379 69 04 10.475	690.8 232.5	294 11 38.7 325 53 56.6	114 16 35.7 145 54 47.2	Goose Island.. Negro Island Lighthouse. Bear Hill.....	10371.4 2873.5	4.015839 3.458411
Durham Point, D. Eaton's house chimney, 1862.	44 13 26.375 68 43 05.784	814.1 128.4	101 36 53 146 10 44	281 32 26 326 07 23	Spruce Head... Blake Point... Little Deer Isle	8671.4 11515.1 6988.9	3.938090 4.061267 3.844409
Frenchmans Id., 1862.	44 14 07.33 68 51 03.97	226.3 88.1	132 20 26 193 04 13	312 15 07 13 05 22	Temperance... Cape Rosier...	13681.4 9740.3	4.136130 3.988574
Brackett's cottage, flagpole, 1911.	44 14 24.60 68 55 31.41	759.3 697.0	247 54 03 301 32 55	67 56 42 121 35 25	Mark Island... Compass Island	5429.0 5591.8	3.734717 3.747555
Seven-hundred-acre Island house, west gable, 1911.	44 15 02.248 68 57 54.050	69.4 1199.2	43 53 47.8 51 01 36.8	223 47 51.6 230 58 04.9	Bear Hill..... Negro Id. L. H.	16378.2 8678.9	4.214266 3.938464

1 No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PENOOSCAT BAY AND RIVER—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
House with white roof, N. gable, 1911. ¹	44 15 23.54 68 54 47.32	726.6 1049.8	218 57 03 266 51 27	39 00 43 86 53 35	Orra Hill..... Mark Island....	11108.8 4068.2	4.045069 3.608336
White barn cupola, 1911.	44 15 48.388 69 01 13.961	1493.6 309.7	300 33 00.5 18 31 59.2 27 34 56.6	120 41 04.7 198 30 46.7 207 31 22.9	North Fox..... Negro Id. L. H. Bear Hill.....	17907.7 7262.4 14929.1	4.253041 3.861083 4.174035
Grindel Point Light- house, 1861.	44 16 53.956 68 58 36.546	1665.4 810.3	342 43 54.8 70 45 43.5 145 55 33.7	162 44 39.7 280 42 36.4 325 58 07.4	Gilkey..... Garey..... Temperance....	4816.0 6245.8 4903.4	3.682686 3.798032 3.698493
Hog Island barn, south gable, 1862.	44 17 02.972 68 47 32.580	91.7 722.4	27 29 47 170 13 11 267 43 31	307 28 26 350 12 56 87 47 01	Spruce Head..... Blake Point..... Little Deer Isle	5574.2 2020.4 6682.5	3.746185 3.665447 3.824941
Carter's house north chimney, 1862.	44 17 05.793 68 37 14.433	178.8 320.0	91 27 18 130 27 15 324 13 28	271 28 37 310 28 11 144 14 59	do..... Billings..... Little Torry Island.	7630.9 5197.4 4930.5	3.847012 3.715788 3.693894
Ialeboro south church spire, 1862.	44 17 24.447 68 54 31.552	754.6 699.6	49 00 13.7 70 56 07.0 119 33 04.7	228 53 55.2 250 51 32.7 399 30 11.1	Olier..... Garey..... Temperance....	15958.3 9222.4 6336.8	4.202987 3.964844 3.801867
Duck Trap church spire, 1861.	44 17 27.573 69 00 31.530	851.1 699.1	291 08 20.2 310 02 19.1 332 58 41.6	111 16 02.7 130 09 53.9 152 59 07.9	Spruce Head..... North Fox..... Fox Rocks....	15772.9 18912.2 22848.3	4.197912 4.276741 4.388964
Pond Island, lone spruce, 1869.	44 17 36.824 68 48 31.582	1136.6 700.2	203 52 51 275 33 57 11 55 08	23 58 51 95 38 08 191 54 28	Blake Point..... Little Deer Isle Spruce Head....	2004.8 8023.3 6121.8	3.302066 3.904354 3.796579
Round (pavilion near Spruce Head) 1911. ¹	44 18 01.71 68 58 31.14	52.8 690.3	241 14 54 309 26 34	61 16 40 129 28 14	Flat Island..... Grindel Point Lighthouse....	3842.7 3260.8	3.584634 3.517302
Little Deer Isle, Black's house, south chimney, 1862.	44 18 11.305 68 43 57.558	349.0 1275.9	46 10 24 98 20 07 254 49 13	226 06 33 278 17 21 74 51 50	Spruce Head..... Blake Point.... Billings..... Little Deer Isle	10181.0 5318.0 5199.1 2656.8	4.007790 3.725745 3.712678 3.424355
Green diamond- shaped gable, 1911.	44 18 15.865 68 53 17.222	489.7 381.8	212 04 01.9 284 09 27.6 324 48 17.3	32 06 54.4 104 12 09.9 144 50 56.9	Dice Head Lighthouse.... Western Id.... Spruce Head 2	10288.3 5311.5 8802.0	4.012345 3.735918 3.944582
Pumpkin Id. L. H., 1862. ¹	44 18 23.40 68 44 36.39	1031.0 806.5	39 58 36 91 09 01	219 55 12 271 06 43	Spruce Head..... Blake Point....	10001.9 4402.1	4.008942 3.643658
Cape Rosier, barn, red cupola, 1911.	44 18 46.726 68 48 14.996	1442.3 330.1	11 21 03.6 34 33 46.5 37 34 16.3	191 20 12.1 214 32 57.6 217 31 49.9	Spruce Head 2 Western Id.... Mark Island....	8309.8 2736.5 7631.3	3.919591 3.437202 3.882598
Redmans Hill, 1872..	44 18 54.417 68 48 46.928	1679.7 1040.1	178 20 22.2 243 28 55.6 254 56 50.3	358 20 14.7 63 30 04.0 75 00 30.6	Castine..... Wire Cove Mt.... Quarry....	8159.2 2425.3 7238.8	3.911646 3.384768 3.859367
Boulder, opposite Great Spruce Head, 1911. ¹	44 19 26.06 68 57 17.36	804.4 384.7	293 33 06 349 05 19	113 34 01 169 06 48	Flat Island..... Grindel Point Lighthouse....	1891.3 4781.3	3.276770 3.679542
Spruce Head, house, flagpole, 1911. ¹	44 18 32.56 68 57 49.38	1005.0 1094.5	249 51 55 332 02 44	69 53 12 152 03 35	Flat Island..... Grindel Point Lighthouse....	2602.4 3445.3	3.415381 3.537231
Isleboro Baptist Church spire, 1862.	44 19 56.809 68 53 57.140	1753.5 1266.0	75 53 41.7 120 48 17.4 226 45 56.9 282 06 50.3	255 50 23.9 300 45 43.1 46 49 26.4 102 10 00.8	Temperance.... Dickey Bluff.... Castine..... Cape Rosier....	6470.1 5698.2 9100.0 6177.8	3.810909 3.758537 3.959041 3.790835

1 No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PENOBCOT BAY AND RIVER—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
Foster, 1872.....	44 20 14.553 68 49 26.003	449.2 576.1	186 18 40.4 237 04 35.4 359 00 39.9	6 19 00.2 57 06 03.2 179 00 40.9	Castine..... Bakemans Hill Cape Rosier...	5717.0 3313.7 1847.2	3.757166 3.520812 3.266513
Red and green hotel cupola, 1911.	44 20 17.734 68 53 28.326	547.4 627.5	274 50 14.8 313 09 38.7 345 26 51.2	94 52 50.9 133 12 28.7 165 28 03.6	Orrs Hill..... Western Id.... Mark Island...	5252.2 7398.0 9152.5	3.720339 3.869113 3.961588
North Isleboro, north tank, 1911.	44 20 44.354 68 52 50.176	1369.1 1111.4	286 04 57.5 322 16 36.8 351 27 41.7	106 07 16.0 142 19 00.2 171 28 27.5	Orrs Hill..... Western Id.... Mark Island...	4567.0 7437.4 9789.2	3.659632 3.871424 3.990748
North Isleboro, south tank, 1911.	44 20 43.934 68 52 50.292	1356.1 1114.0	285 55 02.8 322 12 00.4 351 26 07.7	105 57 21.4 142 14 23.9 171 26 53.6	Orrs Hill..... Western Id.... Mark Island...	4568.9 7428.8 9776.8	3.659526 3.870917 3.990196
John B's Mount, 1872	44 20 50.634 68 45 40.920	1562.9 906.3	300 51 32.5 37 55 34.3 107 19 09.8	120 53 02.9 217 54 32.7 287 18 00.2	Quarry..... Wire Cove Mt. Bakemans Hill	3336.9 3174.9 2308.1	3.523342 3.501731 3.363262
Long Mount, 1872....	44 20 17.006 68 45 46.985	524.9 1040.9	129 49 04.2 282 39 31.2 51 06 42.2	309 47 58.9 102 41 05.8 231 04 44.9do..... Quarry..... Wire Cove Mt.	2683.9 3073.6 2335.0	3.430388 3.487643 3.368284
Wreck, Long Ledge, off Cape Rosier, 1910. ¹	44 21 00.34 68 51 26.72	10.5 591.8	334 09 36 352 46 17	154 13 20 172 47 32	Eagle Id. L. H North Fox....	16334.0 18890.1	4.213092 4.276441
Barley Ledge Spin- dle, 1911. ¹	44 21 00.87 68 55 02.46	26.9 54.5	53 37 42 160 19 43	233 35 10 346 18 35	Temperance... Moose Point...	5995.4 9034.6	3.777818 3.955008
Dickey Bluff Obser- vatory flagstaff, 1911.	44 21 31.124 68 57 37.901	960.7 839.4	17 06 50.8 82 57 43.0	197 06 07.2 262 55 53.3	Temperance... Flanders.....	4698.8 3501.9	3.671991 3.544290
Red and white wind- mill, 1911.	44 21 39.383 68 52 01.410	1215.6 31.2	223 39 39.7 237 13 57.1	43 39 53.0 57 15 56.6	Coombs Point. Dice Head Lighthouse. Orrs Hill....	610.0 4500.1 4441.7	2.785318 3.653222 3.647554
Wainwright, 1872 ¹ ..	44 21 51.49 68 47 17.55	1589.3 388.6	3 02 37 140 32 30	183 02 35 320 31 19	Bakemans Hill Castine.....	1198.3 3484.9	3.076744 3.542187
Holbrooke Island, 1872.	44 21 59.152 68 48 55.842	1825.8 1225.4	178 49 40.7 304 10 49.4 7 16 15.3	358 49 39.1 124 11 55.8 187 15 54.9do..... Bakemans Hill Cape Rosier...	2454.2 2541.4 5116.6	3.389918 3.405075 3.708981
Dickey Bluff, house, east gable north of, 1911. ¹	44 22 07.83 68 57 32.57	241.7 721.2	190 00 42 256 39 24	10 01 19 76 41 44	Moose Point... Marshall Pt...	6815.3 4559.4	3.833487 3.658907
Patterson 2, 1911 ¹ ...	44 22 18.75 69 03 18.56	578.8 410.9	234 10 23 280 59 44	54 15 02 101 03 42	Moose Point... Dickey Bluff Observatory flagstaff.	10900.2 7685.1	4.037435 3.885649
Red house chimney, 1872.	44 22 30.306 68 47 28.268	935.5 625.8	127 02 30.1 278 03 05.5 355 50 09.7	307 01 27.6 98 04 49.5 175 50 15.2	Castine..... Wassons Hill... Bakemans Hill	2477.5 3324.7 2396.0	3.394010 3.521757 3.379493
Stone beacon, 1872...	44 22 58.135 68 47 53.816	1640.1 1191.3	119 09 09.0 286 52 21.4 346 33 14.4	299 08 24.4 106 54 23.3 166 33 37.8	Castine..... Wassons Hill... Bakemans Hill	1616.8 4031.2 3181.5	3.208669 3.608429 3.502637
Northport wharf cu- pola, 1911. ¹	44 22 53.00 68 58 01.41	1635.9 31.2	198 55 20 273 50 58	18 56 17 93 53 38	Moose Point.. Marshall Pt...	5621.3 5086.4	3.749835 3.706410
Yellow house, north chimney, 1871. ¹	44 22 57.66 68 58 52.89	1779.8 1170.8	328 07 16 30 20 24	148 08 09 210 19 26	Dickey Bluff.. Flanders.....	3142.1 3592.8	3.497223 3.555431
Castine Orthodox Church spire, 1873.	44 22 21.325 68 48 01.487	658.2 32.9	296 51 49.7 347 04 34.7 86 11 53.6	116 53 56.9 167 05 03.4 266 11 14.3	Wassons Hill... Bakemans Hill Castine.....	4514.7 4067.5 1245.01	3.654627 3.609325 3.095159

¹ No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PENOBSQUIT BAY AND RIVER—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
Castine Normal School spire, 1911.	44 23 25.807 68 48 14.854	796.6 328.8	17 36 36.0 76 05 07.2 111 09 01.5 150 12 43.3	197 34 49.5 255 56 43.7 291 03 08.7 330 10 38.5	Mark Island... Flanders.... Moose Point... Cape Jellison...	15383.5 16427.3 11956.6 7933.3	4.187056 4.215567 4.077609 3.894455
Castine yellow wind-mill, 1911.	44 23 41.215 68 47 53.158	1272.2 1176.5	18 44 20.3 108 16 06.1 122 46 27.6	198 41 28.6 288 09 57.1 302 43 02.9	Mark Island... Moose Point... Sears house, west chimney.	15985.2 12248.4 7694.6	4.207719 4.088079 3.886185
Castine Unitarian Church spire, 1872. ¹	44 23 26.02 68 47 53.62	803.2 1186.8	299 33 21 349 51 08	119 35 23 169 51 32	Wassons Hill... Bakemans Hill	4429.8 4174.7	3.646380 3.620623
Old normal school-house, 1872.	44 23 27.448 68 47 55.616	847.2 1231.0	299 46 01.3 349 22 06.3 78 48 26.9	119 48 04.4 169 22 30.9 258 47 43.5	Wassons Hill... Bakemans Hill	4489.9 4226.0 1398.8	3.652238 3.625929 3.145754
Turtle Head 2, 1863.	44 23 30.813 68 52 54.202	951.1 1199.6	59 35 11.0 198 22 23.2 274 04 42.3	239 31 52.7 18 23 34.0 94 07 27.8	Dickey Bluff... Cape Jellison... Castine.....	7286.5 7091.3 5250.1	3.862518 3.850726 3.720163
Brooksville church spire, 1863. ¹	44 23 41.58 68 45 27.48	1283.4 608.2	28 35 32 81 22 06	208 34 13 261 19 39	Bakemans Hill	5226.4 4704.4	3.718205 3.672505
Oldest house in town, tall chimney, 1872.	44 23 41.611 68 47 33.655	1284.4 744.9	209 44 20.1 308 00 51.3 356 20 39.5	29 44 58.1 128 02 39.6 176 20 48.8	Emerson.... Wassons Hill... Bakemans Hill	2423.5 4329.8 4600.0	3.384444 3.636466 3.662756
Baggaduce, 1872 ¹	44 23 48.10 68 41 52.16	1484.8 1154.4	100 50 07 139 23 40	280 47 49 319 21 24	Taplins Hill... Penobscot....	4444.8 6585.6	3.647851 3.818593
White schoolhouse, north chimney, 1871. ¹	44 23 58.44 68 59 59.84	1803.9 1324.3	325 20 02 3 48 56	145 21 41 183 48 45	Dickey Bluff... Flanders.....	5524.4 4988.1	3.742283 3.697934
Tall poplar, 1871 ¹	44 23 24.31 68 59 25.85	750.4 572.1	325 36 21 15 27 13	145 37 36 195 26 39	Dickey Bluff... Flanders.....	4280.1 4070.7	3.626355 3.609668
Wadsworth Cove boulder, 1911. ¹	44 24 02.47 68 48 47.54	76.2 1052.1	71 31 55 106 57 57	251 23 54 286 52 27	do..... Moose Point...	16047.9 10902.8	4.205419 4.037538
Blue Hill Congregational Church spire, 1863.	44 24 41.376 68 35 31.671	1277.1 700.7	181 36 17 280 18 21	1 36 19 100 20 31	Blue Hill.... Wood..... Carter.....	2514.6 4174.2 9265.0	3.400476 3.620575 3.966844
North Castine flag-staff, 1863. ¹	44 24 51.48 68 46 31.63	1589.0 699.8	48 26 31 124 17 00	228 24 49 304 13 43	Castine..... Cape Jellison...	4318.0 7532.0	3.635279 3.876911
Bukers flagstaff, 1863. ¹	44 25 38.34 68 46 19.90	1183.4 440.2	147 21 38 197 44 54	327 21 01 17 46 04	Webster..... Little Ball....	2201.2 7166.9	3.342653 3.855330
Fish house, south gable, 1911.	44 25 00.075 68 49 06.674	2.3 147.6	30 56 21.1 65 07 09.7 97 58 49.6	210 54 32.3 244 59 22.3 277 53 33.0	Coombs Point... Flanders.... Moose Point...	6706.7 16311.6 10102.9	3.826508 4.212496 4.004444
Belfast Steel Ledge monument, 1862.	44 25 09.882 68 58 22.596	305.0 499.9	51 09 15.3 244 02 08.7 351 40 01.0	231 05 48.2 64 03 19.6 71 40 32.2	Patterson.... Moose Point... Dickey Bluff..	8413.8 2489.7 6821.6	3.924994 3.396149 3.833888
Belfast Methodist Church spire, 1862.	44 25 29.910 68 00 20.946	923.1 463.4	200 15 03.8 264 26 01.8 284 56 02.6 302 32 06.2 333 53 47.6	20 17 13.0 84 28 35.5 105 04 00.6 122 36 49.4 153 55 41.6	Mount Ephraim... Moose Point... Castine..... Kedears Hill... Dickey Bluff..	11771.0 4879.2 15638.9 10629.5 8203.6	4.070815 3.688347 4.194622 4.026511 3.914006
Belfast wharfcupola, 1911. ¹	44 25 33.68 68 59 57.28	1039.6 1267.1	288 28 04 304 44 35	108 35 36 124 48 36	Dice Head Lighthouse... Marshall Pt...	15095.5 9297.7	4.178848 3.968374

¹ No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PENOBSQUIT BAY AND RIVER—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
Jones, 1863.....	44 25 13.921 68 45 32.877	429.7 727.3	51 52 28.3 115 16 14.7 188 35 43.5	231 50 05.0 295 12 16.5 8 36 19.8	Castine..... Cape Jellison..... Little Ball.....	5760.6 8318.7 7665.4	3.760466 3.920053 3.884537
Connor's steam mill chimney, 1862. ¹	44 25 16.54 68 59 46.24	510.5 1022.9	257 46 55 337 46 48	77 49 04 157 48 18	Moose Point... Dickey Bluff...	4183.3 7512.5	3.821519 3.875787
Yellow barn cupola, 1911.	44 25 46.546 68 58 54.461	1426.7 1204.6	291 50 32.3 312 21 14.1 12 04 59.7	111 57 21.0 132 24 31.6 192 04 03.5	Dice Head Lighthouse..... Marshall Pt.... Flanders.....	13927.3 8458.4 8502.2	4.143867 3.927186 3.929531
Steel Ledge Beacon, 1911.	44 25 09.888 68 58 22.575	305.2 499.4	288 20 26.3 344 22 34.8 19 05 37.6	108 26 52.7 164 24 15.1 199 04 19.1	Dice Head Lighthouse..... Flat Island.... Flanders.....	12875.7 11804.0 7600.1	4.109771 4.072028 3.880819
Gilmore's house, east chimney, 1862. ¹	44 25 51.90 68 57 59.31	1602.0 1311.9	276 50 45 356 38 08	96 51 40 176 38 23	Moose Point... Dickey Bluff...	1735.8 8060.3	3.239507 3.906353
Sear's house, west chimney, 1911.	44 25 56.057 68 52 45.670	1730.3 1010.1	319 01 56.7 338 29 57.3 349 23 30.4	139 04 27.3 158 32 12.7 169 24 14.7	Dice Head Lighthouse..... Orrs Hill..... Coombs Point...	7265.9 11700.5 7611.3	3.861290 4.068206 3.881456
Moose Point, barn, southeast gable, 1911.	44 26 08.432 68 56 48.183	260.3 1065.6	300 03 09.0 331 33 07.8 355 16 58.7	120 08 29.3 151 34 56.9 175 17 32.9	Dice Head Lighthouse..... Marshall Pt.... Flat Island....	11705.8 7250.2 13220.4	4.068401 3.860352 4.121243
Head of Tide church spire, 1862. ¹	44 26 58.26 69 03 20.84	1798.3 460.8	274 21 11 359 40 00	94 22 38 179 40 02	Patershal Hill... Patterson.....	2754.4 8625.9	3.440027 3.935306
Long Cove coal tower, 1911.	44 27 05.773 68 53 56.119	178.2 1240.8	2 29 54.8 37 57 05.0	182 29 43.6 217 52 40.1	Marshall Pt... Flanders..... Moose Point...	8153.4 13638.5 4376.0	3.911337 4.134751 3.641082
Long Cove, yellow tank, 1911.	44 27 31.893 68 53 58.546	984.4 1294.3	1 55 49.1 35 47 12.3 47 10 03.7	181 55 39.6 215 42 49.1 227 08 11.4	Marshall Pt... Flanders..... Moose Point...	8956.9 14250.9 4839.6	3.952160 4.153343 3.684807
Cape Jellison, house chimney, 1911. ¹	44 27 16.10 68 50 47.21	497.0 1043.8	344 56 21 28 11 59	164 57 28 208 09 35	Dice Head Lighthouse..... Marshall Pt...	8241.4 9602.4	3.915999 3.982381
Searsport church spire, 1862. ¹	44 27 35.61 68 55 32.26	1099.2 713.2	278 11 04 13 54 01	98 14 06 193 52 33	Cape Jellison... Dickey Bluff...	5788.9 11586.5	3.762509 4.063954
Fort Point Beacon, 1863. ¹	44 27 40.17 68 48 38.37	1239.9 848.2	3 01 12 74 13 27	183 00 59 234 11 39	Castine..... Cape Jellison...	8083.6 3555.2	3.907605 3.550866
Fort Point Ledge Beacon, 1911.	44 27 40.181 68 48 38.362	1240.3 848.0	40 03 01.8 52 34 33.8 74 13 16.2	219 56 00.7 232 26 26.4 254 11 27.7	Temperance... Flanders..... Cape Jellison...	20730.5 19422.5 3555.3	4.316610 4.288305 3.550882
Fort Point Light-house, 1862.	44 28 02.088 68 48 44.138	64.4 975.7	246 00 33.4 1 57 07.4 31 49 43.8 63 29 14.2	66 03 23.7 181 56 58.0 211 46 19.1 243 27 29.8	Little Ball.... Castine..... Kedears Hill... Cape Jellison...	5870.8 8753.9 12230.5 3680.8	3.769363 3.942204 4.088508 3.565945
Stockton Harbor, west side, yellow tank, 1911. ¹	44 27 56.35 68 52 48.52	1739.4 1072.6	25 27 19 38 45 22	205 23 13 218 40 10	Temperance... Flanders.....	18137.4 15789.5	4.258576 4.198368
Stockton Harbor, east side, yellow tank, 1911. ¹	44 27 59.33 68 51 21.93	1831.3 484.8	43 34 49 59 28 49	223 28 36 239 25 07	Flanders..... Moose Point ..	17120.0 8141.1	4.233504 3.910683
West Stockton, white church spire, 1911.	44 28 27.752 68 53 16.067	856.6 355.1	2 16 30.6 6 38 11.0 34 55 21.5	182 16 16.5 186 37 31.7 214 50 28.4	Kedears Hill... Marshall Pt... Flanders.....	11221.0 10747.9 16200.5	4.050033 4.031235 4.209529

1 No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PENOBSQUIT BAY AND RIVER—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
Bowden's red house chimney, 1863.	44° 28' 53.050 68° 46' 36.596	1637.5 908.8	11° 08' 01.4 135° 43' 21.7 252° 16' 50.6	191° 07' 35.5 815° 41' 42.4 72° 18' 11.6	Webster.... Sandy Point.... Little Ball....	4236.2 4483.5 2680.8	3.620977 3.651621 3.428267
Sandy Point, house chimney, 1863. ¹	44° 29' 55.48 68° 48' 39.71	1712.5 877.3	281° 52' 51 342° 36' 59	101° 55' 38 162° 37' 59	Little Ball.... Webster....	5399.6 6374.6	3.731563 3.804450
Sandy Point, west church (Universalist) spire, 1862.	44° 30' 40.668 68° 48' 54.567	1255.3 1205.2	0° 16' 58.2 1° 47' 53.7 22° 09' 22.8 294° 04' 58.2	180° 16' 56.1 181° 47' 32.6 202° 06' 05.6 114° 07' 55.9	Castine.... Cape Rosier.... Kedears Hill.... Little Ball....	13648.9 21183.3 16532.7 6136.4	4.134989 4.325994 4.218345 3.787916
Sandy Point, east church (Congregational) spire, 1862.	44° 30' 43.666 68° 48' 53.314	1348.8 1177.5	0° 23' 47.6 1° 51' 54.2 22° 07' 24.4 294° 58' 58.5	180° 23' 44.6 181° 51' 32.4 202° 04' 06.3 115° 01' 55.4	Castine.... Cape Rosier.... Kedears Hill.... Little Ball....	13737.5 21277.7 16629.8 6150.1	4.137908 4.327924 4.220887 3.788879
Whitmore's house, east chimney, 1863. ¹	44° 30' 50.92 68° 46' 58.39	1571.7 1289.6	2° 28' 10 80° 48' 56	182° 27' 59 360° 47' 32	Webster.... Sandy Point....	7801.9 2683.2	3.862201 3.429650
Odens Ledge Beacon, 1863. ¹	44° 30' 56.26 68° 48' 04.83	1736.6 106.7	351° 53' 54 63° 19' 14	171° 54' 30 243° 18' 37	Webster.... Sandy Point....	8039.7 1322.0	3.906240 3.121238
Sparks's house chimney, 1863. ¹	44° 32' 15.52 68° 45' 34.84	479.1 769.2	121° 54' 05 222° 09' 25	801° 52' 55 42° 10' 34	McClouds.... Perry....	2605.8 3252.1	3.415041 3.512159
Fort Knox, 1863 ¹	44° 33' 57.07 68° 48' 10.17	1761.6 224.5	216° 08' 31 325° 18' 59	36° 08' 06 145° 19' 38	Bucksport.... McClouds....	1871.3 2137.8	3.272133 3.320968
Deserted, 1863.....	44° 33' 57.622 68° 49' 12.490	1778.6 275.8	104° 53' 29.7 238° 54' 03.5 304° 23' 35.3	284° 50' 19.6 58° 55' 22.3 124° 24' 57.7	Waldo.... Bucksport.... McClouds....	6182.0 2894.2 3141.4	3.791128 3.461597 3.497123
Orland church spire, 1863. ¹	44° 34' 23.65 68° 44' 43.62	730.6 962.4	359° 39' 04 93° 48' 44	179° 30' 06 273° 42' 25	Little Ball.... Waldo....	9399.5 11932.8	3.972643 4.076742
Bucksport church, east spire, 1863.	44° 34' 25.850 68° 47' 36.996	797.9 816.3	288° 16' 17.0 349° 37' 55.8 14° 16' 00.3	108° 18' 52.1 169° 38' 11.2 194° 15' 03.2	Perry.... McClouds.... Sandy Point....	5137.6 2690.2 7287.7	3.710763 3.429787 3.862693
Bucksport church, west spire, 1863.	44° 34' 25.398 68° 47' 41.801	784.0 922.3	287° 45' 42.0 347° 21' 44.7 13° 28' 50.8	107° 48' 20.5 167° 22' 03.5 193° 27' 57.1	Perry.... McClouds.... Sandy Point....	5224.1 2697.7 7248.8	3.718845 3.430994 3.800264
West side of river, house chimney, 1863. ¹	44° 35' 26.52 68° 50' 01.99	818.6 43.9	132° 46' 42 166° 52' 26	312° 45' 37 346° 51' 36	Treats.... Trevetts....	2777.6 6912.2	3.443666 3.839618
Schoolhouse chimney, 1863. ¹	44° 36' 01.82 68° 48' 59.64	56.2 1315.3	70° 16' 02 103° 08' 45	250° 12' 43 283° 06' 57	Waldo.... Treats....	6648.4 3505.5	3.822715 3.544745
Belfry, 1868.....	44° 38' 03.535 68° 49' 46.408	109.1 1022.9	38° 49' 37.3 134° 34' 31.2 13° 28' 50.8	218° 48' 21.4 314° 33' 30.2 44° 21' 28.4	Treats.... Trevetts.... Cobbs Hill....	3799.8 2685.8 2167.5	3.579763 3.429067 3.335958
Winterport church clock spire, 1863.	44° 38' 11.219 68° 50' 50.012	346.3 1102.3	31° 29' 27.2 162° 44' 54.8 245° 45' 28.2	211° 27' 35.4 342° 44' 38.5 65° 47' 01.2	Waldo.... Trevetts.... Cobbs Hill....	7318.7 1725.1 3198.7	3.864435 3.296823 3.504971
Parker Point, 1864 ¹ ..	44° 38' 57.88 68° 49' 46.97	1786.6 1035.0	216° 16' 12 274° 45' 58	36° 17' 31 94° 46' 47	Stubbs.... Cobbs Hill....	4189.2 1532.7	3.622131 3.185458
Bolian's, John, house chimney, 1864. ¹	44° 39' 45.69 68° 49' 42.88	1410.3 944.7	318° 07' 20 57° 30' 04	138° 08' 06 237° 29' 00	Cobbs Hill.... Trevetts....	2153.2 2380.5	3.399078 3.372997
Oak Point, 1864 ¹	44° 40' 12.33 68° 48' 59.62	390.6 1313.3	348° 43' 08 54° 37' 41	168° 43' 18 234° 36' 07	Cobbs Hill.... Trevetts....	2473.4 3610.7	3.393295 3.557588
South Orrington church spire, 1864. ¹	44° 41' 34.99 68° 49' 02.67	1068.0 58.8	314° 25' 21 353° 40' 52	134° 26' 09 173° 41' 00	Stubbs.... Cobbs Hill....	2103.9 5007.7	3.323020 3.696641
Hampden church tower No. 1, 1863. ¹	44° 43' 32.36 68° 50' 36.87	998.9 811.4	343° 00' 47 14° 17' 06	163° 02' 11 194° 14' 55	Waldo.... Waldo....	8991.9 16668.9	3.953850 4.221906

1 No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PENOBCOT BAY AND RIVER—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
Hampden, dome of belfry with clock face, 1864.	44 45 57.605 68 50 40.615	1778.1 893.7	236 53 04.5 283 55 52.4 343 46 25.6	59 54 34.0 103 57 06.4 163 47 03.0	Nichols..... Orrington..... Bald Hill.....	3235.2 2385.9 4194.7	3.809996 3.377061 3.022703
Hampden Baptist Church, 1864.	44 44 22.125 68 50 20.846	682.9 458.7	305 17 45.3 351 14 40.9 11 47 35.8	125 18 45.5 171 15 04.5 191 47 24.4	Orrington..... Bald Hill..... Hampden.....	2304.3 4841.0 1748.6	3.362542 3.684931 3.242702
Hampden Congregational Church, 1864.	44 44 48.205 68 50 12.465	1487.9 274.2	268 23 41.5 321 33 08.3 354 21 24.0	88 24 51.2 141 34 02.5 174 21 41.6	Nichols..... Orrington..... Bald Hill.....	2180.1 2728.0 5616.8	3.338470 3.435852 3.749492
Hampden church tower No. 3, 1863. ¹	44 44 29.32 68 50 19.42	905.0 427.3	347 47 04 14 05 48	167 48 16 194 03 25	Cobbs Hill..... Waldo.....	10598.1 18467.8	4.025226 4.286414
Orrington church spire, 1864.	44 43 51.893 68 49 34.390	1601.8 756.7	294 53 57.9 17 09 11.9 60 34 13.9	114 54 25.4 197 08 27.1 240 33 29.8	Orrington..... Baker..... Hampden.....	946.4 4753.7 1584.2	2.976063 3.677035 3.199809
Bragdon Castle, 1864.	44 43 16.381 68 50 09.858	505.6 217.0	10 12 54.0 117 55 43.6 246 56 06.0	190 12 34.1 297 55 24.4 66 56 58.4	Baker..... Hampden..... Orrington.....	3501.7 678.2 1781.3	3.544284 3.831363 3.280740
Mayhew's steam saw-mill chimney, 1864. ¹	44 45 34.75 68 48 06.05	1072.6 111.1	131 38 27 214 22 25	311 38 04 34 22 45	Stewart..... Horseback.....	961.5 1091.0	2.982952 3.037811
South Brewer, 1864. ¹	44 46 20.15 68 46 41.21	622.0 906.1	25 33 59 67 48 05	206 33 29 247 47 28	Doane..... Horseback.....	2194.1 1326.1	3.341261 3.122585
Edmonds' steam saw-mill chimney, 1864.	44 46 29.336 68 47 18.190	905.5 400.2	214 36 35.2 220 02 59.0 3 22 18.4	34 37 02.5 40 04 15.9 83 56 18.2 183 22 14.2	High Head..... Chamberlin..... Hink..... Doane.....	1496.8 3731.6 2008.9 2266.8	3.175154 3.871890 3.302948 3.355414
South Brewer church spire, 1864.	44 46 06.460 68 47 01.446	199.7 31.8	17 51 50.4 84 15 17.6 193 57 51.0	197 51 34.3 264 14 52.5 13 58 06.5do..... Horseback..... High Head.....	1635.9 788.8 1998.7	3.213749 2.895874 3.300318
Brewers' flagstaff, 1864.	44 47 31.155 68 45 35.416	961.7 778.6	8 47 42.3 29 51 26.1 53 37 30.0	188 47 33.9 209 50 09.5 233 35 21.6	Hink..... Doane..... Stewart.....	1715.9 4809.0 4979.6	3.234501 3.682053 3.897196
Brewers' belfry, 1864..	44 47 45.706 68 45 57.424	1418.6 1262.2	231 36 30.5 354 06 40.8 39 21 50.7	51 36 50.5 174 06 47.9 219 21 21.1	Chamberlin..... Hink..... High Head.....	798.4 2159.1 1459.4	2.902226 3.334275 3.164170
Bangor Unitarian Church spire, 1864.	44 47 56.161 68 46 25.871	1733.5 568.6	261 59 32.3 341 03 19.8 11 42 41.6	82 00 12.4 161 03 47.0 191 42 32.0	Chamberlin... Hink..... High Head.....	1263.3 2608.9 1479.1	3.101513 3.416461 3.169994
Thomas Hill, observatory, 1861.	44 48 16.145 68 47 00.152	498.4 3.3	176 05 25.15 202 13 43.25	358 05 24.63 82 14 23.11	Thomas Hill... Bangor, brick chimney.	237.23 1254.57	2.375161 3.098493
Thomas Hill, house, capela, 1864.	44 48 25.105 68 46 59.999	774.9 1318.5	289 43 13.0 334 34 45.6 349 07 18.4 5 13 27.2	109 44 17.1 154 35 36.8 169 07 32.8 185 13 10.1	Chamberlin... Hink..... High Head..... Doane.....	2125.7 3721.2 2384.6 5860.8	3.327510 3.570684 3.377415 3.767957

PENOBCOT BAY TO KENNEBEC RIVER.

Principal points.							
Tenants Harbor Lighthouse, 1860.	43 57 40.396 69 11 07.499	1246.7 167.2	70 56 50.95 167 48 28.63	250 54 21.53 347 47 44.72	Turkey church St. George church.	5079.10 6667.76	3.705782 3.823980

¹ No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PENOBSKOT BAY TO KENNEBEC RIVER—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Principal points—Continued.</i>							
St. George church, 1859.	44 01 11.554 69 12 10.722	356.6 238.8	16 35 59.12 22 31 33.16 87 59 24.43 190 52 42.75 265 53 06.33 273 23 57.27	196 31 44.00 202 29 47.56 267 49 55.63 10 54 51.80 86 06 06.55 93 29 54.19	Monhegan..... Turkey church..... Johnston..... Ragged Mtn.... Hurricane Id.... High Island....	28805.97 8851.39 18244.87 21808.14 25061.71 11462.15	4.4594825 3.9470116 4.2611407 4.3386186 4.3990107 4.0592661
Ft. St. George, 1863..	44 01 29.145 69 12 28.737	899.4 640.0	323 32 02.5 30 15 50.4 112 28 01.1	143 32 15.0 210 14 50.1 292 27 42.6	St. George church..... Foundation Hill..... Burtons Hill..	675.1 3834.5 641.5	2.829389 3.583704 2.807180
Burtons Hill, 1863...	44 01 37.087 69 12 55.355	1144.7 1232.8	212 03 58.1	32 05 54.8	N. Thomaston tall spire, east part of town..... Hall..... St. George church.....	7035.0	3.847267 3.571998 3.103307
Mosquito Id., 1910...	43 55 08.140 69 12 59.064	251.2 1317.8	207 53 23.7 227 48 56.0	27 54 41.1 47 52 44.8	Tenants Har- bor L. H. Whitehead Id. Lighthouse.....	5317.3 9916.5	3.725693 3.996359
Tenants Harbor church, 1858.	43 58 00.070 69 13 05.064	2.2 112.9	43 52 22.6 191 34 25.3	223 51 14.8 11 35 03.1	Turkey church..... St. George church..... Metinic.....	3144.2 6032.8 10937.7	3.497512 3.780517 4.038928
Foundation Hill, 1863.	43 59 41.832 69 13 55.466	1291.1 1235.9	110 58 18.9 200 37 18.4 220 06 32.3	290 56 11.4 20 38 00.2 40 07 45.1	Raccoon..... Burton Hill.. St. George church.....	4379.6 3800.9 3621.2	3.641434 3.579891 3.558857
Smith, 1860.....	44 03 17.279 69 14 29.567	533.4 658.1	321 26 30.9 1 24 00.1 33 13 51.5	141 28 07.4 181 23 50.9 213 12 07.6	St. George church..... Turkey church..... Raccoon.....	4961.4 12061.0 6076.2	3.695603 4.081382 3.783630
Turkey church, 1859.	43 56 46.620 69 14 42.782	1438.7 954.0	13 57 16.04 91 47 07.39 194 12 17.24 254 46 57.65	193 54 46.45 271 32 08.11 14 16 11.99 75 13 06.57	Monhegan..... Edgecombe... Ragged Mtn.. Isle au Haut..	20022.75 28905.72 30529.62 52083.00	4.3015237 4.4609838 4.4847214 4.7166950
Stone Point, 1863....	43 58 20.040 69 16 24.398	618.5 766.8	172 21 22.3 227 57 17.4	352 21 05.2 48 00 20.6	Raccoon..... St. George church..... Foundation Hill.....	4127.4 7908.2 4349.6	3.615678 3.898079 3.638445
Raccoon, 1860.....	44 00 32.579 69 16 59.043	1005.6 1315.3	234 30 21.9	54 32 12.3	St. George church..... Turkey church.....	6534.0 7606.6	3.815177 3.881192
Hathorn Hill, 1863...	43 58 53.367 69 17 03.475	1647.1 77.5	70 56 56.6 181 50 48.7 321 15 49.8	250 56 36.8 1 50 51.8 141 17 27.5	Maple Hill.... Raccoon..... Turkey church	673.1 3063.7 5014.1	2.828088 3.486246 3.700193
Maple Hill, 1863 !....	43 58 46.25 69 17 32.02	1427.5 713.7	192 37 05 237 54 09	12 37 28 57 57 52	Raccoon..... St. George church.....	3363.1 8447.5	3.526741 3.926726
Caldwell, 1859.....	43 56 16.417 69 17 43.660	506.7 973.8	256 58 13.3 2 25 25.0 65 48 24.6	77 00 18.8 182 25 00.7 245 44 43.7	Turkey church..... Monhegan..... Davis.....	4140.2 18517.9 7789.4	3.617023 4.267591 3.891506
Monhegan, 1858.....	43 46 16.957 69 18 18.673	523.3 417.6	91 15 14.69 194 03 50.71	270 52 48.70 14 10 15.04	Cape Small.... Ragged Mtn..	43518.02 50552.23	4.6386691 4.7037403

1 No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PENOOSCOT BAY TO KENNEBEC RIVER—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Principal points—Continued.</i>							
Carvers Island, 1866..	43 56 57.442 69 19 34.362	1772.9 766.3	46 05 55.0 108 47 50.8	226 03 30.9 288 42 51.7	Davis..... Muscongus....	6432.8 10143.0	3.808402 4.006168
Medumcook Hill, 1866.	43 58 31.896 69 19 25.692	984.4 572.7	3 47 38.9 33 12 39.0 92 03 58.4	183 47 32.9 213 10 08.9 271 58 53.2	Carvers Id.... Davis..... Muscongus....	2921.6 8815.7 9801.6	3.465623 3.945255 3.991299
Church, 1860.....	44 02 28.554 69 19 51.465	881.3 1145.9	40 19 13.3 98 15 21.8	220 17 30.3 278 13 28.1	Hungry..... Stahl.....	5102.2 3679.6	3.707761 3.565900
South Waldoboro, 1866.	44 02 16.525 69 19 53.879	510.0 1199.7	42 42 16.3 75 53 21.3 104 04 36.2	222 40 35.0 255 51 25.4 284 02 44.2	Hungry..... Bremen..... Stahl.....	4788.5 3829.2 3868.8	3.690203 3.583108 3.563058
Long Island, 1866....	43 57 44.094 69 20 26.044	1360.9 580.7	222 21 20.4 321 19 27.8	42 22 02.3 141 20 03.7	Medumcook Hill..... Carvers Id....	1996.7 1844.2	3.300303 3.265812
Hatchet Hill, 1866...	43 58 24.717 69 21 23.005	762.9 512.8	265 08 43.9 314 37 52.2 318 01 35.8 17 10 08.9	85 10 05.3 134 38 31.7 138 02 53.9 197 09 00.2	Medumcook Hill..... Long Island... Carvers Id.... Davis.....	2624.2 1784.5 3622.5 7489.3	3.419004 3.251509 3.559011 3.874441
Comery, 1860.....	44 04 44.093 69 22 12.258	1360.9 272.8	323 08 59.3 7 53 42.8	143 10 37.2 187 53 27.0	Church..... Stahl.....	5226.9 3660.9	3.718246 3.567138
Hungry, 1859.....	44 00 22.487 69 22 19.660	694.1 438.0	5 00 47.7 62 37 22.3 100 19 44.5	185 00 18.2 242 34 17.9 280 17 18.8	Davis..... Muscongus.... Johnston....	10832.2 6664.2 4746.5	4.084715 3.823750 3.676376
Stahl, 1860.....	44 02 45.641 69 22 35.031	1408.7 779.9	355 34 05.9 50 29 47.3	175 34 16.6 230 27 32.3	Hungry..... Johnston....	4431.6 5668.2	3.646560 3.748325
Bremo, 1860.....	44 01 46.260 69 22 40.632	1427.8 904.8	67 34 05.7 183 53 31.1 250 52 11.9	247 31 54.6 3 53 35.0 70 54 09.5	do..... Stahl..... Church.....	4546.5 1837.0 3986.6	3.657675 3.264109 3.600603
Bremen, 1866.....	44 01 46.245 69 22 40.642	1427.3 905.1	183 53 54.0 349 45 01.8	3 53 57.9 166 45 16.4	Stahl..... Hungry.....	1837.5 2627.0	3.264224 3.419464
Davis, 1859.....	43 54 32.864 69 23 02.082	1014.3 46.5	48 37 06.3 162 15 27.3 249 36 53.6 337 29 58.2	228 29 11.7 342 13 31.1 69 42 40.0 157 33 14.5	White Island... Johnston.... Turkey church... Monhegan....	20421.0 12222.6 11878.4 16563.2	4.310077 4.087163 4.074758 4.219144
Millers Island, 1866...	44 01 08.306 69 23 10.276	256.4 228.8	209 24 13.5 321 25 28.2	29 24 34.1 141 26 23.4	Bremen..... Hungry.....	1344.1 1808.6	3.128445 3.253747
Geel, 1860.....	44 03 43.725 69 23 21.437	1349.5 477.1	219 33 30.4 330 02 42.0	39 34 18.5 150 03 14.3	Comery..... Stahl.....	2416.9 2069.1	3.383267 3.315774
Kinsel, 1860.....	44 05 06.653 69 23 23.859	205.3 530.8	293 36 09.2 358 47 37.0	113 36 59.0 178 47 38.7	Comery..... Geel.....	1738.6 2560.1	3.240199 3.408257
Harris, 1866.....	44 00 31.503 69 23 37.859	972.3 843.4	208 24 23.7 208 54 44.8 279 04 03.6	28 24 42.9 28 55 24.5 99 04 57.9	Millers Island... Bremen..... Hungry.....	1291.4 2635.5 1764.2	3.111068 3.420857 3.246538
Eastern Branch, 1866.	44 01 57.859 69 23 48.938	1785.8 1089.7	325 57 04.1 330 37 04.9 354 42 35.2 10 56 24.4	145 58 06.1 150 37 31.8 174 42 42.9 190 56 16.4	do..... Millers Island... Harris..... Heath.....	3552.3 1755.1 2676.7 1349.0	3.550507 3.244307 3.427601 3.129966
Heath, 1866.....	44 01 14.947 69 24 00.432	461.3 9.6	241 27 48.1 280 23 32.7 305 47 36.8	61 28 43.5 100 24 07.5 125 48 46.8	Bremen..... Millers Island... Hungry.....	2022.6 1135.8 2767.7	3.305904 3.055287 3.442124
Gull, 1859.....	43 52 40.685 69 24 59.121	1255.7 1319.9	76 50 30.9 217 01 24.7 322 53 16.8	256 46 49.2 37 02 45.8 142 57 54.0	Pemaquid.... Davis..... Monhegan....	7336.3 4337.2 14843.5	3.865479 3.637209 4.171537

GEOGRAPHIC POSITIONS—Continued.

PENOOSCOT BAY TO KENNEBEC RIVER—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Principal points—Continued.</i>							
Johnston, 1859.....	44 00 50.008 69 25 49.295	1543.4 1097.9	296 45 38.64 64 36 31.06 120 39 54.56	116 53 21.47 244 29 14.09 300 29 26.55	Turkey church Edgecombe... Blin.....	16646.29 15330.51 23341.38	4.2213175 4.1911857 4.3681265
Muscongus, 1859.....	43 58 43.111 69 26 45.176	1330.5 1006.9	197 37 49.1 282 30 53.7 327 11 25.5	17 38 27.9 102 39 15.1 147 14 00.3	Johnston..... Turkey church Davis.....	4109.7 16501.6 9187.4	3.613812 4.217527 3.963191
Browns Head, 1866..	43 54 11.469 69 27 37.045	354.0 826.7	263 49 51.7 308 27 52.7	83 53 02.4 128 26 42.2do..... Gull.....	6171.3 4503.0	3.790376 3.635498
Yellow Head, 1866...	43 51 27.232 69 29 39.021	840.5 871.5	220 36 40.1 226 10 32.3	40 42 24.1 46 17 37.7	Hatchet Hill... Medium c o o k Hill..... Davis..... Gull.....	16985.4 18948.4 10552.0 6648.5	4.230077 4.277573 4.022335 3.822724
Lookout Hill, 1866...	43 52 20.603 69 29 57.077	635.9 1274.4	246 10 40.8 264 38 54.9	66 15 28.5 84 42 21.4	Davis..... Gull.....	10122.6 6681.2	4.005294 3.824856
Pemaquid, 1859.....	43 51 46.450 69 30 19.017	1433.6 424.7	33 31 56.8 104 27 33.8 141 34 49.8 199 42 02.9	213 29 04.9 284 22 45.0 321 30 40.4 19 45 09.9	White Island... Kenniston... Edgecombe... Johnston... Davis..... Turkey church Monhegan.....	10061.8 9609.8 12899.9 17822.3 11023.3 22854.7 19041.4	4.002245 3.982714 4.110586 4.250963 4.042310 3.455976 4.279700
Hitchcock, 1860.....	44 00 46.942 69 31 59.324	1448.9 1321.5	18 14 43.4 58 05 40.5	198 14 14.5 238 04 19.2	Ariss..... Norwood.....	2957.7 3073.5	3.470955 3.487629
Ariss, 1860.....	43 59 15.928 69 32 40.878	491.6 911.0	28 54 19.5 125 07 50.8	208 53 49.9 305 06 58.4	Nichols..... Norwood.....	1965.1 2058.2	3.293374 3.313489
White, 1860.....	44 00 48.382 69 33 19.902	1493.3 443.3	271 24 39.3 343 03 01.4	91 25 35.3 163 03 28.5	Hitchcock..... Ariss.....	1795.4 2983.0	3.254173 3.474660
Norwood, 1860.....	43 59 54.295 69 33 56.427	1675.8 1257.2	32 36 07.2 85 52 57.5	212 34 28.5 265 51 03.7	Edgecombe... Haggett.....	5880.6 3658.9	3.769423 3.563354
Nichols, 1860.....	43 58 20.190 69 33 23.490	623.1 523.4	62 17 56.0 165 49 12.9	242 15 54.5 345 48 50.1	Edgecombe... Norwood.....	4408.1 2995.8	3.644254 3.476512
White Island, 1855...	43 47 14.890 69 34 27.355	459.6 611.7	155 53 10.6 160 45 21.2 274 37 31.4	220 51 33.4 340 43 24.5 94 48 41.5	Damiscove... Kenniston... Monhegan.....	4803.0 11413.0 21735.8	3.681515 4.057401 4.337176
Reed, 1859.....	43 49 29.651 69 34 47.522	915.1 1061.9	353 48 43.9 19 04 01.7 153 24 38.4	173 48 57.8 199 02 38.4 333 22 55.6	White Island... Damiscove... Kenniston.....	4183.5 8242.7 7398.4	3.621542 3.918071 3.869136
Auld, 1859.....	43 53 13.314 69 35 32.902	410.9 734.4	82 52 09.1 172 11 39.1 290 54 14.4	262 50 57.7 352 11 07.4 110 57 51.9	Kenniston... Edgecombe... Pemaquid.....	2316.3 7490.5 7503.4	3.364801 3.874513 3.875257
Ram Island L. H., 1902.	43 48 14.266 69 35 59.183	443.3 1322.9	11 12 25.4 50 08 09.2 106 54 05.0	191 11 51.8 230 01 32.8 286 51 47.0	Damiscove 2... Seguin L. H... South port Ledge.	5590.4 16713.5 4659.4	3.747443 4.223067 3.668332
Edgecombe, 1855....	43 57 13.759 69 36 18.528	424.6 413.0	309 56 48.66 44 53 30.66 119 14 48.69	130 09 16.82 224 43 30.75 298 55 03.10	Monhegan..... Cape Small... Sebattus.....	31503.04 27430.03 43437.59	4.4983525 4.4382262 4.6378657
Damiscove, 1855....	43 45 17.212 69 36 47.884	531.2 1071.3	98 09 23.15 234 09 37.47 268 38 35.77	277 59 44.64 54 24 55.48 86 51 22.99	Cape Small... Turkey church Monhegan.....	18893.96 36451.82 24879.91	4.2763229 4.5617192 4.3958488
Damiscove 2, 1902...	43 45 16.681 69 36 47.751	514.8 1068.4	65 59 10.5 153 44 43.5	245 53 07.9 333 42 59.2	Seguin L. H... South port Ledge.	12853.8 7624.4 3.882207	4.109033

GEOGRAPHIC POSITIONS—Continued.

PENOOSCOT BAY TO KENNEBEC RIVER—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Principal points—Continued.</i>							
Haggett 1, 1855-1857.	43 59 45.750 69 36 40.216	1412.0 896.1	354 06 51.4 70 52 30.2 71 37 56.3	174 07 06.5 250 49 39.1 251 31 56.2	Edgecombe... Cushman... Neguasset...	4715.9 5811.0 12180.2	3.673566 3.764252 4.086555
Mount Pisgah, 1857..	43 51 08.427 69 37 12.647	260.1 282.5	332 50 57.5 35 01 31.0	152 52 52.0 215 00 03.8	White Island... Southport Ledge, Parkers Island Bartoe.....	8099.1 4907.0 9716.4 6222.5	3.908437 3.690817 3.987507 3.793967
Kenniston, 1858.....	43 53 03.986 69 37 15.863	123.1 354.1	189 24 58.79 257 02 50.10 296 11 51.37 357 30 43.66	9 25 36.57 77 18 28.59 116 24 58.86 177 31 03.02	Edgecombe... Turkey church Monhegan... Damiscope...	7814.37 30961.71 28345.54 14419.69	3.8928937 4.4908250 4.4524847 4.1589558
Burnt Island L. H., 1902.	43 49 30.871 69 38 26.694	952.7 596.6	305 35 47.5 8 50 41.3	125 37 29.6 188 50 18.3	Ram Id. L. H. Cuckolds Fog Signal, Southport Ledge.	4055.1 5122.7	3.608002 3.709502
Burnt Island Light, 1857.	43 49 30.825 69 38 26.838	951.4 599.7	308 03 51.2 49 00 36.0	128 06 37.0 229 00 00.1	White Island... Southport Ledge, Mt. Pisgah....	6801.2 1534.5 3438.2	3.832584 3.185974 3.536327
The Cuckolds L. H., 1909.	43 46 46.904 69 39 01.928	1447.6 43.1	188 50 35.7 236 31 51.0	8 51 00.1 56 33 57.5	Burnt Id. L. H. Ram Id. L. H.	5121.5 4897.0	3.709395 3.689927
Southport Ledge, 1857	43 48 58.209 69 39 18.666	1796.5 417.2	296 03 42.0 333 40 54.6 34 42 31.2	116 07 03.6 153 42 38.9 214 38 12.7	White Island... Damiscope... Seguin L. H....	7250.8 7608.4 14086.4	3.860386 3.881293 4.166914
Bartoe, 1855-1857....	43 53 29.054 69 40 32.348	896.7 722.0	219 12 22.9 279 59 04.6 341 41 34.7 18 11 08.1 31 44 17.6	39 15 19.0 100 01 20.8 161 44 10.1 198 07 40.6 211 41 52.0	Edgecombe... Kenniston... Damiscope... Seguin L. H... Parkers Island	8953.4 4453.3 15987.0 21508.4 8926.1	3.951986 4.648721 4.203768 4.332608 3.950662
Blin, 1855.....	44 07 14.720 69 40 52.262	454.2 1161.9	341 46 58.58 94 44 49.62	161 50 08.86 274 28 12.85	Edgecombe... Sebastius....	19524.10 31925.73	4.2905710 4.5041408
Cushman, 1857.....	43 58 43.991 69 40 46.549	1357.7 1037.5	294 57 52.3 358 07 56.5 72 16 32.1	115 00 58.4 178 08 06.4 252 13 23.1	Edgecombe... Bartoe... Neguasset...	6592.1 9725.4 6370.2	3.819023 3.987907 3.804152
Griffiths Head, 1857.	43 46 57.259 69 43 19.167	1767.2 428.6	197 06 49.6 289 23 46.0 19 38 18.4	17 08 45.1 109 28 16.7 199 36 46.4	Bartoe... Damiscope... Seguin L. H....	12653.4 9290.4 8860.1	4.102206 4.967567 3.947439
Parkers Island, 1855.	43 49 23.035 69 44 02.472	710.9 55.2	8 53 10.0 61 15 43.8 215 26 15.2 233 03 29.3 287 02 42.0 307 56 24.9 276 51 40.3	188 52 08.0 241 11 05.7 35 31 36.9 53 08 11.0 107 09 20.2 128 01 25.7 96 54 50.5	Seguin L. H... Cape Small... Edgecombe... Kenniston... White Island... Damiscope... Southport Ledge.	13000.3 10246.3 17841.4 11356.9 13450.2 12328.0 6388.5	4.113952 4.010566 4.251430 4.055258 4.128728 4.090893 3.805402
Seguin Lighthouse, 1859-1902.	43 42 26.855 69 45 32.165	828.8 720.3	97 27 28.0	277 04 10.1	Mount Inde- pendence, Cape Small... Edgecombe... Damiscope....	45821.7 10552.6 30038.1 12857.8	4.659171 4.023359 4.477672 4.109167
Pond Island Light (new), 1855-1863, 1903-4.	43 44 24.474 69 46 15.068	755.3 337.1	345 10 53.7 87 16 06.3 148 02 47.3	165 11 23.3 267 13 48.2 328 02 15.5	Seguin. L. H... Morse..... Fort Popham Beacon, Coxes Head...	3754.8 4475.4 1939.0 3366.5	3.574592 3.650828 3.287575 3.527178
			153 39 02.5	333 38 16.3			

GEOGRAPHIC POSITIONS—Continued.

PENOBCOT BAY TO KENNEBEC RIVER—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Principal points—Continued.</i>							
Pond Island Light (old), 1855.	43 44 25.028 69 46 15.081	772.4 337.5	87 02 56.7 153 31 43.6 262 42 46.8	267 00 38.6 333 30 57.4 82 49 19.1	Morse..... Coxes Head..... Damiscope.....	4475.7 3350.9 12792.5	3.650860 3.525165 4.106886
Back River, 1855....	43 50 09.718 69 46 27.392	299.9 611.9	9 03 43.2 42 02 07.4 136 18 12.7 293 58 22.1	189 03 05.7 221 59 09.6 316 14 53.9 114 00 02.5	Coxes Head..... Cape Small..... Great Hill..... Parkers Island	7735.2 8577.5 9276.5 3544.1	3.888470 3.933362 3.967386 3.549510
Gilmores Hill, 1855 ..	43 54 43.606 69 46 46.704	1345.8 1041.9	73 42 44.9 125 50 38.4	253 39 39.2 305 45 34.4	Great Hill..... Sprague.....	6227.5 12047.1	3.794312 4.080882
Rotunda Hill, 1855..	43 48 05.174 69 46 49.362	159.7 1103.5	10 50 37.6 86 57 36.6 * 187 16 37.5	190 50 15.1 266 55 20.4 7 16 52.5	Coxes Head..... Burnt Ledge..... Back River....	3863.9 4406.7 3875.1	3.587021 3.644118 3.588279
Fort Popham Light- house, 1904.	43 45 17.778 69 47 00.927	548.6 20.7	161 08 58.8 176 18 15.8 182 59 46.4	341 08 44.4 357 08 10.3 2 59 48.1	Coxes Head..... Perkins Id. Lt. Shag Rock Beacon.	1449.2 3550.8 1059.0	3.161128 3.550322 3.024895
Perkins Island Light, 1904.	43 47 12.683 69 47 08.857	891.4 198.1	7 37 08.0 152 15 54.2 195 03 23.2	187 36 54.0 332 14 30.5 15 03 36.7	Coxes Head..... Bowker..... Rotunda Hill	2194.2 5817.2 1677.6	3.341281 3.764712 3.224698
Coxes Head, 1855....	43 46 02.215 69 47 21.861	68.4 488.9	275 31 57.4 339 43 07.6 42 38 38.6 105 38 28.7	95 39 15.9 159 44 23.4 222 37 06.6 285 36 08.6	Damiscope..... Seguin L. H..... Morse..... Cape Small.....	14249.5 7085.4 4392.1 4609.4	4.153801 3.850366 3.642668 3.672038
Bowker, 1856.....	43 49 59.493 69 49 10.025	1896.1 224.0	341 43 02.1 265 01 14.7 318 17 10.0	161 44 17.0 88 03 07.1 138 18 47.4	Coxes Head..... Back River.... Rotunda Hill	7712.0 3647.2 4725.6	3.887168 3.561964 3.674453
Morse, 1855.....	43 44 17.514 69 49 34.821	540.5 779.2	61 52 18.1 82 50 31.3 118 01 01.9	241 43 33.2 262 45 53.8 297 54 22.0	Halfway Rock Ragged Island Harpswell church.	19305.2 9052.8 14637.5	4.285675 3.956783 4.165466
Cape Small, 1852....	43 46 43.217 69 50 44.221	1333.7 988.9	109 41 35.75 155 19 01.96 159 33 30.15 228 52 08.09	289 00 56.40 335 09 19.19 339 12 41.72 49 21 03.82	Cape Small..... Damiscope..... Seguin L. H.....	4757.3 17258.7 6416.0	3.677359 4.237008 3.807265
Rocky, 1903.....	43 53 13.747 69 48 54.090	424.2 1207.3	177 03 53.5 184 08 32.4 209 05 39.3	357 03 48.4 4 08 36.0 26 06 08.8	Bath, Winter St. Church. Ledge..... Hill.....	3181.7 1595.2 1416.1	3.502654 3.202810 3.151080
Great Hill, 1855....	43 53 46.930 69 51 14.527	1448.3 324.2	357 01 59.2 44 58 32.7	177 02 20.1 224 53 01.3	Cape Small..... Harpswell church.	13004.7 15128.8	4.117096 4.179804
Hill, 1903.....	43 53 53.838 69 48 23.238	1661.7 518.7	133 58 18.5 252 12 07.4	318 52 25.0 72 22 28.9	Tate..... Edgecombe.....	15805.6 20682.7	4.197812 4.331861
Ledge, 1903.....	43 54 05.297 69 48 48.927	163.5 1092.1	234 30 02.0	54 31 08.9	Ledge..... Bath, Winter St. Church. Gilmores Hill.	673.6 2118.7 2645.7	2.828413 3.326077 3.422548
			246 33 03.4	66 34 28.2	Bath, Winter St. Church. Gilmores Hill.	1610.7 2972.6	3.207009 3.473142

GEOGRAPHIC POSITIONS—Continued.

PENOBCOT BAY TO KENNEBEC RIVER—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Principal points—Continued.</i>							
Bath, Winter Street Church spire, 1855- 1903.	43 54 56.700 69 49 01.392	1750.0 31.0	134 30 03.8 182 24 51.7 277 38 45.8 338 46 10.4	314 26 33.1 2 25 00.9 97 40 19.1 158 47 57.1	Sprague..... Hodgkins..... Gilmore Hill..... Back River.....	9482.7 7006.1 3032.2 9501.2	3.976034 3.845474 3.481763 3.977779
Ant, 1871.....	43 55 52.824 69 53 45.112	1630.2 1006.2	100 02 11.6 193 12 47.2 229 41 37.2	280 01 48.6 13 13 04.3 49 43 07.1	Hunter..... Camp..... Buckner.....	747.0 2404.7 3789.4	2.873331 3.381053 3.578575
Hunter, 1860.....	43 55 57.040 69 54 18.069	1760.5 403.4	183 32 15.0 235 02 22.1 237 21 53.6	3 32 24.2 55 06 11.1 57 23 46.5	Sprague..... Hodgkins..... Buckner.....	4790.0 8973.0 4304.8	3.680338 3.952336 3.633050
Buckner, 1860.....	43 57 12.226 69 51 35.510	377.3 791.8	60 22 27.4 126 28 57.8	240 18 08.7 306 27 14.2	Brunswick spire..... Sprague.....	9570.9 4139.4	3.980951 3.616939
Sprague, 1855.....	43 58 31.943 69 54 04.831	985.8 107.7	105 51 48.6 267 04 37.1 336 37 42.4	285 47 53.2 87 08 16.9 156 39 40.6	Tate..... Hodgkins..... Great Hill.....	7853.2 7067.4 9581.7	3.895049 3.849261 3.981441
Hodgkins, 1855.....	43 58 43.498 69 48 48.149	1342.5 1073.2	348 46 56.2 19 38 39.8	168 48 33.8 199 36 58.3	Back River..... Great Hill.....	16165.2 9718.0	4.208581 3.987577
Senter, 1871.....	43 59 20.323 69 51 40.038	627.2 892.3	358 32 14.9 65 10 57.2	178 32 18.0 245 09 16.7	Buckner..... Sprague.....	3954.9 3555.7	3.597134 3.550928
Abagadasset Point, front range light, 1913.	44 00 07.560 69 49 07.407	233.3 165.0	153 06 00.7 206 57 39.6	333 04 59.4 26 58 29.4	Maxwell..... Hathorn.....	4341.0 3519.0	3.637592 3.546417
Ames Ledge Light- house, 1913.	44 01 16.517 69 48 53.297	509.8 1187.0	127 25 14.3 231 48 09.4	307 24 03.2 51 48 49.4	Maxwell..... Hathorn.....	2868.6 1630.3	3.457664 3.212271
Hathorn, 1860.....	44 01 49.177 69 47 55.762	1517.8 1241.8	53 31 17.5 101 40 40.5 230 54 13.6	233 27 01.2 281 38 49.4 50 55 29.2	Sprague..... Maxwell..... Costelow.....	10230.7 3634.5 3120.5	4.009004 3.560448 3.494218
Maxwell, 1860.....	44 02 12.981 69 50 35.613	400.6 792.9	339 40 17.5 34 21 40.2	159 41 32.1 214 19 14.9	Hodgkins..... Sprague.....	6894.5 8262.3	3.838503 3.917102
Costelow, 1868.....	44 02 52.920 69 46 06.978	1633.3 155.4	25 01 03.9 78 22 48.8	204 59 11.9 258 19 43.1	Hodgkins..... Maxwell.....	8494.2 6106.7	3.929123 3.785804
Blair, 1868 ¹	44 03 41.24 69 45 36.24	1272.9 806.6	98 08 37 160 49 34	278 07 04 340 49 07	Swan Island 1..... Houdlette.....	3033.9 2654.3	3.481998 3.423056
McFadden, 1870.....	44 04 32.291 69 45 01.567	996.6 34.9	26 05 26.2 119 32 47.4	206 05 02.1 299 31 56.0	Blair..... Houdlette.....	1754.6 1888.8	3.244175 3.276177
Pray, 1870.....	44 05 40.429 69 44 12.052	1247.8 268.1	26 59 32.0 27 39 05.5	206 55 33.4 207 38 31.1	Blair..... McFadden..... Houdlette.....	4128.3 2374.1 2694.2	3.615773 3.375502 3.474835
Richmond, 1868.....	44 05 24.268 69 48 32.013	749.0 712.2	825 20 35.5 24 59 40.1	145 22 16.7 204 58 14.2	Costelow..... Maxwell.....	5677.9 6513.4	3.754190 3.813808
Houdlette, 1868.....	44 05 02.462 69 46 15.420	76.0 343.1	357 18 31.1 47 58 06.3 102 30 04.4	177 18 37.0 227 53 05.4 282 28 29.4	Costelow..... Maxwell..... Richmond.....	4002.7 7803.9 3112.5	3.602251 3.892314 3.493108
Theobald, 1868.....	44 05 29.570 69 46 05.646	912.7 125.6	14 34 12.4 87 08 12.7 114 35 32.3	194 34 05.6 267 06 30.8 294 34 46.9	Houdlette..... Richmond..... Hathorne Hill.....	864.5 3260.2 1595.3	2.996756 3.513247 3.202839
Hathorne Hill, 1868 ..	44 05 51.075 69 47 10.859	1576.4 241.5	320 34 31.6 65 23 08.2	140 35 10.2 245 22 09.7	Houdlette..... Richmond.....	1942.2 1985.8	3.288302 3.297945
Widows Hill, 1868 ..	44 07 01.509 69 45 22.148	46.6 492.5	18 49 47.5 48 02 59.2	198 49 17.2 228 01 43.5	Theobald..... Hathorne Hill.....	2998.1 3251.4	3.476840 3.512067

¹ No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PENOBCOT BAY TO KENNEBEC RIVER—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Principal points—Continued.</i>							
Hagar, 1868.....	44 08 09.641 69 46 07.190	297.6 159.8	283 34 46.3 334 31 53.0 356 36 05.7 20 48 18.3	103 38 25.7 154 32 24.4 179 36 06.8 200 47 43.2	Blin..... Widows Hill..... Theobald..... Wilson.....	7203.8 2229.1 4940.7 3158.7	3.857559 3.367197 3.063786 3.499514
Meserve, 1868.....	44 08 44.815 69 44 29.218	1383.2 649.4	20 15 39.9 39 15 56.5 63 30 40.9	200 15 03.0 219 14 13.2 243 29 32.7	Widows Hill..... Wilson..... Hagar.....	3398.7 5215.2 2433.3	3.531317 3.717270 3.386194
Woodward, 1868.....	44 08 19.102 69 46 02.086	589.6 46.4	248 57 36.5 286 03 46.5 238 39 14.4	68 58 41.2 106 07 22.4 150 39 42.2	Meserve..... Blin..... Widows Hill.....	2211.5 7168.8 2554.2	3.344683 3.855444 3.407255
Telegraph Hill, 1868..	44 10 28.129 69 44 43.407	968.2 964.3	168 48 17.3 319 15 50.2 354 21 07.4 23 42 36.3	348 46 36.3 139 18 31.4 174 21 17.3 203 41 41.5	Burnt Hill..... Blin..... Meserve..... Woodward.....	16564.0 7875.7 3204.3 4349.3	4.219164 3.896287 3.505739 3.638421
Iron Hill, 1868.....	44 12 45.967 69 47 07.522	1418.8 167.0	320 46 02.8 323 01 59.7 349 59 07.3	140 50 24.5 143 03 40.2 169 59 52.9	Blin..... Telegraph Hill..... Woodward.....	13192.5 5323.8 8364.1	4.120326 3.726222 3.922420
Winters Hill, 1868...	44 16 54.539 69 44 27.916	1683.4 619.0	1 39 09.9 24 47 30.0 140 31 46.2	181 38 59.1 204 45 38.6 320 29 54.3	Telegraph Hill..... Iron Hill..... Burnt Hill.....	11931.7 8450.1 5599.0	4.076702 3.926864 3.748114
Perkins, 1868.....	44 16 19.541 69 47 47.792	603.1 1059.9	189 08 59.2 256 17 02.5 339 18 33.4 352 16 36.3	9 09 27.0 76 19 22.1 158 20 42.1 172 17 04.4	do..... Winters Hill..... Telegraph Hill..... Iron Hill.....	5471.1 4562.2 11593.0 6852.4	3.738078 3.659177 4.064194 3.822976
Burnt Hill, 1868....	44 19 14.539 69 47 08.528	448.7 189.0	339 21 39.67 50 05 58.18	159 26 02.09 229 53 42.09	Blin..... Sebattus.....	23735.52 30571.66	4.3753987 4.4853190
<i>Supplementary points.</i>							
Thomaston, tall spire, east part of town, 1860.	44 04 50.212 69 10 07.495	1549.8 168.8	214 56 00.0 267 08 40.6 22 07 57.2	34 58 34.9 87 08 55.8 202 06 31.5	Bear Hill..... Ingraham Hill..... St. George church.	8636.8 4320.0 7285.0	3.936354 3.626489 3.862427
Thomaston, tall white spire, 1860.	44 04 37.559 69 11 00.522	1159.2 11.6	219 20 17.6 263 40 48.2 13 48 58.1	39 23 29.4 83 43 40.3 193 48 09.3	Bear Hill..... Ingraham Hill..... St. George church.	9661.2 5538.0 6547.5	3.985081 3.743350 3.816074
Thomaston No. 5, 1860.	44 04 44.748 69 10 54.679	1381.2 1216.6	355 06 18.5 14 26 05.0	175 06 28.0 194 25 12.1	Hall..... St. George church.	3573.6 6794.4	3.553106 3.832149
Thomaston church No. 8, 1860.	44 04 38.002 69 11 18.753	1173.0 417.3	345 55 07.2 10 17 44.6	165 55 33.5 190 17 08.5	Hall..... St. George church.	3456.2 6476.1	3.538597 3.811314
Thomaston, 2-story octagonal spire with pillars, 1860.	44 04 46.910 69 10 37.485	1447.9 834.1	17 21 03.4 266 19 31.3 308 02 56.2	197 19 58.6 86 22 07.4 128 07 48.5	Hall..... St. George church.	4923.6	3.692280
Thomaston, low spire with dome roof, clock-faced, 1860.	44 04 42.768 69 11 06.108	1320.0 135.9	12 26 57.2 220 31 02.0 265 26 23.0	192 26 12.3 40 34 17.7 85 29 19.0	St. George church. Bear Hill..... Ingraham Hill.....	6675.8 9617.7 5646.5	3.824504 3.983070 3.751778
Low spire of small church, 1860.	44 04 44.728 69 10 54.732	1380.5 1217.8	219 35 12.2 265 52 08.1 306 40 50.9	39 38 20.0 85 54 56.2 128 45 55.2	Bear Hill..... Ingraham Hill..... High Island.....	9408.5 5389.5 12156.6	3.973520 3.731548 4.084811
Clark Island stack, 1910. ¹	43 59 05.33 69 10 42.62	164.5 949.9	278 45 58 11 56 57	98 48 12 191 56 40	Whitehead Id. Lighthouse. Tennant Harbor L. H.	4357.8 2679.4	3.639263 3.428085

1 No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PENOBCOT BAY TO KENNEBEC RIVER—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Supplementary points—Continued.</i>	• • "		• • "	• • "			
Center of barn, near middle peninsula, 1850. ¹	44 00 40.17 69 10 49.22	1239.9 1096.5	35 51 31 118 05 43	215 48 49 298 04 46	Turkey church St. George church.	Meters. 8891.4 2057.7	3.948968 3.313376
Browns Hill, 1863....	44 04 05.350 69 11 10.516	165.1 234.1	225 21 28.9	45 22 12.7	Thomaston, tall spire, east part of town. Hall..... Recess.....	1970.8	3.294632 2435.0 985.1
One-story octagonal cupola, 1860.	44 04 47.454 69 10 34.603	1464.6 769.9	17 48 41.9 286 28 21.9 308 18 16.3	197 47 35.1 164 20 25.1 255 12 04.6	St. George church. Ingraham Hill High Island...	6998.8 4937.0 11852.4	3.845021 3.693463 4.073807
Fisherman's east gable, 1863. ¹	44 03 41.78 69 11 27.10	1289.5 603.2	206 54 15 327 35 00	26 54 26 147 35 32	Browns Hill .. Hall.....	815.9 1915.4	2.911622 3.282269
Hart's, Widow Ellen, house, center of chimney, 1859. ¹	43 57 35.78 69 12 31.64	1104.2 705.5	62 35 15 135 10 05	242 33 44 315 09 42	Turkey church Tenants Harbor church.	3294.5 1057.0	3.517790 3.024062
Stone's, Capt. John, barn, east end, 1860.	44 02 02.307 69 12 38.773	71.2 863.4	241 00 00.5 338 15 18.8	61 01 22.4 158 15 38.3	Hall..... St. George church. Turkey church	2998.2 1686.4 10127.7	3.478866 3.226971 4.005512
Blank Point, 1863 ¹ .	44 00 51.00 69 12 52.56	1574.1 1170.8	177 29 54 235 45 10	357 29 52 55 45 39	Burtons Hill.. St. George church.	1423.8 1127.4	3.153463 3.052092
Clark's, Jos., house, center chimney, 1860. ¹	43 57 17.70 69 13 05.01	546.3 111.7	66 15 31 179 56 50	246 14 23 359 56 50	Turkey church Tenants Harbor church.	2381.9 1307.6	3.376927 3.116479
Clark's, Enoch, barn, center, 1860.	43 57 06.705 69 13 07.294	206.9 162.6	73 46 39.0 189 27 57.3	253 45 32.7 9 28 38.6	Turkey church St. George church. Norton Island.	2217.7 7661.5 6967.7	3.345904 3.884314 3.843092
Cushing church No. 2, 1860.	44 00 55.168 69 15 04.826	1702.7 107.5	74 41 10.6 190 08 41.3 282 33 10.3	254 39 51.3 10 09 05.8 82 35 11.3	Raccoon Smith..... St. George church. Turkey church	2638.1 4455.9 3910.8 7686.9	3.421284 3.648932 3.592261 3.885754
Teal's, Adam, house, center of chimney, 1863.	43 58 08.044 69 15 17.316	248.3 386.0	102 10 00.5 120 36 02.7 153 04 18.2	282 09 07.0 300 34 49.0 333 03 07.6	Stone Point... Hathorne Hill. Raccoon.....	1757.7 2748.8 5003.9	3.244936 3.439140 3.699308
Tenants Harbor spire, 1910. ¹	43 58 00.16 69 13 04.94	4.9 110.1	283 06 11 43 52 35	103 07 33 223 51 27	Tenants Harbor L. H. Turkey church	2688.2 3148.2	3.429459 3.498060
Herring Gut church, 1859.	43 55 44.187 69 15 21.369	1363.8 476.7	12 45 49.5 77 57 23.2 204 03 45.7	192 43 46.7 257 52 03.7 24 04 12.5	Monhegan..... Davis..... Turkey church	17949.0 10511.8 2110.4	4.254040 4.021676 3.324362
Herring Gut Island, 1860. ¹	43 55 23.15 69 16 13.30	714.4 296.7	218 04 37 285 42 49	38 05 40 105 48 48	Turkey church Metinic.....	3273.0 12000.8	3.514946 4.079210
River's house, north chimney, 1860. ¹	43 59 52.39 69 15 23.64	1617.1 526.7	120 16 41 240 21 35	300 15 35 60 23 49	Raccoon..... St. George church.	2461.1 4943.6	3.391123 3.694044
Narrows, 1863 ¹	43 59 05.70 69 15 37.86	175.9 843.7	146 00 14 243 56 43	325 59 18 63 57 54	Raccoon..... Foundation Hill.	3234.4 2539.6	3.509796 3.404769
Marshall Point (Herring Gut) Light-house, 1860. ¹	43 55 03.10 69 15 42.54	95.6 949.1	283 37 06 12 08 14	103 42 43 192 06 26	Metinic..... Monhegan.....	11180.0 16608.8	4.048442 4.220338

¹ No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PENOBCOT BAY TO KENNEBEC RIVER—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
Hooper, 1859 ¹	43 55 22.53 69 16 14.74	695.5 328.8	129 59 11 218 18 34	309 58 09 38 19 38	Caldwell..... Turkey church	2588.5 3307.9	3.413049 3.519551
Stone's, J., house chimney, 1863. ¹	43 58 18.00 69 16 43.73	555.5 974.8	175 18 15 235 22 42	355 18 04 55 24 39	Raccoon..... Foundation Hill.	4167.6 4555.9	3.619891 3.658577
Seavey's, J., house chimney, 1863. ¹	43 59 13.26 69 16 42.37	409.3 944.2	353 49 37 37 27 11	173 49 43 217 26 57	Stone Point... Hathorne Hill.	1652.3 773.6	3.218092 2.888492
Cushing church, 1859. ¹	43 58 49.08 69 16 16.77	1514.8 373.8	330 59 13 22 21 31	151 00 18 202 20 31	Turkey church Caldwell.....	4321.5 5094.4	3.635632 3.707094
Cushing church No. 1, 1860.	43 59 44.236 69 16 59.072	1365.3 1316.2	247 12 42.6 301 37 43.6	67 16 02.9 121 40 26.1	St. George church. Tenants Harbor church. Turkey church	6966.1 6126.7 6267.5	3.842990 3.787226 3.797093
Burnt Id. Life-Saving Station, 1910.	43 51 57.356 69 17 43.261	1770.1 966.0	204 15 47.9 205 09 51.6	24 17 53.1 25.11 15.3	Turkey church Marshall Pt. Lighthouse. Whitehead Id. Lighthouse.	9794.2 6334.4 18571.3	3.990967 3.801703 4.268842
Burnt Island, 1859...	43 52 00.535 69 17 43.797	16.5 978.0	4 12 25.2 88 35 46.1	184 12 01.1 268 27 02.8	Monhegan..... Pemaquid..... Davis.....	10632.5 16870.2 8519.4	4.026637 4.227119 3.930411
Davis Island, barn, west gable, 1859.	43 53 22.754 69 18 20.364	702.2 454.5	79 34 27.3 81 44 22.8	259 26 09.2 261 31 46.4	Pemaquid..... Gull..... Davis.....	16317.9 8995.9 6649.3	4.212664 3.954043 3.822773
Harbor, 1859.....	43 52 37.661 69 18 25.944	1162.3 579.2	65 12 45.9 84 23 58.7	245 01 40.1 264 15 44.5	White Island.. Pemaquid..... Davis.....	23678.4 16000.3 7115.5	4.374348 4.204128 3.852206
East of cove, white house chimney, 1866. ¹	43 57 52.12 69 18 30.68	1608.6 684.0	40 04 40 135 02 07	220 03 56 315 01 28	Carvers Island Mediumcook Hill.	2205.5 1735.0	3.343506 3.239305
Allen, 1859.....	43 52 15.403 69 18 45.022	475.4 1005.2	356 57 03.2 86 45 59.9	176 57 21.4 266 37 59.0	Monhegan..... Pemaquid..... Davis.....	11078.5 15522.6 7136.0	4.044480 4.190964 3.853457
Burtons Island, red house chimney, 1866.	43 56 50.750 69 18 47.672	1566.3 1003.1	101 13 26.9 126 54 06.9	281 12 54.5 306 52 58.6	Carvers Island Long Island.... Mediumcook Hill.	1061.4 2742.6 3234.8	3.258983 3.438156 3.509844
Monhegan Light, 1859.	43 45 53.722 69 18 58.948	1658.0 1318.5	96 58 07.8 125 40 37.4	276 47 25.6 305 32 46.6	White Island.. Pemaquid..... Davis.....	20913.2 18695.7 16918.2	4.320420 4.271742 4.228353
Monhegan Fog Bell, 1859.	43 45 48.003 69 19 38.203	1481.5 854.5	127 44 42.0 150 38 54.4	307 37 18.4 330 35 12.2	Pemaquid..... Gull..... Davis.....	18097.2 14616.9 16827.1	4.257612 4.164856 4.226010
Thompson, 1859.....	43 53 59.052 69 19 08.839	1822.5 197.3	74 45 57.8 101 21 34.5	254 38 13.3 281 18 52.8	Pemaquid..... Davis..... Turkey church	15511.0 5308.6 7872.6	4.190641 3.724981 3.896116
Hatchet Cove, north of, red house chim- ney, 1866. ¹	43 58 55.06 69 19 24.27	1699.3 540.9	2 32 23 32 09 43	182 32 22 212 09 00	Mediumcook Hill. Long Island...	715.7 2587.3	2.854754 3.412839
Crow, 1859.....	43 55 34.179 69 22 28.147	1054.9 627.9	99 30 09.4 155 19 02.5	279 20 33.2 335 16 42.9	Edgecombe... Johnston... Turkey church.	18772.9 10729.6 10617.6	4.273532 4.030583 4.026025

¹ No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PENOBCOT BAY TO KENNEBEC RIVER—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Supplementary points—Continued.</i>							
Congregational Church spire, 1866.	44° 02' 28.526 69° 19' 51.458	880.4 1145.7	8° 16' 49.9 40° 19' 40.5 70° 54' 35.5 98° 16' 09.1	188° 16' 48.2 220° 17' 57.5 250° 52' 37.9 278° 14' 15.4	South Waldo- boro. Hungry..... Bremen..... Stahl.....	Meters. 374.3 5101.7 3986.8 3679.9	2.573218 3.707713 3.600627 3.565832
Brimstone Hill, 1866.	44° 03' 10.131 69° 20' 01.724	312.7 38.4	353° 58' 24.1 53° 49' 15.2 77° 31' 36.7	173° 58' 29.5 233° 47' 24.7 257° 29' 50.1	South Waldo- boro. Bremen..... Stahl.....	1663.7 4384.4 3495.6	3.221075 3.641908 3.543517
Long white house, center chimney, 1859. ¹	44° 01' 05.82 69° 20' 11.77	179.6 262.1	63° 21' 32 86° 19' 10	243° 16' 59 266° 15' 16	Muscongus..... Johnston.....	9809.7 7533.8	3.991654 3.877015
Long Island, red house, chimney, 1866.	43° 57' 20.786 69° 20' 17.188	641.5 383.2	164° 39' 09.2 207° 36' 28.5	344° 39' 03.0 27° 37' 04.2	Long Island... Mediumcook Hill.	746.0 2476.8	2.872730 3.393896
One-story white house chimney, 1866.	43° 58' 38.169 69° 20' 03.152	1178.1 70.3	283° 03' 05.1 348° 19' 54.4 17° 00' 12.5	103° 03' 31.1 168° 20' 14.4 196° 59' 56.5	Mediumcook Hill. Carvers Id.... Long Island...	857.1 3174.4 1745.2	2.983034 3.501661 3.241851
Brick house, east chimney, 1866. ¹	43° 58' 21.90 69° 20' 29.26	675.9 652.2	257° 42' 46 356° 28' 46	77° 43' 30 176° 28' 48	Mediumcook Hill. Long Island...	1450.2 1169.1	3.161428 3.067846
White house, chimney, 1866.	43° 57' 19.238 69° 20' 30.214	593.8 673.7	186° 54' 33.7 212° 10' 14.8	6° 54' 36.6 32° 40' 59.6do..... Mediumcook Hill. Carvers Id....	772.8 2664.2	2.888054 3.425562
Otter Island, house chimney, 1859.	43° 56' 00.570 69° 20' 35.995	17.6 802.9	262° 43' 55.2 50° 18' 07.3	82° 45' 54.8 230° 18' 26.0	Caldwell..... Davis..... Muscongus.....	3874.8 4236.7 9639.7	3.588245 3.627026 3.984065
Northwest point, white house chimney, 1866.	43° 57' 43.895 69° 20' 44.730	1354.8 997.2	145° 53' 51.1 229° 58' 01.8	325° 53' 24.5 49° 56' 56.7	Hatchet Hill.. Mediumcook Hill. Long Island...	1521.6 2302.0 416.6	3.182314 3.362102 2.619762
White house cupola, 1866.	43° 58' 53.385 69° 20' 10.466	1647.7 233.3	303° 36' 15.8 347° 19' 13.5 9° 13' 27.6	123° 36' 46.9 167° 19' 38.6 189° 13' 16.8	Mediumcook Hill. Carvers Id.... Long Island...	1198.2 3667.9 2166.6	3.0785.0 3.564412 3.335778
Otter Island, 1859....	43° 55' 31.630 69° 20' 51.879	976.2 1157.3	58° 01' 59.5 126° 54' 38.7 146° 01' 16.3	238° 00' 29.2 306° 50' 33.5 325° 57' 49.7	Davis..... Muscongus..... Johnston.....	3424.7 9848.2 11853.8	3.534623 3.993356 4.073859
Square yellow house chimney, 1860.	44° 03' 01.719 69° 20' 53.946	53.1 1200.9	306° 20' 34.1 58° 18' 29.3 77° 34' 26.8	126° 21' 17.5 238° 15' 04.0 257° 33' 16.5	Church..... Johnston..... Stahl.....	1727.1 7731.8 2304.4	3.237305 3.888282 3.362566
One-story white house chimney, 1860.	44° 03' 59.949 69° 20' 50.855	1850.3 1131.8	334° 53' 02.7 81° 30' 59.3 126° 57' 22.4	154° 53' 44.0 261° 29' 14.6 306° 56' 25.8	Church..... Geel..... Comery.....	3115.3 3388.6 2266.7	3.493500 3.530016 3.353386
Hatchet Cove, west shore, white house chimney, 1866. ¹	43° 58' 49.50 69° 21' 25.15	1527.8 560.5	326° 51' 45 356° 25' 04	146° 52' 26 176° 25' 06	Long Island... Hatchet Hill..	2410.7 766.5	3.382143 2.884496
Red house chimney, 1866. ¹	43° 58' 34.95 69° 21' 40.40	1078.7 900.5	271° 47' 12 309° 10' 30	91° 48' 45 129° 10' 42	Mediumcook Hill. Hatchet Hill..	3003.9 500.1	3.477690 2.699019
Cranberry, 1859.....	43° 56' 04.820 69° 21' 44.306	148.8 988.2	266° 09' 42.2 31° 26' 51.0	86° 12' 29.2 211° 25' 57.1	Caldwell..... Davis..... Johnston.....	5379.3 3326.5 10358.4	3.730724 3.521985 4.015293

1 No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PENOOSCOT BAY TO KENNEBEC RIVER—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
Cranberry Id. house chimney, 1859.	43 56 17.823 69 21 09.412	550.1 209.9	270 31 20.2 37 49 08.5 120 57 14.1	90 33 42.9 217 47 50.3 300 53 21.0	Caldwell..... Davis..... Muscongus....	4589.1 4100.2 8726.4	8.661732 3.612808 3.940634
Lower Hungry, 1866.	43 59 55.103 69 22 23.781	1700.7 529.9	124 15 06.6 173 45 12.0 217 23 55.2	304 14 15.2 353 45 00.3 37 25 39.4	Harris..... Bremen..... South Waldoboro.	1998.5 3450.8 5495.5	8.300264 3.537923 3.740004
Birkmore's house, center of chimney, 1866.	44 01 03.263 69 22 33.849	100.7 753.9	55 29 54.0 100 36 01.9 100 51 49.0 173 29 40.2	235 29 09.5 280 35 01.7 280 51 23.7 353 29 35.4	Harris..... Heath..... Millers Island..... Bremen.....	1730.3 1961.9 826.1 1335.2	3.238119 3.292676 2.917068 3.125551
Birkmore's barn, south apex, 1866...	44 00 59.552 69 22 36.596	1838.1 815.1	57 36 56.1 104 17 05.7 138 10 12.6	237 36 13.5 284 16 07.4 318 09 22.3	Harris..... Heath..... E a s t e r n Branch.....	1616.1 1926.8 2415.4	3.208465 3.284835 3.382992
Waldoboro church spire No. 1, 1859.	44 02 29.695 69 19 50.545	916.5 1125.4	327 02 29.3 66 12 13.4 68 58 20.6	147 06 03.1 246 00 47.1 248 54 11.3	Turkey church..... Edgecombe..... Johnston.....	12615.1 24076.3 8561.3	4.100902 4.381590 3.932538
Waldoboro church spire No. 2, 1859....	44 02 28.518 69 19 51.461	880.1 1145.8	326 52 24.7 66 15 47.4 69 09 03.2	146 55 59.1 246 04 21.7 249 04 54.5	Turkey church..... Edgecombe..... Johnston.....	12596.1 24043.0 8529.2	4.100235 4.380988 3.930910
Waldoboro tall white spire, 1860...	44 05 46.077 69 22 28.374	1422.1 631.2	349 23 01.5 17 22 00.9 45 24 51.6	169 23 12.7 197 24 24.0 225 24 13.0	Comery..... Geel..... Kinsel.....	1946.4 3956.6 1733.3	3.289240 3.597324 3.238864
Waldoboro short spire, 1860. ¹	44 05 35.44 69 22 29.20	1093.8 649.6	18 38 08 53 51 07	198 37 32 233 50 29	Geel..... Kinsel.....	3638.7 1506.1	3.560950 3.177856
Waldoboro cupola, 1860.	44 05 52.174 69 22 33.055	1610.3 735.2	347 34 50.8 15 11 46.5 38 49 05.2	167 35 05.3 195 11 12.9 218 48 29.9	Comery..... Geel..... Kinsel.....	2151.6 4108.1 1803.1	3.332769 3.613639 3.256030
Franklin Id. Light, 1859.	43 53 32.298 69 22 31.381	996.8 700.4	72 40 12.0 159 52 24.1 337 10 55.3	252 34 47.9 339 52 02.8 165 13 50.3	Pemaquid..... Davis..... Monhegan.....	10939.6 1990.9 14574.2	4.039000 3.299053 4.163585
Havener's house, center of chimney, 1866.	44 01 36.829 69 23 08.263	1136.7 184.0	244 42 26.2 2 54 56.6 59 50 13.2	64 42 45.4 182 54 55.2 239 49 37.0	Bremen..... Millers Island..... Heath.....	680.3 881.5 1343.9	2.832705 2.945209 3.128366
Long house, center of chimney, 1866.	44 02 41.302 69 23 44.048	1274.8 980.7	345 18 52.3 4 38 31.4	165 19 15.8 184 38 28.0	Millers Island..... E a s t e r n Branch.....	2967.2 1345.3	3.472342 3.128812
Eastern Branch, center of house chimney, 1866. ¹	44 02 08.70 69 23 09.21	114.2 205.1	37 10 13 78 29 31	217 09 37 258 29 03	do..... E a s t e r n Branch.	1888.1 902.7	3.276017 2.955544
Marsh, 1850.....	43 54 38.702 69 24 02.222	1196.3 49.6	57 43 53.7 168 14 31.0 277 43 10.1	237 39 32.5 348 13 16.7 97 43 51.8	Pemaquid..... Johnston..... Davis.....	9951.3 11704.2 1354.2	3.997878 4.068340 3.131697
Heath's house, west chimney, 1866.	44 00 59.570 69 24 02.794	1838.6 62.2	231 46 35.7 257 00 53.4 298 28 18.7	51 47 32.8 77 01 29.9 116 29 30.4	Bremen..... Millers Island..... Hungry.....	2328.7 1200.4 2566.7	3.367116 3.079336 3.409377
Meeting house, cupola, 1866.	44 02 25.757 69 24 54.958	795.0 1223.6	315 42 33.7 317 42 41.8 330 56 19.7	135 43 46.4 137 44 29.7 150 56 57.6	Millers Island..... Hungry..... Heath.....	3339.0 5141.8 2500.2	3.523613 3.711114 3.397967
Howard's red store, center of chimney, 1866.	44 02 01.236 69 24 25.452	38.2 566.8	277 18 08.4 317 23 48.8 338 41 30.5	97 18 33.8 137 25 16.2 158 41 47.9	E a s t e r n Branch..... Hungry..... Heath.....	819.7 4139.9 1535.3	2.913676 3.616991 3.185691

1 No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PENOBSKOT BAY TO KENNEBEC RIVER—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
Red house, center of chimney, 1866.	44° 02' 05.935 69° 24' 04.257	183.2 94.8	306 09 23.6 323 52 26.1 356 54 06.0	126 00 34.3 143 53 38.8 176 54 08.7	E a s t e r n Branch. Hungry..... Heath.....	422.5 3952.4 1576.0	2.625817 3.596861 3.197561
Red-roofed house, south chimney, 1860.	44° 02' 18.922 69° 24' 56.272	584.0 1263.0	201 39 33.9 219 09 21.3 267 27 44.2	21 40 28.1 39 11 15.3 87 31 16.1	Kinsel..... Comery..... Church.....	5570.6 5779.6 6783.1	3.745901 3.761896 3.832068
Bright yellow house, center of chimney, 1866.	44° 01' 35.476 69° 25' 01.248	1005.0 27.8	246 46 22.4 288 43 51.8 295 03 50.5	66 47 12.7 108 45 08.9 115 04 32.8	E a s t e r n Branch. Millers Island. Heath.....	1782.2 2609.9 1495.3	3.243588 3.416627 3.174733
Old house, center of chimney, 1866.	44° 01' 48.937 69° 25' 04.811	1510.4 107.1	260 44 11.1 296 10 09.4 306 11 13.3	80 45 03.8 116 11 28.9 126 11 58.0	E a s t e r n Branch. Millers Island. Heath.....	1711.9 2842.4 1776.6	3.233468 3.453684 3.240584
Muscongus Island, white chimney, 1859.	43° 55' 15.877 69° 25' 23.496	490.0 747.3	291 26 17.6 350 53 49.5 44 37 21.9	111 28 02.6 170 54 13.3 224 34 03.9	Davis..... Gull..... Pemaquid.....	3899.8 4850.9 9077.1	3.559882 3.688518 3.957948
White house with red roof, chimney, 1859.	43° 56' 10.718 69° 25' 41.252	330.8 920.1	163 08 53.8 178 48 33.3 310 21 59.5	343 06 09.4 358 48 27.7 130 23 49.9	Muscongus..... Johnston..... Davis.....	4914.7 8621.9 4661.6	3.691494 3.935603 3.668535
Hog Island, 1859....	43° 57' 57.722 69° 25' 34.072	1781.5 759.6	131 28 47.6 176 21 04.7 331 47 14.3	311 27 58.2 356 20 54.1 151 48 59.7	Muscongus..... Johnston..... Davis.....	2115.3 5328.3 7174.2	3.325370 3.726586 3.855772
Greenland Cove, white house, south chimney, 1859. ¹	43° 59' 50.26 69° 25' 42.22	1551.2 940.7	339 57 25 34 06 05	159 59 16 214 06 21do..... Muscongus.....	10426.5 2502.6	4.018140 3.398383
House with red chimney, 1859.	43° 55' 00.613 69° 26' 15.692	18.9 350.1	281 11 41.9 326 33 23.0 338 24 12.7	101 13 56.2 146 38 53.3 158 25 05.8	Davis..... Monhegan..... Gull.....	4404.0 19385.5 4644.5	3.643849 4.286871 3.666941
Round Pond, brown church spire, 1859. ¹	43° 56' 50.21 69° 27' 41.71	1549.7 930.2	199 52 52 304 10 23	19 53 31 124 13 37	Muscongus..... Davis.....	3705.4 7541.9	3.568839 3.877480
Round Pond, white church spire, 1859.	43° 56' 48.943 69° 27' 45.702	1510.6 1019.2	200 56 52.7 270 09 35.3 303 33 01.6	20 57 34.7 90 18 38.6 123 36 18.3	Muscongus..... Turkey Church..... Davis.....	3773.2 17459.3 7563.9	3.576712 4.242028 3.880463
Long Cove, east entrance, 1866. ¹	43° 53' 11.16 69° 28' 29.74	344.4 663.9	212 16 57 250 56 35	32 17 34 71 00 22	Browns Head..... Davis.....	2201.7 7735.3	3.342758 3.888477
McFarland's, Thom- as, house chimney, 1866. ¹	43° 52' 07.06 69° 29' 29.18	217.9 651.6	123 51 51 242 27 09	303 51 31 62 31 37	Lookout Hill..... Davis.....	750.2 9742.2	2.875156 3.988659
Square house, 1859....	43° 53' 18.951 69° 30' 06.855	584.9 153.0	5 26 03.6 27 24 24.8 131 11 21.2	185 25 55.2 207 21 24.4 311 07 03.2	Pemaquid..... White Island..... Edgecombe.....	2867.8 12633.9 11012.5	3.457547 4.102223 4.041887
Davis's, Luther, house, 1859.	43° 51' 59.461 69° 30' 17.203	1835.2 384.1	102 04 02.3 243 58 15.2 259 48 46.1	281 59 12.2 64 03 16.9 79 52 26.6	Kenniston..... Davis..... Gull.....	9557.1 10405.3 7215.2	3.980326 4.033637 3.858247
Barn, north gable, 1859. ¹	43° 50' 43.33 69° 30' 22.84	1337.3 510.2	40 22 10 115 14 41	220 19 21 295 09 55	White Island..... Kenniston.....	8440.9 10193.6	3.926387 4.008329
Pemaquid Light- house, 1859.	43° 50' 13.514 69° 30' 23.578	417.1 526.7	230 52 49.8 239 53 29.1 294 11 05.2	50 57 55.8 60 04 21.4 114 18 27.0	Davis..... Turkey church..... Monhegan.....	12698.1 24252.1 17722.8	4.103740 4.384750 4.249756
Child's Capt., house, cupola, 1859.	43° 53' 03.280 69° 31' 25.554	101.2 570.4	327 55 32.3 20 42 40.8 26 37 53.2	147 56 18.3 200 40 34.9 206 34 10.0	Pemaquid..... White Island..... Damiscove.....	2798.2 11494.0 16087.2	3.446873 4.060472 4.206480

1 No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PENOBCOT BAY TO KENNEBEC RIVER—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
Damariscotta, white spire, 1860.	44 01 54.218 69 31 47.344	1673.4 1054.3	7 19 23 13 43 22 37 51 11 45 25 15	187 19 15 193 42 44 217 49 41 225 24 11	Hitchcock... Ariss.... Norwood.... White....	2003.5 5029.0 4086.9 2894.6	3.320875 3.701478 3.670884 3.461582
Damariscotta, brown cupola, 1860.	44 02 00.278 69 31 35.778	8.6 796.7	13 02 46 15 57 38 46 16 19	193 02 30 195 56 54 226 15 07	Hitchcock... Ariss.... White....	2228.4 5275.8 3209.6	3.366126 3.722285 3.506454
Small yellow house, center of chimney, 1860.	44 00 05.628 69 31 59.341	173.7 1322.1	31 06 34 82 22 27 126 19 59 180 00 59	211 06 06 262 21 06 306 19 04 0 00 59	Ariss.... Norwood.... White.... Hitchcock...	1791.6 2632.0 2227.6 1275.1	3.253231 3.420294 3.347839 3.105549
Newcastle school-house cupola, 1860.	44 02 20.285 69 32 24.824	626.0 552.7	848 50 47 3 35 52 23 23 27	168 51 05 183 35 41 203 22 49	Hitchcock... Ariss.... White....	2986.4 5701.3 3090.4	3.467816 3.755972 3.490011
Newcastle church, brown cupola, 1860.	44 02 04.746 69 32 16.533	146.5 368.2	350 55 49 5 56 42 30 55 08	170 56 01 185 56 23 210 54 24	Hitchcock... Ariss.... White....	2431.8 5238.6 2747.2	3.385922 3.719215 3.438883
Large house, west chimney, 1859.	43 55 50.424 69 33 28.442	1556.2 634.4	29 48 49.8 44 40 24.9 124 09 23.7	209 47 23.6 224 37 47.2 304 07 25.7	Auld.... Kenniston.... Edgecombe...	5588.0 7220.9 4583.0	3.747255 3.885892 3.661152
Clark's barn, 1859....	43 54 29.137 69 33 10.335	899.3 230.6	53 40 50.1 64 24 06.7 140 27 16.5	233 39 11.3 244 21 16.5 320 25 05.9	Auld.... Kenniston.... Edgecombe...	3949.8 6077.5 6590.7	3.596573 3.783727 3.818030
Beech, 1860.....	43 56 54.358 69 34 24.291	1677.7 541.7	103 14 22.4 186 22 42.3 207 05 34.6	283 13 03.1 6 23 01.7 27 06 16.8	do.... Norwood.... Nichols....	2616.7 5588.2 2975.8	3.417760 3.747273 3.473601
Harrington house chimney, 1860. ¹	43 58 35.70 69 34 44.02	1101.8 981.2	245 38 37 284 55 23	65 40 02 104 56 19	Ariss.... Nichols....	3012.2 1857.6	3.478882 3.268958
Hodgden's mill chimney, 1859.	43 52 03.190 69 35 11.597	98.4 259.0	124 04 57.3 171 09 01.8 274 29 35.0	304 03 31.2 351 08 15.4 94 32 57.8	Kenniston.... Edgecombe.... Pemaquid....	3349.3 9701.0 6553.9	3.524900 3.986816 3.816497
Linekin Neck, Methodist meeting-house chimney, 1857. ¹	43 50 26.81 69 35 24.21	827.5 540.8	62 27 33 117 56 50	242 24 51 297 55 35	Southport Ledge. Mount Pisgah.	5909.4 2741.7	3.771543 3.438022
Linekin Neck, red chimney, 1857. ¹	43 48 58.58 69 36 17.29	1807.9 386.4	89 51 28 162 51 19	269 49 23 342 50 41	Southport Ledge. Mount Pisgah.	4053.5 4194.1	3.607825 3.622643
Dodge, 1859.....	43 55 34.968 69 36 07.727	1079.2 172.4	18 04 39.4 175 29 02.2 312 08 55.7	198 03 52.1 355 28 54.7 132 12 57.4	Kenniston.... Edgecombe.... Pemaquid....	4901.7 3058.6 10503.3	3.690344 3.485522 4.023235
Win, 1909.....	43 48 49.318 69 36 15.244	1522.1 340.7	341 35 30.1 44 37 17.6	161 35 41.2 224 35 22.2	Ram Id. H. The Cuckolds Lighthouse. Burnt Island Lighthouse.	1136.9 5306.6 3205.3	3.055713 3.724816 3.505872
Haggett 2, house on hill near, 1857. ¹	43 58 30.17 69 36 23.12	931.2 515.3	170 43 30 357 30 52	350 43 18 177 30 55	Haggett 1.... Edgecombe...	2363.6 2360.6	3.373582 3.373014
Haggett 2, 1857.....	43 58 25.508 69 36 26.388	787.3 588.2	355 28 28.4 30 58 14.9 95 38 37.5	175 28 33.9 210 55 24.3 275 35 36.9	do.... Bartoe.... Cushman....	2221.4 10688.5 5826.7	3.346622 4.028103 3.765424
Damiscove Lookout, 1902. ¹	43 45 16.56 69 36 47.68	511.1 1066.6	66 00 16 154 30 42	245 54 14 334 30 42	Seguin L. H.... Damiscove 2...	12853.8 4.08	4.100032 0.610986

1 No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PENOBSOT BAY TO KENNEBEC RIVER—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
Damiscope Island, Life-Saving Sta- tion, tower, 1902.	43 45 17.088 69 36 58.472	527.4 1308.1	65 29 23.0 155 20 31.7	245 23 27.9 335 18 54.7	Seguin L. H... Southport Ledge.	12640.3 7510.0	4.101758 3.875638
Squirrel Island, cu- pola pole, 1902.	43 48 30.634 69 37 50.192	945.4 1121.8	113 17 40.8 156 18 36.8	293 16 39.5 336 18 11.5	Southport Ledge. Burnt Island Lighthouse.	2152.8 2030.2	3.332999 3.307540
Townsend Harbor, white spire, 1857.	43 51 24.837 69 37 31.255	766.6 698.1	320 37 35.4 27 56 44.3	140 37 48.3 207 55 30.0	Mount Pisgah. Southport Ledge. Bartoe.....	655.1 5122.3	2.816336 3.709461 5571.9
Dunhams Hill, 1857..	44 00 47.887 69 37 46.746	1478.0 1041.3	322 17 42.0 243 25 27.9	142 18 28.2 163 26 29.2	Haggett 1.... Edgecombe.... Cushman.....	2423.8 6895.1 5538.3	3.384501 3.838543 3.743379
Bowman's flagpole, 1902.	43 48 19.366 69 37 49.532	597.7 1107.2	121 02 45.6 159 22 44.3	301 01 43.9 339 22 18.6	Southport Ledge. Burnt Island Lighthouse.	2325.1 2358.0	3.366441 3.372540
Boothbay Harbor, standpipe, 1902. ¹	43 51 08.80 69 37 12.34	271.7 275.6	357 06 10 35 00 49	177 06 27 214 59 21	do..... Southport Ledge.	10881.6 4920.5	4.036691 3.692011
Boothbay, center white spire, 1857.	43 52 30.709 69 38 04.481	947.8 100.0	335 29 29.8 14 11 12.6	155 30 05.7 194 10 21.3	Mount Pisgah. Southport Ledge. Bartoe.....	2790.9 6764.6 3760.2	3.445740 3.830239 3.575208
Boothbay, center brown spire, 1857.	43 52 35.414 69 38 05.789	1093.0 129.2	336 08 53.6 33 53 18.6	156 09 30.4 213 49 41.6	Mount Pisgah. Griffiths Head. Bartoe.....	2935.3 12567.8 3666.7	3.467652 4.099259 3.564279
Boothbay, Hodg- den's house, 1857. ¹	43 51 55.46 69 38 20.57	1711.7 459.3	350 25 25 134 28 19	170 26 29 314 27 48	Damiscope.... Bartoe.....	12464.5 4123.0	4.095675 3.615216
Sheepscot, east side, square barn center, 1857. ¹	43 59 43.00 69 38 10.03	1327.1 223.5	331 38 16 62 26 43	151 39 33 242 24 54	Edgecombe.... Cushman.....	5233.8 3934.7	3.718820 3.594915
Cuckolds fog signal, 1902.	43 46 46.861 69 39 01.916	1446.2 42.9	236 30 59.8 312 49 55.3	56 33 06.4 132 51 28.2	Ram Id. L. H.. Damiscope 2... Seguin L. H....	4897.5 4092.9 11859.3	3.689972 3.612028 4.074059
Wiscasset, yellow house chimney, on high ground, north, 1857. ¹	44 02 07.24 69 39 55.45	223.5 1234.7	331 53 40 10 17 24	151 56 10 190 18 48	Edgecombe.... Cushman.....	10267.1 6375.7	4.011449 3.804528
Wiscasset white spire, 1857.	44 00 14.816 69 40 07.041	457.3 156.9	280 59 47.5 14 39 27.7	101 02 11.2 194 36 44.5	Haggett 1.... Parkers Id.... Cushman..... Back River....	4694.6 20791.0 2938.2 20513.0	3.671597 4.317875 3.468085 4.312030
Wiscasset brown spire, 1857.	44 00 19.173 69 40 02.938	591.8 66.5	318 49 29.1 14 48 26.4	138 52 04.9 194 45 40.4	Edgecombe.... Parkers Id.... Cushman..... Back River....	7600.3 2094.4 3094.3 20673.5	3.880831 4.321067 3.490557 4.315413
Southport, Martin's house, 1857. ¹	43 50 34.12 69 40 22.38	1053.1 499.9	30 34 24 177 38 22	210 32 22 357 38 15	Griffiths Head.. Bartoe.....	7772.2 5403.8	3.890544 3.732698

¹ No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PENOBSKOT BAY TO KENNEBEC RIVER—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
Hendricks Head Light, 1857.	43° 49' 22.024 69° 41' 25.194	679.7 563.0	23° 20' 45.6 29° 42' 13.8 90° 31' 25.6	203° 17' 54.8 209° 40' 55.0 270° 29' 36.7	Seguin L. H... Griffiths Head... Parkers Id....	13953.4 5143.3 3514.7	4.144680 3.711238 3.545880
Cottage, white chimney, 1857.	43° 59' 14.038 69° 41' 26.747	433.3 596.0	261° 15' 25.6 298° 21' 13.0 315° 59' 12.1	81° 18' 44.6 118° 24' 47.0 135° 59' 40.0	Haggett 1.... Edgecombe.... Cushman.....	6459.4 7809.3 1289.4	3.810194 3.892614 3.110382
Montseag, 1855 ¹	43° 53' 27.08 69° 43' 45.52	835.8 1016.0	30° 42' 05 39° 56' 13	210° 40' 12 219° 51' 49	Back River... Burnt Ledge...	7083.1 13257.1	3.850221 4.122446
Red chimney, 1856 ¹ .	43° 45' 59.77 69° 45' 04.39	1844.7 98.2	5° 24' 23 91° 25' 09	185° 24' 03 271° 23' 34	Seguin L. H... Coxes Head...	6600.5 3075.8	3.819574 3.487953
Neguasset, 1855-56...	43° 57' 41.069 69° 45' 18.714	1267.5 417.2	273° 57' 03.1 320° 34' 34.6 353° 40' 30.4	94° 03' 18.1 140° 37' 53.3 173° 41' 23.3	Edgecombe... Bartoe..... Parkers Id....	12073.4 10065.2 15465.0	4.081831 4.002821 4.189350
Parkers Island, house chimney, center, 1855. ¹	43° 50' 05.26 69° 45' 25.75	162.4 575.3	95° 42' 27 168° 07' 31	275° 41' 44 348° 06' 35	Back River... Gilmores Hill...	1384.1 8778.8	3.141175 3.943434
Parkers Island, Gen. Berry's house chimney, 1856.	43° 47' 11.113 69° 45' 51.021	343.0 1140.8	286° 05' 13.8 43° 04' 43.4 43° 42' 06.7	106° 11' 20.5 223° 02' 05.7 223° 41' 03.9	Damiscover.... Morse..... Coxes Head...	12646.1 7332.6 2940.9	4.101957 3.865258 3.468474
Parkers Island, Widow P. Oliver's house, 1856.	43° 46' 41.668 69° 45' 45.730	1286.0 1022.6	204° 51' 24.8 357° 47' 18.7 60° 29' 04.2 111° 55' 56.5	24° 52' 36.1 177° 47' 28.0 240° 27' 57.7 291° 52' 56.2	Parkers Id.... Seguin L. H... Coxes Head... Burnt Ledge...	5489.2 7870.1 2470.8 6277.4	3.739511 3.895979 3.392844 3.797778
Pond Island bell-house, 1855.	43° 44' 21.088 69° 46' 14.719	650.8 329.4	344° 52' 37.5 88° 36' 29.9 154° 18' 20.9	164° 53' 06.9 268° 34' 11.5 334° 17' 34.5	Seguin L. H... Morse..... Coxes Head...	3651.9 4479.2 3463.7	3.562524 3.651198 3.539544
Jack Rock Beacon, 1904. ¹	43° 44' 59.60 69° 46' 18.65	1842.4 417.2	355° 46' 29 120° 32' 51	175° 46' 32 300° 32' 21	Pond Id. Light Fort Popham Beacon.	1089.9 1098.3	3.037391 3.040733
Spinney's, Ephraim, house, 1856.	43° 46' 01.784 69° 46' 46.347	55.1 1036.7	345° 56' 33.1 49° 31' 33.1 90° 57' 40.9	165° 57' 24.4 229° 29' 36.6 270° 57' 16.3	Seguin L. H... Morse..... Coxes Head...	6837.9 4956.1 794.4	3.834922 3.695138 2.900063
Spinney's, Richard, house, 1856. ¹	43° 45' 27.07 69° 46' 47.38	835.5 1059.9	343° 09' 13 47° 31' 44	163° 10' 05 227° 31' 32	Seguin L. H... Hunn e w ell flagstaff.	5811.0 536.7	3.764248 2.729711
Parkers Island, new house chimney, 1856. ¹	43° 46' 01.27 69° 46' 22.12	39.2 494.7	350° 24' 21 91° 15' 45	170° 24' 55 271° 15' 04	Seguin L. H... Coxes Head...	6711.1 1336.5	3.826792 3.125962
Shag Rock Beacon, 1904.	43° 45' 52.044 69° 46' 58.452	1606.3 1307.5	120° 56' 44.3 174° 39' 35.0	300° 56' 28.1 354° 39' 27.8	do..... Perkins Island Light.	610.5 2499.6	2.785673 3.397876
Hunnewell's flag-staff, 1856.	43° 45' 15.324 69° 47' 05.077	472.9 113.6	338° 11' 34.9 61° 58' 43.5 165° 27' 27.3	158° 12' 39.1 241° 56' 59.9 345° 27' 15.7	Seguin L. H... Morse..... Coxes Head...	5599.8 3795.9 1495.1	3.748173 3.579320 3.174066
Squirrel Point Light, 1904.	43° 48' 59.826 69° 48' 10.550	1846.4 235.8	337° 21' 19.7 144° 11' 15.6 312° 54' 00.2	187° 22' 02.3 324° 10' 34.4 132° 54' 56.4	Perkins Island Light. Bowker..... Rotunda Hill...	3582.9 2271.0 2477.5	3.554229 3.356215 3.394022
Beal's, Sam, chimney, 1856. ¹	43° 49' 36.80 69° 48' 17.65	1135.8 394.4	325° 05' 08 120° 54' 13	145° 06' 09 300° 53' 37	do..... Bowker.....	3448.3 1363.8	3.537604 3.134750
Lees Island, Cushing's house, center chimney, 1856.	43° 49' 45.763 69° 48' 23.071	1412.4 515.5	111° 59' 59.9 254° 01' 30.8 325° 59' 13.4	291° 59' 27.4 74° 02' 50.7 146° 00' 18.3	do..... Back River... Rotunda Hill...	1131.5 2688.3 3744.9	3.063644 3.429470 3.573436

1 No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PENOBCOT BAY TO KENNEBEC RIVER—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Supplementary points—Continued.</i>							
Cutting's, Drummond, barn, west end, 1856.	43 50 20.379 69 48 57.906	629.0 1293.6	275 34 27.9 325 26 38.1 22 47 03.5	95 36 11.9 145 28 07.1 202 46 55.1	Back River... Rotunda Hill... Bowker.....	3378.7 5066.1 699.2	3.528750 3.704670 2.844584
Doubling Point Light, 1903. ¹	43 52 57.38 69 48 26.34	1771.0 587.8	129 11 56 166 28 38	309 11 36 246 28 22	Rocky..... Ledge.....	799.4 2156.0	2.902781 3.333654
Phippsburg spire, 1855-56, 1904.	43 49 09.966 69 48 37.323	307.6 834.1	154 27 11.2 237 33 50.2 309 38 17.5 331 20 33.3	334 26 48.5 57 35 19.9 129 39 32.2 151 21 34.3	Bowker..... Back River... Rotunda Hill... Perkins Island Light.	1694.3 3439.4 3133.9 412.5	3.228979 3.536488 3.496090 2.615392
East telegraph pole, 1855.	43 57 05.835 69 48 53.181	180.1 1185.8	327 15 36.0 110 57 44.9 182 07 50.8	147 17 03.7 290 54 08.6 2 07 54.3	Gilmores Hill... Sprague..... Hodgkins.....	5218.1 7438.8 3016.4	3.717511 3.871502 3.479483
Bath, North Methodist Church spire, 1903.	43 55 32.867 69 48 51.299	1014.4 1144.4	298 39 50.4 318 25 11.1 358 52 38.7 0 49 51.7	118 41 16.8 168 25 30.6 178 52 40.3 180 49 49.7	Gilmores Hill... 3002.8 Ledge..... Rocky.....	3168.4 3119.9 2703.2 4294.2	3.500837 3.494137 3.431894 3.632880
Bath, Universalist Church spire, 1855. ¹	43 54 45.23 69 48 52.95	1396.0 1181.5	271 00 25 339 04 11	91 01 53 159 05 62	Gilmores Hill... Back River...	2817.3 9103.1	3.449832 3.959191
Bath, South Methodist Church spire, 1855.	43 54 32.066 69 49 00.325	989.7 7.3	137 30 00.8 182 00 10.5 263 10 31.2 337 07 08.1	317 26 29.6 2 00 19.0 83 12 03.9 157 08 54.1	Sprague..... Hodgkins..... Gilmores Hill... Back River...	10046.3 7764.9 3002.8 8787.6	4.002008 3.890135 3.477527 3.943868
Bath, Calvinist Church spire, 1855. ¹	43 55 08.54 69 49 00.45	263.6 10.0	284 26 58 339 39 19	104 28 31 159 41 05	Gilmores Hill... Back River...	3081.7 9835.5	3.488787 3.992795
Bath Baptist Church spire, 1855.	43 54 52.077 69 49 00.539	1607.3 12.0	135 01 45.3 182 12 50.5 274 59 25.7 338 33 42.8	314 58 14.1 2 12 59.1 95 00 58.5 158 35 29.0	Sprague..... Hodgkins..... Gilmores Hill... Back River...	9596.7 7147.9 2997.7 9361.4	3.982124 3.854178 3.476787 3.971340
Bath Central Church spire, 1855.	43 54 47.033 69 49 02.378	1451.6 53.1	135 51 07.7 182 29 17.5 271 50 15.8 337 58 16.5	315 47 37.8 2 29 27.4 92 00 49.9 158 00 04.0	Sprague..... Hodgkins..... Gilmores Hill... Back River...	9678.9 7305.1 3029.1 9231.9	3.985825 3.863627 3.481319 3.965293
Bath Episcopal Church spire, 1855.	43 55 01.500 69 49 06.603	46.3 147.3	183 26 06.8 280 01 12.1 338 26 40.3	3 26 19.6 100 02 49.1 158 28 30.7	Hodgkins..... Gilmores Hill... Back River...	6864.0 3169.9 9681.6	3.836580 3.501047 3.985945
West telegraph pole, 1855.	43 56 59.390 69 49 06.557	1833.0 146.2	323 19 24.0 113 16 32.3 187 16 34.1	143 21 01.0 293 13 05.3 7 16 46.9	Gilmores Hill... Sprague..... Hodgkins.....	5224.4 7237.3 3239.3	3.718036 3.859579 3.510447
Bowker's, Ellis, house, 1856.	43 49 51.865 69 49 11.707	1600.8 261.6	189 04 13.7 261 26 55.4 315 58 25.5	9 04 14.9 81 28 49.0 136 00 04.1	Bowker..... Back River... Rotunda Hill...	238.4 3712.3 4578.6	2.377306 3.569646 3.660724
Arrowseag, Wm. Wetmore's house chimney, 1855.	43 53 20.700 69 48 03.153	638.9 70.4	174 15 06.3 340 02 59.4 356 05 45.0	354 14 35.0 160 04 05.7 176 06 13.6	Hodgkins..... Back River... Coxes Head...	10013.2 6270.3 13504.5	4.000572 3.797288 4.132404
Graves, 1871 ¹	43 55 09.91 69 54 35.94	305.9 801.9	195 18 41 220 33 53	15 18 53 40 34 28	Hunter..... Ant.....	1508.1 1743.6	3.178440 3.241438
Foster, 1860 ¹	43 55 14.07 69 55 36.61	434.3 816.8	232 51 38 274 12 22	52 52 32 94 13 31	Hunter..... Brunswick tall tree.	2197.0 2238.3	3.341823 3.349919
Pine, 1871 ¹	43 55 18.92 69 55 46.51	583.9 1037.6	248 42 03 280 08 55	68 43 26 100 09 43	Ant..... Graves.....	2882.4 1576.6	3.459754 3.197733
Fry, 1871.....	43 56 34.431 69 53 22.139	1062.6 493.8	243 51 23.2 21 45 21.6 47 14 45.4	63 52 37.2 201 45 05.7 227 14 06.6	Buckner..... Ant..... Hunter.....	2648.5 1382.6 1699.7	3.423003 3.140681 3.230366

1 No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PENOOSSET BAY TO KENNEBEC RIVER—Continued.

Station	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Supplementary points—Continued.</i>							
Camp, 1871 ¹	43° 57' 08.672 69° 53' 20.462	267.6 456.3	30° 10' 33.0 158° 57' 16.3 208° 50' 31.4 267° 18' 22.8	210° 09' 52.9 338° 56' 45.5 28° 51' 41.1 87° 19' 35.6	Hunter..... Sprague..... Senter..... Buckner.....	Meters. 2557.2 2753.8 4639.1 2242.8	3.407772 3.439938 3.666438 3.369730
Brick, 1871	43° 58' 48.850 69° 51' 33.194	1507.6 739.8	9° 59' 31.5 81° 14' 15.6 171° 04' 42.0	180° 59' 29.9 261° 12' 30.4 351° 04' 37.3	do..... Sprague..... Senter.....	2982.7 3419.8 983.3	3.474603 3.533098 2.992686
Bluff, 1871 ¹	43° 58' 20.52 69° 51' 03.87	633.3 86.2	44° 22' 53 95° 00' 53	224° 20' 38 274° 58' 43	Hunter..... Sprague.....	6198.9 4040.9	3.791964 3.607350
House, chimney in center, 1860. ¹	43° 58' 59.60 69° 51' 58.09	1839.4 1294.6	197° 06' 09 225° 51' 50	17° 07' 06 45° 54' 38	Maxwell..... Hathorn.....	6245.0 7519.2	3.795535 3.876173
Poplar, 1871	43° 59' 12.547 69° 53' 24.741	387.2 551.4	264° 07' 01.0 326° 44' 16.4 35° 29' 29.0	84° 06' 13.7 146° 45' 32.2 215° 29' 01.2	Senter..... Buckner..... Sprague.....	2345.6 4440.7 1539.1	3.370251 3.047447 3.187271
Senter's chimney, 1871. ¹	43° 59' 22.69 69° 52' 02.97	700.2 66.3	278° 07' 39 351° 21' 09	98° 07' 55 171° 21' 28	Senter..... Buckner.....	516.3 4072.9	2.712918 3.609902
Sedgeley, 1871	43° 59' 43.742 69° 52' 31.504	1349.9 702.1	302° 13' 02.9 345° 03' 05.4 43° 11' 35.8	122° 13' 38.6 165° 03' 44.2 223° 10' 31.0	Senter..... Buckner..... Sprague.....	1355.6 4840.1 3039.2	3.132132 3.684854 3.482756
Abagadasset Point back range light, 1913. ¹	44° 00' 00.35 69° 49' 04.18	10.8 93.1	162° 05' 10	342° 05' 07	Abagadasset Point front range light.	233.85	2.368937
East Kennebec Beacon, 1868. ¹	44° 02' 49.81 69° 47' 31.33	1537.4 697.4	202° 24' 53 267° 03' 57	22° 25' 46 87° 04' 56	Houdlette..... Costelow.....	4429.1 1880.3	3.046315 3.274225
Swan Island 1, 1868..	44° 03' 55.138 69° 47' 51.181	1701.5 1139.1	181° 43' 39.1 225° 42' 41.6 309° 36' 42.3	341° 43' 10.7 45° 43' 48.2 129° 37' 54.8	Richmond..... Houdlette..... Costelow.....	2897.1 2976.3 3011.2	3.461967 3.473682 3.478745
Thompson's red barn, 1868. ¹	44° 04' 10.36 69° 48' 39.81	319.8 885.9	184° 20' 56 243° 23' 44	4° 21' 01 63° 25' 01	Richmond..... Houdlette.....	2287.9 3592.9	3.359430 3.555449
Reed's, David, house chimney, 1868.	44° 05' 09.783 69° 47' 22.517	302.0 501.0	217° 48' 47.9 250° 20' 22.6 278° 36' 01.2	37° 50' 11.7 70° 21' 16.1 98° 36' 47.9	Widows Hill..... Theobald..... Houdlette.....	4365.7 1815.9 1509.8	3.640054 3.259100 3.178917
Swan Island 3, 1868..	44° 05' 02.135 69° 47' 50.422	65.9 1121.8	221° 49' 04.3 250° 01' 32.5 269° 43' 03.5	41° 50' 47.5 70° 02' 45.4 89° 44' 09.6	Widows Hill..... Theobald..... Houdlette.....	4944.9 2480.0 2113.7	3.694156 3.394456 3.325042
Richmond Congregational Church spire, 1868.	44° 05' 09.862 69° 48' 16.477	304.4 366.6	29° 34' 38 142° 08' 28 274° 50' 08	209° 33' 01 322° 08' 28 94° 51' 32	Maxwell..... Richmond..... Houdlette.....	6276.5 563.2 2703.0	3.797717 2.750648 3.431840
Richmond, brown church spire (F. W. B.), 1868.	44° 05' 18.320 69° 48' 21.098	565.4 469.4	325° 41' 56 3° 23' 16	145° 43' 26 183° 22' 54	Costelow..... Hodgkins.....	5115.7 11945.7	3.708907 4.077212
Richmond, clock church spire (Methodist), 1868.	44° 05' 16.210 69° 48' 13.508	500.3 300.5	27° 38' 21 127° 05' 39 279° 55' 01	207° 36' 47 307° 05' 31 99° 56' 27	Maxwell..... Richmond..... Houdlette.....	6456.5 304.4 2383.6	3.809995 2.483473 3.453102
Foster's mill chimney, 1868. ¹	44° 05' 20.51 69° 47' 50.64	633.1 1126.5	29° 13' 50 121° 08' 29 279° 09' 48	209° 12' 11 301° 08' 15 99° 11' 09	Maxwell..... Richmond..... Houdlette.....	6479.6 481.0 5243.0	3.371596 2.682109 3.425089
Hathorn's barn, southeast gable, 1868.	44° 05' 32.765 69° 47' 09.496	1011.3 211.2	232° 00' 07.7	261° 51' 39.7 356° 55' 41.5	Richmond..... Hathorne Hill..... Widows Hill.....	1854.3 565.9 3633.5	3.268184 2.752763 3.560031

¹ No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PENOBSCT BAY TO KENNEBEC RIVER—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
Pine, 1870.....	44 05 52.970 69 45 06.656	1634.9 148.1	287 40 13.9 357 23 46.1	107 40 51.9 177 23 49.7	Pray..... McFadden.....	1274.8 2492.7	3.105446 3.396669
Cemetery flagstaff, 1868.	44 06 16.106 69 46 04.204	497.1 93.5	1 16 47.6 213 42 53.7	181 16 46.6 33 43 23.0	Theobald..... Wilson..... Widows Hill..	1436.7 1310.1 1684.8	3.157361 3.117304 3.226543
Prescott's house chimney, 1868. ¹	44 06 23.06 69 46 05.25	711.7 116.8	179 15 02 218 55 22	359 15 01 38 55 52	Hagar..... Widows Hill..	3290.0 1525.7	3.517201 3.183455
Adkin's barn, south gable, 1868.	44 11 21.327 69 45 48.039	658.3 1066.9	318 49 45.9 1 28 51.7 3 10 39.0	138 50 30.9 181 28 50.2 183 10 29.2	Telegraph Hill.. Layton's Hill.. Woodward....	2181.1 1804.5 5633.0	3.338666 3.256355 3.750743
Lapham, 1868.....	44 12 21.649 69 45 28.233	668.2 628.9	344 08 04.1 5 44 23.9 108 48 47.0	164 08 35.4 185 44 00.4 288 47 37.8	Telegraph Hill.. Woodward.... Iron Hill.....	3642.5 7523.9 2328.7	3.561402 3.876445 3.367107
Dunfry, 1868.....	44 12 54.580 69 46 32.117	1684.6 713.0	165 08 32.9 200 23 45.9 331 53 02.3	345 07 40.0 20 25 12.6 151 54 19.0	Perkins..... Winters Hill.. Telegraph Hill.	6545.3 7902.5 5124.5	3.815928 3.897764 3.709654
Pittston spire, 1868..	44 13 51.398 69 45 56.378	1586.4 1251.3	345 30 45.1 38 01 48.6 199 08 12.1	165 31 36.0 218 00 59.0 19 09 13.9	do..... Iron Hill..... Winters Hill..	6479.8 2563.7 5983.7	3.811562 3.408861 3.776972
Gardiners Catholic Church spire, 1868.	44 13 33.930 69 46 32.190	1047.3 714.5	337 08 54.1 27 55 01.9 203 59 21.9	157 10 10.0 207 54 37.3 24 00 48.7	Telegraph Hill.. Iron Hill..... Winters Hill..	6222.8 1675.3 678.0	3.793964 3.224098 3.831100
Gardiners white Con- gregational spire, 1868.	44 13 39.595 69 46 33.589	1222.1 745.5	204 50 54.4 337 30 00.3 24 28 17.0	24 52 22.1 157 31 17.1 204 27 53.3	do..... Telegraph Hill.. Iron Hill.....	6631.6 6396.1 1818.6	3.821619 3.805914 3.259731
Gardiners Methodist spire, 1868.	44 13 56.447 69 46 32.760	1742.3 727.1	206 43 41.3 339 18 05.9 19 31 57.9	26 45 08.4 159 19 22.1 199 31 33.6	Winters Hill.. Telegraph Hill.. Iron Hill.....	6155.2 6873.0 2308.2	3.789241 3.837145 3.363270
Gardiners Episcopal spire, 1868.	44 13 39.692 69 46 30.656	1225.1 680.4	338 03 05.9 26 16 11.1 204 20 50.0	158 04 20.7 206 15 45.4 24 22 15.7	Telegraph Hill.. Iron Hill..... Winters Hill..	6374.2 1849.2 6601.8	3.804428 3.266980 3.819660
Gardiners Universa- list Church spire, 1868.	44 13 42.611 69 46 24.700	1315.2 548.2	339 26 58.9 28 32 11.0 203 36 37.0	159 28 09.5 208 31 41.1 23 37 58.5	Telegraph Hill.. Iron Hill..... Winters Hill..	6410.3 1990.0 6465.8	3.806877 3.298856 3.810619
Hallowell white spire, 1868. ¹	44 16 56.24 69 47 32.32	1735.9 716.6	187 02 26 342 36 21	7 02 42 162 38 19	Burnt Hill.... Telegraph Hill.	4301.1 12552.2	3.633583 4.098721
Hallowell Methodist Church spire (gilt ball), 1868. ¹	44 17 11.08 69 47 38.88	342.0 862.1	276 51 22 7 04 56	96 53 35 187 04 49	Winters Hill.. Perkins.....	4265.0 1603.0	3.629921 3.204930
Augusta Baptist Church spire, 1868.	44 18 53.604 69 46 38.370	1654.5 850.3	321 47 15.7 17 56 28.9 134 02 05.4	141 48 46.8 197 55 40.4 314 01 44.6	Winters Hill.. Perkins..... Burnt Hill....	4676.4 4998.1 929.7	3.669916 3.698809 2.968341
Augusta, capitol flag- staff, 1868.	44 18 26.091 69 46 55.581	805.3 1232.0	1 26 47.7 16 30 45.7 169 08 09.9 310 47 11.3	181 26 39.3 196 30 09.2 349 08 01.2 130 48 54.4	Iron Hill..... Perkins..... Burnt Hill.... Winters Hill..	10501.5 4074.0 1522.7 4324.6	4.021251 3.610022 3.182610 3.635947
Augusta Freewill Baptist spire, 1868.	44 19 09.511 69 46 48.686	293.6 1078.9	323 09 07.1 2 01 23.0 109 26 16.6	143 10 45.4 182 01 09.8 289 26 03.1	do..... Iron Hill..... Burnt Hill....	5205.1 11845.7 466.4	3.716431 4.073562 2.668719
Augusta Congrega- tional spire, 1868.	44 19 01.095 69 46 34.585	33.8 766.4	324 16 39.5 18 02 09.2 118 53 08.6	144 18 08.0 198 01 18.1 298 52 45.2	Winters Hill.. Perkins..... Burnt Hill....	4810.8 5244.0 859.2	3.682214 3.719600 2.934069

¹ No check on this position.

GEOGRAPHIC POSITIONS—Continued.

CASCO BAY AND PORTLAND.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Principal points.</i>	° ′ ″	° ′ ″	° ′ ″	° ′ ″			
Burnt Ledge, 1854...	43 47 57.555 69 50 06.210	1776.3 138.8	354 05 41.1 20 19 48.7 46 16 18.7 90 23 26.6	174 06 02.8 200 19 22.4 226 12 02.9 270 17 08.2	Morse..... Cape Small... Ragged Island Harpowell church. Back River... Coxes Head...	6827.3 2446.6 11457.8 12220.6 6368.1 5116.4	3.834250 3.388570 4.059100 4.087094 3.804007 3.708964
Burnt Ledge, Jr., 1866...	43 47 53.369 69 50 29.462	1647.0 658.7	73 38 22.0 85 28 30.6 134 53 59.6	253 35 22.8 265 27 15.0 314 51 54.7	Yarmouth..... Butler..... Grover.....	6036.2 2448.5 5689.8	3.780760 3.388897 3.755096
Robinsons Rock, 1854	43 45 34.777 69 51 04.924	1073.3 110.1	319 46 47.2 63 13 23.7 117 16 01.6	139 47 49.5 243 09 48.5 297 13 27.0	Morse..... Ragged Island Yarmouth....	3122.6 7802.3 5623.7	3.494510 3.892220 3.750019
Mount Merritt, 1911...	43 46 05.611 69 51 12.453	173.2 278.5	56 41 18.4 108 35 24.6	236 37 48.4 288 32 55.2	Ragged Island Yarmouth....	8133.5 5096.3	3.910275 3.707256
Bald Head, 1854....	43 42 22.864 69 51 16.894	705.6 378.3	69 18 06.3 109 46 20.3 134 22 24.8	249 10 32.1 289 42 53.5 314 16 55.7	Halfway Rock Ragged Island Harpowell church.	15754.8 7117.3 14885.7	4.197412 3.852315 4.172770
Basin, 1866.....	43 48 20.955 69 51 42.465	646.7 949.2	288 32 42.1 297 32 40.1 37 44 20.3 58 27 33.5	108 33 48.7 117 33 30.6 217 43 55.3 238 25 24.8	Burnt Ledge... Burnt Ledge, Jr. Butler..... Yarmouth....	2289.7 1840.7 1321.4 4880.3	3.987091 3.906788 3.355960 3.264976
McKinney, 1866.....	43 50 10.259 69 52 14.526	316.6 324.5	324 59 21.8 330 55 34.2 1 11 35.5 30 08 56.6	145 00 50.6 150 56 46.9 181 11 32.6 210 07 10.0	Burnt Ledge... Burnt Ledge, Jr. Butler..... Yarmouth....	4999.8 4833.5 4419.4 6853.9	3.698950 3.684258 3.645364 3.835939
Butler, 1866.....	43 47 47.096 69 52 18.642	1453.5 416.8	263 45 53.6 65 45 45.2	83 47 25.3 245 44 01.6	Burnt Ledge... Yarmouth....	2978.1 3674.2	3.473946 3.565165
Richs Mount, 1866...	43 51 46.192 69 52 18.849	1425.6 420.9	19 40 59.3 26 34 53.0 66 50 33.3	199 40 42.7 206 34 03.8 246 49 06.6	Three Islands... Grover..... Orr.....	1593.3 3545.2 3040.2	3.202308 3.549639 3.482899
New Meadow River No. 1, 1866.	43 53 38.362 69 54 06.022	1184.0 134.4	338 51 23.3 4 55 32.9	158 51 53.0 184 55 20.4	Holbrook..... Orr.....	2651.5 4675.4	3.423487 3.669817
New Meadow River No. 2, 1866.	43 53 13.625 69 52 38.867	420.5 867.6	30 03 58.6 31 05 19.4 111 26 10.2	210 03 27.9 211 04 06.6 291 25 09.8	Holbrook..... Orr..... New Meadow River No. 1.	1975.3 4547.4 2089.8	3.295625 3.657760 3.320115
New Meadow River No. 3, 1866.	43 54 04.212 69 52 54.733	130.0 1221.5	283 24 18.7 347 13 09.0 63 22 31.7	103 25 28.2 167 13 20.0 243 21 42.3	Great Hill.... New Meadow River No. 2. New Meadow River No. 1.	2299.1 1601.0 1779.9	3.361562 3.204384 3.250393
New Meadow River No. 4, 1866.	43 54 58.992 69 52 28.021	1820.7 625.2	323 35 17.4 4 15 27.4 19 25 21.7	143 36 08.4 184 15 19.9 199 25 03.2	Great Hill.... New Meadow River No. 2. New Meadow River No. 3.	2763.4 3261.0 1792.7	3.441441 3.513352 3.253505
Three Islands, 1866...	43 50 57.583 69 52 42.876	1777.2 957.7	336 33 19.6 32 08 37.6 97 40 40.0	156 33 39.2 212 08 05.0 277 39 29.9	McKinney.... Grover..... Orr.....	1592.0 1972.7 2279.0	3.201938 3.295059 3.357747
Holbrook, 1866.....	43 52 18.234 69 53 23.188	562.8 517.7	304 32 05.2 310 06 43.5 31 51 54.7	124 32 49.8 160 07 11.5 211 51 12.6	Rich's Mount... Three Islands... Orr.....	1744.1 2647.0 2572.7	3.241583 3.422752 3.410384

GEOGRAPHIC POSITIONS—Continued.

CASCO BAY AND PORTLAND—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of dis- tance.
<i>Principal points—Continued.</i>							
Grover, 1866.....	43 50 03.461 69 53 29.853	106.8 667.0	310 28 18.4 339 16 44.4 17 05 27.5	130 30 39.4 159 17 33.7 197 04 33.1	Burnt Ledge... Butler..... Yarmouth....	5984.4 4499.5 5981.7	3.777018 3.653165 3.776828
East Bay, 1866.....	43 49 50.033 69 54 02.195	1544.2 49.0	328 36 28.3 11 02 26.6 48 29 32.2	148 37 40.0 191 01 54.8 228 28 41.9	Butler..... Yarmouth.... West Bay.....	4444.4 5403.3 2169.3	3.647812 3.732662 3.336318
Orr, 1854.....	43 51 07.435 69 54 23.996	229.5 535.9	315 28 05.9 328 55 00.9 10 19 10.2 48 08 39.2	135 31 04.4 148 57 33.1 190 17 52.7 228 05 19.2	Burnt Ledge... Cape Small... Ragged Island... Harpswell church.	8217.3 9519.6 14011.7 8669.9	3.914731 3.978619 4.146490 3.938015
Yarmouth, 1854.....	43 46 58.196 69 54 48.469	1796.1 1063.8	17 51 05.8 76 58 06.1 107 52 46.3 274 48 53.0	197 50 05.1 256 53 55.9 287 49 43.3 94 51 42.0	Ragged Island Randall.... Harpswell church. Cape Small....	6401.1 8303.1 6210.4 5481.4	3.806256 3.919239 3.793123 3.738893
Doughty, 1866.....	43 50 44.299 69 55 00.587	1367.1 13.1	6 47 59.3 147 31 55.0	186 47 55.4 327 31 27.7	Chas. Orr.... Cranberry Ridge.	1050.4 1638.5	3.021372 3.214452
Totman, 1866.....	43 49 40.161 69 55 08.862	1239.5 198.0	312 30 40.8 354 47 16.4 6 46 30.3	132 32 38.6 174 47 30.6 186 46 26.1	Butler..... Yarmouth.... West Bay.....	5162.4 5019.4 1141.1	3.712855 3.700656 3.057328
Chas. Orr, 1866.....	43 50 10.602 69 55 06.155	324.1 137.5	53 51 07.5 208 11 06.4 356 11 16.7	233 48 16.7 28 11 35.6 176 11 29.0	Harpswell church. Orr..... Yarmouth....	6829.9 1993.6 5948.3	3.834417 3.299634 3.774394
West Bay, 1866.....	43 49 03.446 69 55 14.885	106.4 332.7	300 52 08.6 351 18 43.4	120 54 10.6 171 19 01.7	Butler..... Yarmouth....	4590.4 3910.4	3.661850 3.592223
Cranberry Ridge, 1866	43 51 29.088 69 55 39.973	897.7 892.7	291 29 18.5 342 41 49.2	111 30 11.1 162 42 12.6	Orr..... Chas. Orr....	1823.7 2540.3	3.260961 3.404889
Princes Point, 1866..	43 50 32.566 69 56 17.320	1005.0 386.9	246 57 26.0 293 10 46.2 64 47 01.1	66 58 44.5 113 11 35.5 244 45 39.9	Orr..... Chas. Orr.... Kellogg.....	2750.6 1729.6 2898.8	3.439429 3.237938 3.462219
Ragged Island, 1854..	43 43 40.767 69 56 16.143	1258.1 361.3	45 10 18.3 153 42 52.0	225 06 10.7 333 40 49.8	Halfway Rock Harpswell church. Cape Small....	11325.3 8920.9	4.054051 3.950409
Barnes Point, 1866...	43 50 23.253 69 56 42.082	717.6 940.1	242 32 23.6 280 23 46.2 292 15 54.5	62 32 40.7 100 24 52.6 112 16 16.6	Princes Point... Chas. Orr.... Doughty Pt....	623.4 2178.9 768.1	2.794748 3.338241 2.885443
Scofield, 1866.	43 51 03.230 69 57 06.194	99.7 138.4	267 55 57.8 310 54 59.4 35 03 04.9	87 57 50.2 130 55 33.3 215 02 17.6	Orr..... Princes Point... Kellogg.....	3625.1 1444.8 2665.1	3.559322 3.159098 3.425707
Kellogg, 1852.....	43 49 52.535 69 58 14.666	1621.4 328.3	245 49 09.7 300 04 53.8 20 30 28.3	65 51 49.5 120 10 05.6 200 29 48.0	Orr..... Cape Small... Harpswell church.	5648.4 11641.9 3711.6	3.751925 4.066024 3.569565
Harpswell church, 1854.	43 47 59.891 69 59 12.864	1848.4 287.5	14 17 31.1 80 35 10.4	194 15 25.5 260 21 19.1	Halfway Rock Mt. Independence.	16495.6 27243.8	4.217368 4.435267
			125 56 15.9 281 42 19.4 299 09 41.6	305 48 08.6 101 48 11.4 119 19 09.1	Bradbury..... Cape Small... Seguin L. H..	19390.1 11616.3 21042.0	4.287579 4.065066 4.323086
Tate, 1854.....	43 59 41.355 69 59 43.855	1276.3 977.2	333 18 38.3 358 10 01.8	153 24 52.4 178 10 23.3	Cape Small... Harpswell church. Sebastus.....	26867.9 21660.8 17852.3	4.429233 4.335674 4.259735 4.251695

GEOGRAPHIC POSITIONS—Continued.

CASCO BAY AND PORTLAND—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Principal points—Continued.</i>							
Randall, 1854.....	43 45 57.374 70 00 50.120	1770.7 1121.0	16 12 53.9 107 54 26.9 209 53 44.7	196 12 05.1 287 51 08.7 29 54 52.0	Haskell Island Moges..... Harpswell church.	5660.9 6732.7 4362.0	3.752883 3.828190 3.639660
			304 29 32.1	124 32 41.5	Ragged Island.	7440.0	3.871573
Haskell Island, 1854..	43 43 01.243 70 02 00.734	38.4 16.4	202 09 04.8 245 35 01.0 260 58 48.7 272 39 02.2 2 37 32.2 44 28 50.4 58 28 35.1	22 11 01.0 65 42 48.8 82 02 46.9 92 50 25.2 182 37 22.6 224 25 04.4 238 20 01.5	Harpswell church..... Cape Small..... Ragged Island. Seguin L. H. Halfway Rock.... Green Island.... White Head....	16614.6 7809.1 22157.1 6776.3 10466.1 14989.8	4.220491 3.892601 4.345512 3.830991 4.019783 4.175793
Halfway Rock, 1852 .	43 39 21.909 70 02 14.588	676.2 326.9	116 47 02.0 156 56 41.8 228 32 38.2 255 38 26.8	296 35 17.4 336 50 40.9 48 40 35.3 75 49 59.0	Mt. Independ- ence..... Bradbury..... Cape Small..... Seguin L. H.	25553.4 29732.9 20599.4 23167.3	4.407448 4.473237 4.313855 4.364875
Bannock, 1866.....	44 44 01.697 70 02 23.989	52.4 527.9	275 50 26.19 2 42 45.91 88 38 42.10	96 28 03.61 182 41 08.06 268 23 55.57	Mt. Harris..... Sebattus..... Mt. Blue.....	71067.95 65628.27 23975.06	4.8516738 4.8170976 4.3797597
Moges, 1854.....	43 47 04.35 70 05 36.63	134.3 819.1	85 04 17.1 151 23 15.8 258 39 55.0	265 00 27.1 331 19 34.3 78 44 20.6	York..... Bradbury..... Harpswell church.	7457.1 14899.0 8749.7	3.872569 4.173193 3.941993
Sebattus, 1853.....	44 08 37.833 70 04 43.738	1167.6 972.1	231 39 26.37 263 47 39.62	52 18 29.83 34 26 26.15	Mt. Harris.... Ragged Mtn....	94067.46 74549.37	4.9734394 4.8724400
Freeport church, 1854.	43 51 28.144 70 06 12.834	868.6 286.6	37 00 21.4 127 58 00.7	216 56 56.2 307 54 44.1	York..... Bradbury..... Harpswell church.	10984.4 8025.4 11374.0	4.041330 3.904464 4.055012
Bar (U. S. E.), 1909 ..	43 44 41.151 70 07 39.323	1270.0 879.9	304 22 06.5 354 19 18.0	147 14 52.8 174 19 43.0	Moges..... Sunset (U. S. E.)..... Basket (U. S. E.)	8181.6 2211.1 3499.0	3.912839 3.344600 3.543942
Jebeig, 1852-1854....	43 44 15.173 70 07 15.085	468.2 337.5	70 39 16.7 131 12 43.0 164 53 56.4 237 12 39.8	250 34 53.7 311 10 01.3 344 51 23.3 57 18 13.4	Moody..... York..... Bradbury..... Harpswell church.	9027.1 6949.4 18953.4 12823.0	3.955550 3.841948 4.277688 4.107989
Chebeag (U. S. E.), 1909.	43 43 16.426 70 08 02.414	507.0 54.0	323 20 28.0	143 23 55.6	Halfway Rock	11278.2	4.052238
Green Id., 1852-1854 .	43 38 59.153 70 07 27.956	1825.6 626.5	43 01 23.0 85 58 07.7 127 39 49.7	222 57 39.5 265 55 20.2 307 31 41.7	Johns Hill.... Whitehead.... Mt. Independ- ence.	10654.5 5452.9 19961.6	4.027533 3.736625 4.300196
			129 24 42.0 257 36 13.8 264 15 31.4	309 20 28.1 77 51 22.4 84 19 07.7	Moody..... Seguin L. H. Halfway Rock	10651.3 30162.8 7057.5	4.027403 4.474971 3.848650
Green Id. (U. S. E.), 1909.	43 38 58.751 70 07 28.387	1813.2 636.2	67 53 16.7 86 05 32.1 129 29 46.4	247 49 42.2 266 02 44.9 309 23 32.8	Williams (U. S. E.)..... Whitehead.... Moody.....	7525.7 5442.4 10651.8	3.876549 3.735792 4.027422

GEOGRAPHIC POSITIONS—Continued.

CASCO BAY AND PORTLAND—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Principal points—Continued.</i>	° ° "	° ° "	° ° "	° ° "			
Deer (U. S. E.), 1909.	43 42 30.983 70 07 41.721	956.2 934.1	357 23 15.2 35 25 13.1 36 33 03.4 91 37 23.9	177 23 24.5 215 21 47.7 216 30 25.3 271 33 19.4	Green Island, (U. S. E.) Williams (U. S. E.) Whitehead.... Moody.....	Meters. 6556.8 11514.1 8615.6 7924.3	3.816691 4.061231 3.935284 3.889958
Sunset (U. S. E.), 1909.	43 43 36.584 70 08 22.135	1129.1 495.4	44 13 02.1 74 47 48.9 107 15 51.9	224 11 03.3 254 45 40.1 287 14 40.9	Cow (U. S. E.) Clapboard (U. S. E.) Basket (U. S. E.).	5519.5 4322.5 2407.7	3.741902 3.635738 3.381804
Cousins (U. S. E.), 1909.	43 45 07.190 70 08 25.388	221.9 588.0	307 56 24.2 358.30 29.6	127 56 56.1 178 30 31.9	Bar (U. S. E.) Sunset (U. S. E.).	1306.9 2797.3	3.116258 3.446737
Birch Point, 1854....	43 45 04.648 70 08 30.945	143.5 692.3	311 57 58.8 0 38 32.1 56 27 58.7	131 58 51.2 180 38 30.1 230 24 28.1	Jebel.... Long Island.... Moody.....	2283.1 5676.9 8180.7	3.358532 3.754115 3.912789
Long Island, 1852....	43 42 00.717 70 08 33.786	22.1 756.6	33 30 18.9 99 43 16.3 114 41 55.2	213 28 16.8 279 39 47.8 294 34 32.5	Whitehead.... Moody.... Mt. Independ- ence.	7181.0 6853.9 15772.0	3.856187 3.825936 4.197888
Marsh (U. S. E.), 1909.	43 40 33.251 70 09 21.006	1026.2 470.6	41 27 35.6 211 27 16.0 319 07 22.9	221 26 06.1 31 28 24.5 139 08 40.7	Whitehead... Deer (U. S. E.) Green Island (U. S. E.).	4388.7 4259.8 3856.6	3.642335 3.629390 3.586203
Farmington, 1866....	44 40 15.274 70 09 50.274	471.4 1107.4	114 16 18.89 234 31 48.24	294 08 46.69 54 37 02.17	Mt. Blue.... Bannock....	15518.98 12057.58	4.1908632 4.0812603
Basket (U. S. E.), 1909.	43 43 59.724 70 10 04.872	1843.2 109.0	295 58 45.4 18 20 23.4 61 54 29.6	116 00 10.0 198 19 35.6 241 52 04.0	Chebeag (U. S. E.) Cow (U. S. E.) Moody.....	3049.2 4920.9 5346.0	3.484190. 3.692044 3.728030
Bradbury, 1852.....	43 54 07.914 70 10 56.335	244.3 1257.3	197 08 27.8 296 46 01.2 35 04 48.9	17 12 46.6 117 00 08.8 214 59 04.0	Sebattus.... Cape Small.... Mt. Independ- ence.	28099.6 30359.5 19383.6	4.448700 4.482295 4.287434
York, 1852.....	43 46 43.459 70 11 08.861	1341.2 198.2	78 50 24.7 181 09 58.9 261 32 55.4	258 44 48.9 1 10 07.7 81 41 11.0	Mt. Independ- ence. Bradbury.... Harpswell church.	11069.5 13723.4 16181.7	4.044127 4.137462 4.209023
Cow Island, 1854....	43 41 30.387 70 11 09.668	937.8 216.5	122 37 44.3 225 53 47.5 254 58 27.2	302 36 03.5 45 56 29.6 75 00 14.9	Moody.... Jebeig.... Long Island...	3877.5 7310.5 3614.1	3.588553 3.863946 3.557997
Cow (U. S. E.), 1909.	43 41 28.373 70 11 14.010	875.7 313.8	124 11 44.4 232 07 12.9	304 10 06.6 52 09 25.3	Moody.... Chebeag (U. S. E.)	3830.6 5433.6	3.583263 3.735084
Clapboard (U. S. E.), 1909.	43 42 59.813 70 11 28.468	1846.0 637.3	225 19 58.7 263 38 13.2 353 27 16.8	45 20 54.5 83 40 35.6 173 27 26.8	Basket (U. S. E.) Chebeag (U. S. E.) Cow (U. S. E.)	2630.6 4640.9 2840.6	3.420051 3.666606 3.453412
Tel, 1909.....	43 38 46.709 70 11 30.169	1441.5 676.1	27 39 54.4 103 49 23.9 349 23 02.7	207 39 13.0 283 48 30.6 169 23 12.2	Portland Head Lighthouse. Fort Scammel. Ram Island Ledge L. H.	2899.5 1788.1 1667.1	3.462323 3.252380 3.221963

GEOGRAPHIC POSITIONS—Continued.

CASCO BAY AND PORTLAND—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth..	To station.	Dis- tance.	Loga- rithm of dis- tance.
<i>Principal points—Continued.</i>							
Whitehead, 1850....	43 38 46.661 70 11 30.656	1440.0 687.1	13 50 01.9 140 28 31.4 264 57 27.4	193 49 05.8 320 23 11.0 85 03 51.2	Johns Hill.... Mount Independence.... Halfway Rock	7628.7 16298.6 12509.0	3.882452 4.212150 4.097223
McKinley (U. S. E.), 1909.	43 41 11.744 70 11 37.886	362.5 848.5	135 20 45.0 306 15 55.8	315 19 23.7 126 18 48.1	Moody.... Green Island (U. S. E.)	3747.5 6834.9	3.573736 3.841037
Cape Elizabeth East Lighthouse, 1904.	43 33 58.186 70 12 02.082	1795.7 46.7	44 23 41.5 174 18 55.7 184 31 24.2 218 44 56.3	224 23 35.3 354 18 36.3 4 31 45.9 38 51 51.2	Cape Elizabeth West L. H. Portland Head Lighthouse.... Whitehead.... Haskell Island	286.6 6367.6 8930.8 21507.3	2.457349 3.803976 3.950889 4.332586
Cape Elizabeth West Lighthouse, 1904.	43 33 51.550 70 12 11.018	1590.9 247.2	176 14 08.2 185 40 19.5 218 49 17.0 232 37 27.8	356 13 55.0 5 40 47.3 38 56 18.1 52 44 19.2	Portland Head Lighthouse.... Whitehead.... Haskell Island Halfway Rock Lighthouse....	6555.2 9152.6 21792.6 16819.3	3.816589 3.961545 4.338309 4.225807
Great Diamond (U. S. E.), 1909.	43 40 34.337 70 12 24.003	1059.7 537.7	41 15 40.6 65 55 02.7 108 07 06.6	221 15 01.6 245 53 37.6 288 06 14.0	Fort Gorges.... Fort Allen (U. S. E.).... Halfway Rock 2.	1920.0 3024.7 1796.2	3.283310 3.480678 3.254348
Diamond (U. S. E.), 1909.	43 39 46.884 70 12 38.342	1446.9 859.1	320 46 34.3 0 18 14.3 8 17 35.2 91 17 02.2	140 47 21.0 180 18 13.6 188 17 28.9 271 16 33.2	Whitehead.... Williams (U. S. E.).... Fort Scammon.... Fort Gorges	2399.0 4322.0 1445.2 945.2	3.380022 3.635686 3.159928 2.975520
Williams (U. S. E.), 1909.	43 37 26.844 70 12 39.365	828.5 882.6	172 32 34.1 212 00 31.0	352 31 55.2 32 01 18.4	Moody.... Whitehead....	9688.3 2905.2	3.986247 3.463179
Little Hog Island, 1868.	43 39 57.197 70 12 41.200	1765.2 923.1	166 14 16.8 324 00 26.0	346 13 39.3 144 01 14.7	Moody.... Whitehead....	5112.9 2690.3	3.708668 3.429798
Fort Scammon 2, 1911.	43 39 00.546 70 12 47.632	16.9 1067.4	283 56 31.3 352 34 16.4 83 32 15.6	103 57 24.4 172 34 28.4 263 31 44.6do.... Portland Head Lighthouse.... Preble (U. S. E.)	1777.6 3020.5 1011.9	3.249826 3.480082 3.005125
Johns Hill, 1850....	43 34 46.635 70 12 51.955	1439.3 1165.6	156 49 11.6 184 07 01.4 233 14 17.5 239 12 34.4 248 42 48.7	336 44 47.6 4 08 21.4 53 29 34.5 59 19 54.1 69 01 40.3	Mount Independence.... Bradbury.... Cape Small.... Halfway Rock Seguin L. H....	21731.4 35936.7 37062.4 16625.9 39401.7	4.337088 4.555538 4.568933 4.220784 4.565515
Brothers, 1909.....	43 41 56.013 70 12 59.109	1728.6 1323.6	337 37 59.8 24 54 29.0	157 38 27.5 204 54 00.9	Bush.... Halfway....	2860.4 2162.2	3.372994 3.334903
Fort Gorges, 1902....	43 39 47.567 70 13 20.517	1468.0 459.7	307 21 06.9 345 46 00.1	127 22 22.7 165 46 34.8	Whitehead.... Portland Head Lighthouse.	3097.4 4587.1	3.490999 3.661535
Fort Gorges 2, 1911...	43 39 47.577 70 13 20.516	1468.3 459.7	307 21 24.9 333 04 55.4 345 46 04.8	127 22 40.7 153 05 18.1 165 46 39.5	Whitehead.... Ft. Scammon, 2 Portland Head Lighthouse.... Preble (U. S. E.).	3097.6 1627.8 4587.4	3.491023 3.216055 3.661564
Spring Point Ledge Lighthouse, 1902.	43 39 07.928 70 13 27.956	244.7 626.5	338 06 53.9 187 45 33.2 284 00 28.1	158 07 33.7 7 45 38.3 104 01 49.0	Portland Head lighthouse.... Fort Gorges.... Whitehead....	3473.2 1234.6 2709.5	3.540731 3.091534 3.432891

GEOGRAPHIC POSITIONS—Continued.

CASCO BAY AND PORTLAND—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Principal points—Continued.</i>							
Moody, 1850-1854....	43 42 38.105 70 13 35.529	1176.0 795.5	125 35 44.5 338 36 09.9 356 09 21.7	305 31 50.3 158 37 36.2 176 09 51.8	Mount Independence. Whitehead.... Johns Hill....	Meters. 9320.9 7671.0 14583.3	3.969456 3.884854 4.163856
Halfway, 1909.....	43 40 52.467 70 13 39.765	1619.3 890.7	347 50 56.4 29 53 10.4	167 51 09.7 209 52 48.4	Fort Gorges.... Pomeroy....	2048.9 1434.7	3.311512 3.156747
Halfway Rock 2, 1909	43 40 52.429 70 13 40.216	1618.1 900.8	347 33 57.6 30 26 37.7	167 34 11.2 210 26 05.2	Fort Gorges.... Fort Allen (U. S. E.).	2049.9 2079.8	3.311724 3.318028
Mount Misery, 1850..	43 35 47.375 70 13 42.262	1462.1 948.0	328 56 33.7 7 47 11.9 65 28 42.2 88 01 35.3	148 57 08.4 187 46 45.9 245 23 15.6 268 00 33.2	Johns Hill.... Richmond Id.... Blue Point Hill Mount Joy....	2187.9 6245.4 11687.9 2020.2	3.340037 3.795561 4.067736 3.305384
B. C. Preble (U. S. E.), 1909.	43 38 51.842 70 13 45.498	1600.0 1019.7	198 01 38.4 221 31 52.1 258 17 25.1 273 00 57.9 330 31 21.5	18 01 55.7 41 32 38.4 78 18 05.1 93 02 30.9 150 32 07.1	Fort Gorges.... Diamond (U. S. E.). Fort Scammel.... Whitehead.... Williams (U. S. E.).	1808.6 2260.4 1324.1 3026.3 3013.2	3.257347 3.355511 3.121920 3.480907 3.479022
Preble (U. S. E.), 1909.	43 38 56.854 70 13 32.496	1754.6 728.2	218 09 34.2 276 33 33.8 336 47 18.8	38 10 11.6 96 34 57.9 156 47 55.5	Diamond (U. S. E.). Whitehead.... Williams (U. S. E.).	1963.8 2748.7 3022.4	3.203107 3.439124 3.480358
Prospect Hill, 1869...	43 38 42.663 70 13 56.715	1316.7 1271.1	171 40 08.0 216 19 57.5 267 49 36.9	351 40 02.7 36 20 49.6 87 51 17.7	Cushings Pt.... Little Hog Id.... Whitehead....	754.4 2855.7 3275.8	2.877574 3.455707 3.515323
Mackey, 1868.....	43 41 17.346 70 13 57.786	535.3 1294.2	112 53 25.8 191 18 20.5 325 14 58.0	292 52 08.9 11 18 35.9 145 15 50.9	Graves Hill.... Moody.... Little Hog Id....	2706.1 2541.8 3010.3	3.432188 3.405136 3.478607
Cushings Pt., 1869...	43 39 06.848 70 14 01.593	211.4 35.7	229 12 39.8 280 25 14.4	49 13 35.3 100 26 58.6	do..... Whitehead....	2379.0 3439.5	3.376393 3.536499
Pomeroy, 1909.....	43 40 12.162 70 14 11.674	375.4 261.5	303 30 39.1 333 42 02.0	123 31 14.4 153 42 32.2	Fort Gorges.... Spring Point Ledge L. H. Portland Breakwater Lighthouse.	1374.7 2211.2 1606.1	3.138209 3.344626 3.205761
Bug Light (U. S. E.), 1909.	43 39 19.722 70 14 09.336	608.7 209.2	51 07 09.2 131 47 38.5 159 24 03.7	231 06 56.0 311 47 20.0 339 23 51.3	Whidden (U. S. E.). Grand Trunk (U. S. E.). Fort Allen (U. S. E.).	547.9 804.4 1140.9	2.738722 2.905475 3.057261
Portland Head L. H., 1850-1854.	43 37 23.496 70 12 30.214	725.1 677.4	171 26 08.6 207 28 32.7 246 25 36.5	351 25 23.5 27 29 13.8 66 29 05.1	Moody.... Whitehead.... Green Island....	9819.2 2893.1 7390.6	3.992076 3.481368 3.868677
Portland Breakwater Lighthouse, 1902.	43 39 20.215 70 14 07.397	623.9 165.8	231 12 37.6 286 24 39.3 293 13 00.1	51 13 10.0 106 22 27.5 113 13 27.4	Fort Gorges.... Whitehead.... Spring Point Ledge Light-house.	1347.6 3662.1 961.7	3.129558 3.563727 2.983057
Portland Junction (U. S. E.), 1909.	43 40 22.023 70 14 59.656	679.7 1336.4	165 52 07.7 242 11 17.0	345 51 59.6 62 12 11.8	East Deering (U. S. E.). Halfway Rock 2.	1073.5 2011.8	3.030790 3.303583
Fort Allen (U. S. E.), 1909.	43 39 54.327 70 14 27.252	1676.7 610.6	277 56 13.5 334 06 52.1	97 56 59.6 154 07 20.9	Fort Gorges.... B. C. Preble (U. S. E.).	1509.7 2143.4	3.178891 3.331110

GEOGRAPHIC POSITIONS—Continued.

CASCO BAY AND PORTLAND—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Principal points—Continued.</i>							
Whidden (U. S. E.), 1909.	43 39 08.577 70 14 28.369	264.7 635.7	181 00 57.0 231 38 04.1 298 15 30.1	1 00 57.8 51 38 51.0 118 15 59.7	Fort Allen (U. S. E.) Fort Gorges... B. C. Preble (U. S. E.)	1412.2	3.149881 3.287569 3.037750
Meetinghouse Hill, 1869.	43 38 13.662 70 14 28.307	421.7 634.5	34 46 28.9 176 11 22.2 216 54 11.3 218 20 45.4	214 45 44.5 358 11 16.0 36 55 25.2 38 21 07.2	Dyer Hill.... Fort Street.... Little Hog Id. Prospect Hill..	2536.2 3010.2 3996.4 1141.3	3.404178 3.478592 3.601673 3.057391
K (U. S. E.), 1909 ...	43 40 14.398 70 14 31.626	444.4 708.5	224 27 04.3 257 50 28.0	44 27 39.8 77 51 56.1	Halfway Rock 2. Great Diamond (U. S. E.).	1644.4 2924.5	3.215996 3.466051
Grand Trunk (U. S. E.), 1909.	43 39 37.092 70 14 36.101	1144.7 808.9	200 26 32.9 348 51 42.0	20 26 39.0 168 51 47.3	Fort Allen (U. S. E.) Whidden (U. S. E.)	567.7 896.9	2.754086 2.952751
Marine Railway (U. S. E.), 1909.	43 39 01.666 70 14 41.576	51.4 931.7	148 33 57.3 186 24 09.3 234 13 10.5	328 33 46.6 6 24 13.1 54 13 19.6	Customhouse wharf (U. S. E.). Grand Trunk (U. S. E.). Whidden (U. S. E.).	667.3 1100.2 364.8	2.824320 3.041464 2.562080
Dyer's shipyard, 1869.	43 38 49.928 70 14 42.193	1540.9 945.6	344 27 31.8 30 51 12.0 48 11 03.9	164 27 41.4 210 51 06.0 228 10 41.2	Meetinghouse Hill. Muzzy's wharf Knightsville..	1161.7 378.9 988.0	3.065100 2.578570 2.994775
Muzzy's wharf, 1869..	43 38 39.387 70 14 50.864	1215.6 1140.0	265 13 56.4 327 30 29.7	85 14 33.8 147 30 45.3	Prospect Hill... Meetinghouse Hill. Knightsville..	1217.8 941.2 636.4	3.085584 2.973705 2.803728
Plush mill wharf (U. S. E.), 1909.	43 38 41.988 70 14 53.463	1295.8 1198.2	148 23 17.8 176 01 51.3	328 23 05.6 356 01 48.8	Brown's wharf (U. S. E.). Customhouse wharf (U. S. E.). Marine Rail- way (U. S. E.).	754.3 1179.5 663.1	2.877558 3.071687 2.821609
Customhouse wharf (U. S. E.), 1909.	43 39 20.114 70 14 57.106	620.8 1279.6	221 55 55.2 298 56 09.3	41 56 09.7 118 56 29.1	Grand Trunk (U. S. E.). Whidden (U. S. E.).	704.3 735.9	2.847775 2.866793
Brown's wharf (U. S. E.), 1909.	43 39 02.803 70 15 11.106	86.5 248.9	210 25 15.9 273 02 00.5	30 25 25.6 93 02 20.9	Customhouse wharf (U. S. E.). Marine Rail- way (U. S. E.).	619.6 662.7	2.792082 2.821321
East Deering (U. S. E.), 1909.	43 40 55.752 70 15 11.357	1720.6 254.4	272 52 03.8 325 06 24.6	92 53 06.7 145 06 52.0	Halfway Rock 2. K (U. S. E.)..	2044.0 1556.0	3.310489 3.192001
Mount Joy, 1852.....	43 35 45.108 70 15 12.271	1392.1 275.3	299 48 37.7 349 07 53.2 16 02 33.3 60 57 06.2	119 50 14.5 169 08 29.3 196 02 01.1 240 52 41.7	Johns Hill.... Richmond Id.... Grandy Hill... Blue Point Hill	3628.4 6229.6 3797.6 9852.6	3.559713 3.794463 3.579510 3.993550

GEOGRAPHIC POSITIONS—Continued.

CASCO BAY AND PORTLAND—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Principal points—Continued.</i>							
Casco, 1868.....	43 42 14.510 70 15 22.324	447.8 499.8	312 58 25.0 358 49 32.6	132 59 23.4 178 49 34.9	Mackey Ridge	2587.7 3589.2	3.412916 3.554994
New North Tubey (U. S. E.), 1909.	43 40 43.199 70 15 25.824	1333.2 578.5	219 54 29.3 318 06 29.2	39 54 39.3 138 06 47.3	East Deering (U. S. E.). Portland Junc- tion (U. S. E.).	505.1 877.9	2.703361 2.943455
New South Tubey (U. S. E.), 1909.	43 40 23.926 70 15 23.381	738.4 523.8	174 44 34.6 195 19 57.2 276 18 16.5	354 44 32.9 15 20 05.5 96 18 32.9	New N. Tubey (U. S. E.). East Deering (U. S. E.). Portland Junc- tion (U. S. E.).	597.3 1018.5 534.7	2.776213 3.007960 2.728128
Dyer Hill, 1852.....	43 37 06.155 70 15 32.819	190.0 735.9	156 17 23.4 240 14 02.1 252 09 51.9 320 01 23.2	336 16 40.9 60 16 49.2 72 15 26.5 140 03 14.1	Bramhall..... Whitehead.... Green Island.. Johns Hill....	3435.1 6252.3 11414.7 5617.7	3.535937 3.796040 4.057466 3.749562
Electric (U. S. E.), 1909.	43 38 44.265 70 15 32.963	1366.1 738.7	220 34 06.6 274 32 04.6	40 34 21.7 94 32 31.9	Brown's wharf (U. S. E.). Plush mill wharf (U. S. E.).	753.2 888.1	2.876895 2.948453
Power house (U. S. E.), 1909.	43 38 28.541 70 15 14.711	880.8 329.7	139 52 19.3 184 22 10.6 228 55 40.1	319 52 06.7 4 22 13.1 48 55 54.8	Electric (U. S. E.). Brown's wharf (U. S. E.). Plush mill wharf (U. S. E.).	634.7 1060.5 631.7	2.802574 3.025506 2.800514
V (U. S. E.), 1909....	43 39 59.017 70 15 34.815	1821.4 780.0	156 50 26.8 198 25 30.4	336 50 08.1 18 25 38.3	Otwell (U. S. E.). New S. Tubey (U. S. E.).	1539.0 810.3	3.187234 2.908659
Graves Hill, 1868....	43 41 51.425 70 15 49.075	1587.1 1098.9	244 15 44.6 309 56 10.0 314 32 29.0	64 17 16.9 129 58 19.8 134 35 27.5	Moody..... Little Hog Id.. Whitehead....	3319.1 5489.7 8125.9	3.521026 3.739549 3.909872
X (U. S. E.), 1909...	43 39 45.552 70 15 53.489	1405.9 1198.4	122 16 28.3 174 10 05.2	302 16 09.4 354 09 59.4	W (U. S. E.).. Otwell (U. S. E.).	723.7 1840.0	2.859549 3.264822
Brickyard, 1869.....	43 38 00.711 70 15 56.732	21.9 1271.7	225 11 37.4	45 11 50.3	V (U. S. E.)..	589.7	2.770630
West Graves, 1869...	43 41 41.305 70 15 57.610	1274.8 1290.1	138 27 24.7 155 58 02.4 222 59 31.6	318 27 18.0 335 57 46.5 42 58 55.0	West Point... East Bramhall Portland Bridge.	395.3 1268.7 1118.5	2.512323 3.103355 3.048647
Grandy Hill, 1850....	43 33 46.848 70 15 59.032	1445.8 1324.9	30 06 30.8 81 27 46.9	210 04 38.9 261 23 54.7	Stratton Id.... Blue Point Hill John's Hill....	7273.8 7648.4 4585.7	3.861764 3.883569 3.661403
Otwell (U. S. E.), 1909.	43 40 44.863 70 16 01.836	1384.6 41.1	273 38 19.1 306 52 15.6	93 38 44.0 126 52 42.2	New N. Tubey (U. S. E.). New S. Tubey (U. S. E.).	808.3 1076.8	2.907551 3.032140
West Point, 1869....	43 38 08.601 70 16 06.357	265.5 142.5	161 47 48.7 239 34 22.0	341 47 39.5 59 34 52.1	East Bramhall Portland Bridge.	963.4 1134.7	2.983816 3.054896

GEOGRAPHIC POSITIONS—Continued.

CASCO BAY AND PORTLAND—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Principal points—Continued.</i>							
W (U. S. E.), 1909...	43 39 58.072 70 16 20.799	1792.2 466.0	196 23 27.7 238 10 57.0 268 22 29.1	16 23 40.8 58 11 36.7 88 23 00.9	Otwell (U. S. E.) New S. Tubey (U. S. E.) V (U. S. E.)...	Meters. 1505.3 1513.7 1030.7	3.177618 3.180046 3.013121
Bramhall, 1850.....	43 38 48.080 70 16 34.451	1483.2 772.1	164 03 30.4 266 48 52.4 270 20 02.5 326 10 16.3	344 01 39.9 86 58 45.9 90 23 32.2 146 12 49.7	Mount Inde- pendence Halfway Rock Whitehead Johns Hill....	13022.5 19297.9 6808.8 8967.1	4.114694 4.285511 3.833068 3.952653
Vaughns Bridge, 1869.	43 38 35.385 70 16 44.708	1092.1 1002.0	260 59 11.1 313 52 28.2 329 39 19.4	80 59 28.3 133 52 51.7 149 40 09.1	E. Bramhall... West Point... Dyer Hill....	565.6 1192.6 3190.7	2.752504 3.076489 3.503891
Old Road, 1869.....	43 38 11.034 70 16 35.269	340.5 790.6	164 16 38.7 202 26 42.8	344 16 32.2 22 26 53.5	Vaughns Bridge E. Bramhall...	780.7 909.0	2.892504 2.955553
Brown, 1860.....	43 38 52.966 70 16 40.019	1634.7 896.8	48 16 50.3 121 02 45.1	228 16 24.1 301 02 24.3	Rolling Mills... Dam.....	1140.9 790.1	3.057253 2.897701
Promenade, 1869	43 39 00.374 70 16 39.839	11.5 892.8	1 00 43.7 40 53 49.1 104 43 02.3	181 00 43.5 220 53 22.7 284 42 41.3	Brown..... Rolling Mills.. Dam.....	228.7 1306.9 704.1	2.359178 3.116245 2.847629
Rolling Mills, 1869...	43 38 28.363 70 17 18.013	875.3 403.8	253 48 33.9 256 49 43.8 317 04 55.9	73 48 56.8 76 50 24.0 137 06 08.5	Vaughns Bridge E. Bramhall... Dyer Hill....	777.3 1340.3 3463.9	2.890578 3.127206 3.539561
Lane, 1869.....	43 39 34.292 70 17 24.422	1058.3 547.2	178 50 26.4 303 33 33.7 316 19 49.8	358 50 25.9 123 34 05.9 130 20 30.8	Highbfield..... Arsenal..... Promenade....	694.8 1261.6 1447.0	2.841874 3.097470 3.160461
Pleasant Hill, 1852...	43 35 41.504 70 17 51.645	1280.9 1158.4	47 07 13.6 196 43 26.3 284 06 25.1 324 27 38.1	227 04 38.2 16 44 19.6 104 09 51.7 144 28 53.7	Blue Point Hill Bramhall..... Johns Hill.... Grandy Hill ..	6872.2 6012.2 6933.2 4348.0	3.837095 3.779033 3.840934 3.638290
Moses, 1869.....	43 39 31.559 70 18 25.451	974.0 570.3	288 26 07.1 292 07 12.0 322 13 19.7	108 27 22.5 112 08 24.9 142 14 06.2	Meridian..... Promenade.... Rolling Mills..	2680.5 2554.9 2467.4	3.411710 3.407366 3.392238
Mount Independence (or Blackstrap), 1849.	43 45 23.754 70 19 14.341	1041.7 320.8	126 33 00.63 179 04 36.86 204 21 18.70	306 12 07 39 359 03 41.84 24 31 22.95	Mt. Pleasant... Mount Blue... Sebattus.....	50110.18 107663.2 46922.20	4.6990260 5.0320672 4.6713784
Mount Blue, 1853....	44 43 41.437 70 20 33.157	1279.1 729.7	273 48 21.73 300 44 02.94 341 59 13.88	94 38 45.14 121 34 06.73 162 10 18.59	Mount Harris... Ragged Mtn... Sebattus.....	94900.41 110743.5 68241.71	4.9772681 5.0443181 4.8340499
Mount Pleasant, 1853	44 01 36.693 70 49 21.940	1132.5 488.6	205 59 19.58 257 26 06.77 260 38 55.24	26 19 28.69 77 57 10.09 81 48 43.95	Mount Blue... Sebattus..... Ragged Mtn...	88819.95 60986.19 136361.0	4.936195 4.7852315 5.1314936
<i>Supplementary points.</i>							
Cape Small water tower, 1911.	43 43 25.646 69 50 19.647	791.5 439.8	87 19 11.0 93 22 53.1 137 30 39.5	267 11 06.4 273 18 48.7 317 27 33.6	Haskell Island Ragged Island Yarmouth....	15711.5 7992.9 8899.6	4.196219 3.902704 3.949369
Winslow Morse, 1854.	43 44 05.939 69 51 04.136	183.3 92.6	83 40 54.1 123 29 33.5 179 37 53.7	263 37 18.4 303 23 55.5 359 37 53.2	Ragged Island Harpswell church. Robinsons Rock.	7025.9 13100.7 2741.9	3.846703 4.117296 3.438045
Crooker, 1866.....	43 49 57.978 69 51 54.713	1789.4 1222.5	333 38 13.6 35 00 26.0 94 33 39.0	153 39 12.6 214 58 25.7 274 32 33.1	BurntLedge,Jr. Yarmouth.... Grover.....	4291.9 6772.8 2132.4	3.632649 3.830768 3.328863

GEOGRAPHIC POSITIONS—Continued.

CASCO BAY AND PORTLAND—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Supplementary points—Continued.</i>							
Fish house chimney, 1866.	43 51 20.730 69 52 03.814	639.8 85.2	38 52 26.3 50 41 28.9 156 51 55.0	218 51 26.7 230 41 01.9 336 51 44.6	Grover..... Three Islands..... Richs Mtn.....	3062.9 1127.6 854.6	3.486127 3.052169 2.931753
Barn cupola, 1866....	43 54 46.505 69 52 38.662	1435.3 862.7	211 38 07.7 0 05 28.5 15 21 49.4	31 38 15.1 180 05 28.4 195 21 38.3	New Meadow River No. 4..... New Meadow River No. 2..... New Meadow River No. 3.....	452.6 2866.6 1353.7	2.655758 3.457372 3.131517
Jamison Ledge Beacon, 1911.	43 44 47.294 69 52 51.016	1459.6 1141.5	334 41 41.6 146 58 32.2 222 21 46.2	154 42 46.6 326 57 11.0 42 22 54.4	Bald Head..... Yarmouth..... Mount Merritt	4030.3 4819.1 3271.7	3.692872 3.682966 3.514773
Dingley, 1866.....	43 49 11.824 69 52 56.412	364.9 1260.7	154 52 57.3 207 25 21.4 342 06 14.9	334 52 34.1 27 25 50.4 42 06 41.0	Grover..... McKinney..... Butler.....	1760.2 2031.9 2747.8	3.245559 3.307899 3.438992
Goudy's Ledge Beacon, 1911.	43 45 53.856 69 53 34.188	1662.1 764.7	41 26 06.2 140 04 28.8 263 27 28.0	221 24 14.2 320 04 37.4 83 29 06.0	Ragged Island..... Yarmouth..... Mount Merritt	5477.5 2589.0 3190.9	3.738580 3.413135 3.503917
Church Hotel flag-staff, 1866.	43 47 32.279 69 53 38.026	996.2 850.2	191 00 05.6 255 32 36.4 56 16 15.7	11 00 43.8 75 33 31.3 236 15 27.0	Three Islands..... Butler..... Yarmouth.....	6455.1 1832.8 1884.0	3.800002 3.263105 3.277386
Holbrook's house, S. chimney, 1866.	43 52 19.435 69 53 21.535	599.8 480.8	306 14 03.1 341 07 41.5 2 32 07.6	126 14 45.6 161 08 08.3 182 32 01.8	Richs Mtn..... Three Islands..... Grover.....	1735.5 2669.7 4200.7	3.239423 3.426461 3.623325
Cundy Harbor Hotel, 1911.	43 47 32.284 69 53 38.000	996.3 849.7	341 41 33.9 26 21 18.6 56 16 33.6	161 43 11.4 206 18 29.2 236 15 44.9	Bald Head..... Ragged Island..... Yarmouth.....	10057.9 7973.1 1894.6	4.002508 3.901625 3.277523
Bowdoinham, brown spire, 1860.	44 00 32.201 69 53 59.941	993.9 1335.3	295 44 47.1 332 26 32.8 1 40 55.4	115 48 23.6 152 28 13.1 181 40 52.0	Hodgkins..... Buckner..... Sprague.....	7715.2 6961.0 3713.3	3.887345 3.842672 3.569756
Bowdoinham, white spire, 1860.	44 00 35.645 69 53 58.037	1100.2 1292.9	296 35 37.4 333 08 58.2 2 16 17.3	116 39 12.6 153 10 37.2 182 16 12.6	Hodgkins..... Buckner..... Sprague.....	7724.0 7036.1 3821.0	3.887841 3.847335 3.582172
Northeast fish house, NW. corner, 1866.	43 49 23.534 69 53 59.970	726.3 1340.1	55 10 01.2 69 41 11.0 89 07 11.6	235 09 48.6 249 40 19.1 269 06 57.0	Bens. Island, NW. point..... West Bay..... Island.....	496.8 1785.3 471.1	2.696145 3.251701 2.673145
Southeast fish house, SW. corner 1866.	43 49 18.279 69 54 03.830	564.1 85.6	73 55 29.7 111 55 59.5 152 45 29.7	253 54 40.5 291 55 47.6 332 45 26.8	West Bay..... Island..... Richs Cove, E. end.	1652.6 414.8 205.3	3.218161 2.617884 2.312432
Snows Id., NW. pt., 1866.	43 49 01.339 69 54 43.953	41.3 982.3	395 22 36.7 211 49 56.0	275 22 15.3 31 50 24.9	West Bay..... East Bay.....	694.3 1789.0	2.841571 3.247725
Snows Id., NE. pt., 1866.	43 49 05.648 69 54 31.795	174.3 710.6	85 57 59.5 205 46 14.5	265 57 29.7 25 46 35.0	West Bay..... East Bay.....	965.4 1521.2	2.984703 3.182183
Orrs Cove, east entrance, 1866.	43 49 25.043 69 54 53.728	772.9 1200.6	320 41 05.5 343 22 27.7 35 21 03.6	140 41 20.7 163.22 29.5 215 20 49.0	Snows Island, N.E. point..... Snows Island, N.W. point..... West Bay.....	773.7 763.5 817.2	2.888546 2.882805 2.912329
Bens Id., NW. pt., 1866.	43 49 14.340 69 54 18.216	442.6 407.1	48 31 27.8 75 08 12.9 198 00 06.4	228 31 18.4 255 07 33.7 18 00 17.5	Snows Island, N.E. point..... West Bay..... East Bay.....	405.0 1310.3 1158.3	2.607474 3.117370 3.063829
Island, south point, 1866.	43 49 23.299 69 54 21.051	719.1 470.4	347 05 44.9 23 47 09.8 63 00 54.0	167 05 46.9 203 47 02.3 243 00 16.7	Bens. Island, NW. point..... Snows Island, N.E. point..... West Bay.....	283.7 595.3 1350.1	2.452805 2.774746 3.130365

GEOGRAPHIC POSITIONS—Continued.

CASCO BAY AND PORTLAND—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
Whitmore, 1866.....	43 51 01.756 69 54 45.275	54.2 1011.3	16 25 51.3 124 37 46.7	196 25 36.8 304 37 08.8	Chas. Orr..... Cranberry Ridge.	1649.2 1484.6	3.217272 3.171612
			249 45 15.8	66 45 30.5	Orr.....	506.5	2.704615
Mill Cove, east entrance, 1866.	43 49 25.588 69 54 40.741	789.7 910.4	5 28 41.9 48 09 17.6 86 40 52.3	185 28 39.7 228 08 54.0 264 40 43.3	Snows Island, NW. point.... West Bay..... Orr's Cove, east entrance.	751.8 1024.3 290.7	2.876126 3.010430 2.463444
Richs Cove, east end, 1866.	43 49 24.193 69 54 08.036	746.7 179.6	36 47 59.6 66 48 17.9 84 34 46.1	216 47 52.6 246 47 31.6 264 34 37.1	Bens Island, NW. point.... West Bay..... Island.....	379.8 1625.3 292.1	2.579529 3.210944 2.465588
North Fish house, southwest corner, 1866.	43 49 32.951 69 54 19.897	1017.0 444.6	356 15 25.7 17 30 42.8	176 15 26.9 197 30 34.6	Bens Island, N. W. point.... Snows Island, N. E. point.... West Bay.....	575.6 883.6 1529.4	2.760140 2.946253 3.184531
Orr's, Chas., house, south chimney, 1866.	43 50 09.917 69 54 56.292	306.1 1257.6	94 41 53.5 174 50 03.1 202 08 48.3	274 41 46.7 354 50 00.1 22 07 10.7	Chas. Orr..... Doughty..... Orr.....	221.1 1065.5 1916.2	2.344520 3.027548 3.282447
Reed, Arthur, house chimney, center, 1866.	43 50 25.269 69 54 47.832	779.8 1068.6	41 55 49.9 154 07 17.1 202 14 54.8	221 55 37.2 334 07 08.3 22 15 11.3	Chas. Orr..... Doughty..... Orr.....	612.6 652.8 1406.1	2.787155 2.814771 3.148015
New Meadow church spire, 1855. ¹	43 53 05.26 69 54 59.46	162.4 1327.4	334 09 52 36 15 44	154 12 49 216 13 29	Cape Small.... Kellogg.....	13097.7 7375.1	4.117195 3.867766
Furrens's, J. B., house chimney, 1866.	43 51 30.389 69 55 28.775	937.8 642.6	296 04 57.8 336 07 24.0 80 52 46.4	116 05 42.7 156 07 43.5 260 52 38.6	Orr..... Doughty..... Cranberry Ridge.	1610.9 1555.6 253.3	3.207074 3.191898 2.403601
White Bull, 1854.....	43 43 09.639 69 55 30.888	297.5 691.4	187 39 30.4 233 00 29.1	7 39 59.8 53 03 33.0	Yarmouth.... Robinsons Rock. Bald Head....	7117.5 7448.9 5866.6	3.852326 3.872092 3.768390
Anderson's, Wm., house chimney, center, 1866.	43 51 09.634 69 55 41.410	297.3 925.0	272 14 24.3 310 36 35.7 336 39 15.0	92 15 17.9 130 37 04.4 156 39 39.4	Orr..... Doughty..... Chas. Orr.....	1730.4 1201.2 1987.7	3.238147 3.079617 3.298345
Humphries's barn, apex of ventilator, 1871. ¹	43 54 37.30 69 55 41.58	1151.1 927.9	217 06 37 228 54 53	37 07 35 48 57 44	Hunter..... Buckner.....	3086.4 7279.4	3.499454 3.862093
Doughty Point, 1866.	43 50 13.822 69 56 10.262	426.6 229.2	117 52 05.5	267 51 22.8	Barnes's, W., house chimney.	1557.2	3.192338
			235 06 39.8	55 07 53.4	Orr.....	2893.6	3.461437
Wallace's, H., barn, west gable, 1866.	43 50 12.216 69 56 12.640	377.0 282.4	170 32 48.5 234 54 43.7 272 02 00.6	350 32 45.3 54 55 59.0 92 02 46.7	Princes Point.... Orr..... Chas. Orr.....	636.7 2965.5 1486.3	2.803944 3.472098 3.172107
Square, unpainted house, chimney, center, 1866.	43 52 23.109 69 57 01.975	713.2 44.1	303 29 24.9 312 18 37.2	123 31 14.4 132 19 34.0	Orr..... Cranberry Ridge.	4230.9 2476.5	3.626437 3.393832
Barnes's white house, chimney in center, 1866.	43 50 37.401 69 57 11.886	1154.2 265.5	256 06 00.8 286 27 13.6 297 51 22.7	76 07 57.2 106 28 40.7 117 52 05.5	Doughty.....	4080.3	3.610697
Pennell's house, north chimney, 1866.	43 52 01.947 69 57 38.482	60.1 859.3	290 57 19.9 291 09 18.9 338 17 56.5	110 58 42.1 111 11 33.7 158 18 18.9	Cranberry Ridge. Orr..... Schofield.....	2834.1 2929.0 1950.41	3.452422 3.466714 3.290121

¹ No check on this position.

GEOGRAPHIC POSITIONS—Continued.

CASCO BAY AND PORTLAND—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
Jordan's house, north chimney, 1866.	43 50 17.085 69 57 31.717	527.3 708.6	249 38 53.0 258 00 54.7 273 33 37.8	69 41 03.0 76 02 39.4 93 35 18.6	Orr..... Doughty..... Chas. Orr.....	4472.0 3479.0 3238.4	3.650502 3.541460 3.513001
Jordan's barn, south gable, 1866.	43 50 06.880 69 57 36.544	212.6 816.5	225 44 05.8 246 29 56.5 288 05 03.6	45 45 26.6 66 32 09.9 88 06 47.8	Cranberry Ridge..... Orr..... Chas. Orr.....	3635.4 4699.6 3361.8	3.560554 3.671136 3.528569
Scofield's, C., house, north end chimney, 1866.	43 51 09.905 69 57 03.175	305.7 70.9	271 12 48.2 318 18 53.8 18 07 14.8	91 14 38.5 138 22 25.6 198 07 12.7	Orr..... Princes Point..... Scofield.....	3556.1 1541.8 216.8	3.550978 3.188030 2.336037
Bowdoin College Chapel, north turret, 1854.	43 54 30.720 69 57 45.328	948.1 1011.5	324 21 46.8 4 22 13.5 9 12 53.7	144 24 06.3 184 21 53.1 189 11 53.0	Orr..... Kellogg..... Harpswell church.	7717.9 8610.8 12219.7	3.887501 3.935041 4.087059
Bowdoin College Chapel, south turret, 1854.	43 54 30.397 69 57 45.466	938.1 1014.6	324 18 05.0 4 21 18.8 9 12 29.8	144 20 24.6 184 20 58.5 189 11 29.2	Orr..... Kellogg..... Harpswell church.	7711.6 8600.6 12209.4	3.887146 3.934528 4.086803
Brunswick spire, 1855.	43 54 38.764 69 57 48.365	1196.4 1079.2	8 43 25.3 214 41 18.2 237 51 39.7 280 16 42.0	188 42 26.8 34 43 53.3 57 57 54.5 100 21 15.1	Harpswell church..... Sprague..... Hodgkins..... Great Hill.....	12454.4 8754.7 14219.4 8933.4	4.095323 3.942242 4.152880 3.951016
Brunswick Congregational Church, dark spire, 1854.	43 54 38.762 69 57 48.385	1196.3 1079.7	325 00 16.1 3 48 26.2 14 10 40.8	145 02 37.8 183 48 08.0 194 08 34.9	Orr..... Kellogg..... Randall.....	7859.9 8853.5 16596.0	3.900909 3.947115 4.220004
Orrs Island Observatory, 1911.	43 46 11.924 69 58 15.965	368.0 357.1	252 52 24.5 306 58 11.3 40 32 23.1	72 54 48.2 127 03 01.1 220 29 47.8	Yarmouth..... Bald Head..... Haskell.....	4855.2 11744.0 7741.3	3.686204 4.069817 3.888812
Orr Island, 1854.....	43 46 11.330 69 58 16.620	349.7 371.7	40 32 43.9 82 51 51.5 159 25 53.0	220 30 08.7 262 50 05.3 339 25 14.1	Haskell Island..... Randall..... Harpswell church.	7717.8 3460.2 3578.8	3.887495 3.539105 3.553737
Pond Island, 1854.....	43 44 03.202 69 58 19.264	98.8 431.1	136 14 49.9 221 06 16.3 253 44 34.0	316 13 05.6 41 08 42.1 73 49 34.3	Randall..... Yarmouth..... Robinsons Rock.	4879.3 7169.7 10120.8	3.688361 3.855502 4.006215
Ross's, Robert, house chimney, 1854. ¹	43 52 38.09 69 59 22.36	1175.5 490.2	292 45 05 343 31 03	112 48 32 163 31 50	Orr..... Kellogg.....	7226.4 5328.5	3.858919 3.726602
Baileys Island flag-staff, 1911. ¹	43 42 55.57 69 59 39.91	1715.1 893.2	275 42 00 62 00 18	95 44 21 241 58 41	Ragged Island..... Haskell Island	4583.3 3570.2	3.661178 3.552668
Stover, 1854 ¹	43 45 04.13 70 00 30.03	127.5 671.9	164 42 30 197 38 27	344 42 16 17 39 20	Randall..... Harpswell church.	1703.6 5692.5	3.231380 3.755301
West Harpswell Baptist Church, 1911. ¹	43 45 36.84 70 00 51.89	1136.9 1160.7	252 44 15 17 47 37	72 46 03 197 46 50	Orrs Island Observatory..... Haskell Island	3651.9 5043.2	3.562519 3.702707
Mare Point, 1854.....	43 49 50.792 70 01 01.747	1567.6 39.0	269 09 30.1 324 34 41.2	89 11 25.8 144 35 56.6	Kellogg..... Harpswell church..... Randall.....	3732.8 4199.6 7208.7	3.572040 3.623211 3.857857
Western Drunker Ledge Beacon, 1911	43 41 18.002 70 01 44.868	555.6 1005.0	173 38 21.1 239 03 39.7 261 50 17.1	353 38 10.2 59 07 26.8 81 57 30.9	Haskell Id..... Ragged Id..... Bald Head.....	3206.0 8577.9 14204.0	3.505963 3.933383 4.152412

¹ No check on this position.

GEOGRAPHIC POSITIONS—Continued.

CASCO BAY AND PORTLAND—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
Mark Island stone beacon, 1852. ¹	43° 42' 33.17 70° 01' 54.79	1023.7 1226.7	48° 31' 18 103° 34' 20	228° 27' 28 283° 22' 21	Green Id..... Mt. Independence.	Meters. 9965.9 23922.7	3.998515 4.378810
Little Mark Island monument, 1911.	43° 42' 33.126 70° 01' 54.865	1022.3 1228.5	254° 34' 27.1 271° 12' 32.6 4° 16' 34.3	74° 38' 21.2 91° 19' 53.4 184° 16' 21.0	Ragged Id..... Bald Head..... Halfway Rock Lighthouse.	7864.5 14287.2 5916.9	3.895670 4.154946 3.772093
Halfway Rock Lighthouse, 1904.	43° 39' 21.943 70° 02' 14.554	677.2 326.2	75° 13' 20.2 85° 03' 36.1 182° 37' 01.0	255° 06' 15.3 264° 57' 12.2 2° 37' 10.4	Portland Head Lighthouse..... Whitehead..... Haskell Id.....	14275.7 12500.8 6775.2	4.154597 4.097252 3.830924
Halfway Rock tripod structure, 1904.	43° 39' 21.316 70° 02' 15.269	657.8 342.8	52° 45' 24.7 75° 16' 49.4 85° 08' 29.6 182° 44' 59.2	232° 38' 32.9 255° 09' 44.2 265° 02' 06.3 2° 45' 09.3	Cape Elizabeth W. L. H. Portland Head L. H. Whitehead..... Haskell Id.....	16794.3 14254.7 12491.6 6795.3	4.225162 4.153958 4.096617 3.832209
Halfway Rock tripod tower, 1904.	43° 39' 21.675 70° 02' 16.114	668.9 361.1	52° 41' 18.8 75° 13' 05.4 85° 05' 01.0 182° 54' 30.0	232° 34' 28.5 255° 06' 01.7 264° 58' 38.2 2° 54' 40.6	Cape Elizabeth W. L. H. Portland Head L. H. Whitehead..... Haskell Id.....	16786.5 14239.8 12474.3 6785.2	4.224859 4.153504 4.096017 3.831560
Eagle Island flag-staff, 1911. ¹	43° 42' 45.35 70° 03' 08.55	1399.4 191.5	252° 05' 04 349° 05' 23	72° 05' 50 169° 06' 00	do..... Halfway Rock Lighthouse.	Meters. 1505.5 6393.0	3.202898 3.805703
Litchfield, 1854. ¹	43° 51' 31.14 70° 04' 03.84	961.1 85.8	53° 37' 25 88° 10' 17	233° 36' 25 268° 08' 48	Sherman..... Freeport church.	2415.1 2882.3	3.382932 3.459746
Broken Cove, 1854. ¹ ...	43° 41' 45.84 70° 04' 21.03	1414.7 470.9	233° 27' 20 327° 27' 50	53° 28' 57 147° 29' 18	Haskell Id..... Halfway Rock	3000.3 5268.4	3.592101 3.721677
Bates Island, house chimney, 1854.	43° 42' 32.604 70° 04' 42.862	1006.2 959.6	219° 28' 15.1 256° 17' 53.3 330° 32' 56.6	39° 30' 55.9 76° 19' 45.4 150° 34' 39.9	Randall..... Haskell Id..... Halfway Rock	8180.4 3735.7 6757.7	3.913252 3.572369 3.829800
Stockman Island Beacon, 1911. ¹	43° 44' 00.05 70° 05' 00.50	1.6 11.2	204° 15' 44 338° 34' 23	114° 17' 48 156° 36' 18	Haskell Id..... Halfway Rock Lighthouse.	4414.1 9353.1	3.644839 3.970957
Green Id. 2, 1854.	43° 46' 15.422 70° 05' 04.502	476.0 100.7	154° 33' 28.9 247° 40' 09.4 325° 31' 37.0	334° 33' 06.7 67° 44' 12.8 145° 33' 44.1	Moges..... Harpswell church. Haskell Id....	1672.3 8498.1 7267.9	3.223317 3.292932 3.861408
Sherman, 1854.	43° 50' 44.726 70° 05' 30.888	1380.3 690.0	145° 02' 41.0 279° 20' 39.0 1° 04' 54.1	325° 02' 12.0 99° 25' 41.1 181° 04' 50.1	Freeport church. Kellogg..... Moges.....	1635.1 9877.0 6802.7	3.213537 3.094623 3.832681
Crotch Island, N.E. point, 1854.	43° 42' 25.219 70° 05' 48.751	778.3 1091.5	181° 48' 06.7 257° 41' 28.3 319° 41' 01.8	1° 48' 15.1 77° 44' 05.9 139° 43' 29.7	do..... Haskell Id..... Halfway Rock	8619.0 5224.4 7417.4	3.935459 3.718038 3.870251
Great Chebeag Island, N.E. end, barn, 1854.	43° 45' 22.501 70° 05' 52.850	694.4 1182.3	186° 34' 53.8 260° 56' 24.6 309° 59' 02.6	6° 35' 05.0 80° 59' 54.0 130° 01' 43.1	Moges..... Randall..... Haskell Id....	3164.2 6856.9 6781.4	3.500270 3.836126 3.831321
Hamilton Hotel chimney, N. end Chebeag Id., 1911. ¹	43° 45' 13.69 70° 06' 01.42	422.6 31.8	307° 10' 24 334° 54' 12	127° 13' 10 154° 56' 49	do..... Halfway Rock Lighthouse.	6761.7 11985.6	3.830058 4.078658

¹ No check on this position.

GEOGRAPHIC POSITIONS—Continued.

CASCO BAY AND PORTLAND—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
Freeport, dark spire, 1854.	43 51 45.549 70 06 08.282	1405.8 73.3	288 23 06.4 307 10 36.4	108 28 31.0 127 15 20.6	Kellogg..... Harpswell church. Moges.....	Meters. 11032.8 11515.0	4.042687 4.061263
			356 04 18.0	176 04 36.4		8699.1	3.939475
Little Green Island, 1852. ¹	43 39 58.94 70 06 24.80	1819.0 557.7	37 27 22 71 59 47	217 26 39 251 56 16	Green Id..... Whitehead.....	2324.1 7206.7	3.366256 3.857676
Casco Castle tower, 1911. ¹	43 49 02.38 70 06 40.36	73.5 902.0	294 57 39 330 40 26	115 03 28 150 43 40	Orrs Id. Ob- servatory..... Haskell Id.....	12443.6 12780.6	4.004947 4.106551
White House, 1854...	43 43 11.267 70 08 00.352	347.7 7.9	354 40 09.8 53 43 13.6 82 15 53.4	174 40 32.2 233 41 02.8 262 12 01.8	Green Island..... Cow Island..... Moody.....	7814.6 5259.3 7572.9	3.892905 3.720830 3.879262
Parkers Point, 1854 ¹ .	43 47 21.44 70 08 37.90	661.7 847.4	70 51 41 174 40 09	250 49 57 354 40 03	York..... Drinkwater.....	3573.4 2265.1	3.553086 3.355081
Stewart ¹	44 40 19.61 70 09 15.79	605.4 347.9	80 00 20 112 44 19	259 59 56 292 36 23	Farmington..... Mt. Blue.....	771.3 16162.2	2.887223 4.208500
Farmington (zenith telescope), 1866.	44 40 22.77 70 09 17.37	702.7 382.6					
Farmington (transit instrument), 1866.	44 40 22.77 70 09 17.46	702.7 384.7					
Farmington Obser- vatory, 1866.	44 40 22.77 70 09 17.40	702.7 383.3	72 17 21 339 59 39	252 16 58 159 59 40	Farmington... Stewart.....	760.2 103.6	2.880091 2.01552
Brunswick school- house, 1854.	43 41 13.191 70 09 24.756	407.1 554.5	115 02 31.1 217 53 06.6 327 40 20.7	294 59 37.8 37 53 41.8 147 41 41.4	Moody..... Long Island..... Green Island..	6196.8 1858.6 4894.8	3.792171 3.269179 3.689738
Lower Basket Id. Ledge Beacon (U. S. E.), 1909.	43 43 49.717 70 09 25.889	1534.4 579.4	298 47 54.0 29 02 09.6 108 29 52.2	118 48 51.7 209 00 54.9 289 29 25.3	Chebeag (U. S. E.)..... Cow (U. S. E.)..... Basket (U. S. E.).....	2132.2 4988.9 925.5	3.328836 3.698002 2.966370
Cushing's barn, west end, 1852. ¹	43 41 04.43 70 10 15.01	136.7 336.1	315 54 56 21 44 24	135 56 52 201 43 32	Green Island..... Whitehead.....	5381.1 4577.3	3.730875 3.660610
Sturdevant Id., 1854.	43 44 30.662 70 10 52.516	946.3 1175.1	174 54 13.8 275 35 25.0 46 25 17.9	354 54 02.4 95 37 55.3 226 23 25.2	York..... Jebelig..... Moody.....	4114.8 4889.0 5037.8	3.614348 3.689217 3.702243
Peaks (U. S. E.), 1909.	43 39 44.075 70 11 10.226	1360.2 229.1	148 48 05.2 212 40 25.6 285 41 41.3	328 46 24.8 32 42 35.2 105 44 14.4do..... Chebeag (U. S. E.)..... Green Island (U. S. E.).....	6280.0 7787.3 5164.1	3.797958 3.891387 3.712996
Peaks Id. standpipe (U. S. E.), 1909.	43 39 24.847 70 11 39.580	766.8 886.9	71 09 36.8 188 32 34.5 214 12 53.6	251 08 18.8 8 32 52.1 34 15 23.6	Proble (U. S. E.)..... Cow (U. S. E.)..... Chebeag (U. S. E.).....	2673.8 3855.1 8645.0	3.427132 3.586031 3.936767
Ram Island Ledge Lighthouse, 1904.	43 37 53.616 70 11 16.469	1654.7 369.2	9 18 23.5 60 39 36.0 169 00 31.7	189 17 45.9 240 38 45.1 349 00 22.0	Cape Elizabeth West L. H. Portland Head Lighthouse..... Whitehead.....	7570.2 1896.7 1667.7	3.879106 3.278000 3.222118
Trotts Rock Beacon, 1911.	43 38 56.700 70 11 36.613	1749.9 820.5	336 41 09.6 90 06 56.2 94 16 18.9	158 41 13.7 270 05 36.2 274 15 29.9do..... Proble (U. S. E.)..... Ft. Scammon ¹² .	337.4 2597.1 1596.0	2.528087 3.414481 3.203038

¹ No check on this position.

GEOGRAPHIC POSITIONS—Continued.

CASCO BAY AND PORTLAND—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
Whitehead Ledge Beacon, 1911.	43 38 51.302 70 11 35.826	1583.3 802.9	• ' " 93 45 36.6 100 03 35.8 126 31 25.4	• ' " 273 44 16.0 280 02 46.2 306 30 13.1	Preble (U. S. E.). Ft. Scammon 2. Ft. Gorges 2...	Meters. 2620.3 1634.4 2018.9	3.418357 3.213346 3.465218
Cow Island Ledge Beacon (U. S. E.), 1909.	43 42 11.178 70 11 20.631	345.0 461.9	206 50 32.7 245 34 20.0 353 35 45.6	26 51 25.1 65 36 37.0 173 35 50.2	Basket (U. S. E.). Chebeag (U. S. E.). Cow (U. S. E.)	3754.9 4873.1 1329.4	3.574593 3.687808 3.123643
Wireless telegraph mast, 1911.	43 38 40.194 70 11 39.282	1240.5 880.4	25 45 16.1 160 29 04.1 224 05 05.0	205 44 41.0 340 27 43.8 44 05 11.0	Portland Head Lighthouse. Moody..... Whitehead....	2628.0 7790.5 277.9	3.419630 3.891568 2.443864
Tall, 1909.....	43 38 40.130 70 11 39.317	1238.5 881.2	25 45 28.5 112 22 16.3 340 21 47.0	205 44 53.4 292 21 29.3 160 22 02.8	Portland Head Lighthouse. Fort Scammon. Ram Island Ledge L. H.	2625.9 1655.9 1524.1	3.419279 3.219027 3.183024
Peaks Island Hotel tower, apex, 1902.	43 39 21.800 70 11 43.064	672.8 965.0	345 37 01.7 89 08 49.9 110 01 09.6	165 37 10.3 269 07 10.3 290 00 02.4	Whitehead.... Portland Breakwater Lighthouse. Fort Gorges...	1119.6 3234.6 2323.9	3.049045 3.509826 3.366220
Peaks Island, Sterling's barn, west end, 1852.	43 39 22.103 70 11 43.709	682.1 979.4	345 01 36.4 50 46 26.9 80 52 03.3	165 01 45.4 230 43 48.5 260 48 42.6	Whitehead.... Dyer Hill..... Bramhall.....	1132.3 6631.6 6599.7	3.053943 3.821616 3.819526
McKinley water tower, 1911.	43 40 59.871 70 11 44.187	1847.8 989.7	355 46 53.2 8 47 05.5 140 34 36.0	175 47 02.6 188 46 33.8 320 33 19.1	Whitehead.... Portland Head Lighthouse. Moody.....	4122.3 6757.0 3925.3	3.615141 3.829756 3.583871
Water tower, 1909...	43 40 59.863 70 11 44.189	1847.5 989.7	33 56 58.1 65 59 46.7 84 58 19.5	213 55 46.5 245 58 04.9 264 56 59.7	Spring Point Ledge L. H. Pomeroy..... Halfway.....	4184.0 3616.9 2598.8	3.619509 3.558341 3.414773
Peaks Island Baptist Church, 1911.	43 39 39.089 70 11 46.984	1206.4 1052.8	347 15 20.8 48 48 38.4 97 08 01.0	167 15 32.0 228 47 56.5 277 06 56.4	Whitehead.... Ft. Scammon 2. Ft. Gorges 2...	1658.9 1806.1 2112.0	3.219823 3.256742 3.324691
Yarmouth yellow spire, 1854.	43 48 12.609 70 11 47.054	391.9 1051.8	284 15 16.2 342 46 13.0 63 55 02.7	104 19 32.6 162 46 39.4 243 49 53.2	Moges..... York..... Mount Independence.	8546.0 2883.6 11140.3	3.931761 3.459930 4.046896
Yarmouth white spire, 1854.	43 47 58.277 70 11 01.803	1798.6 40.3	282 51 46.9 3 54 34.2 68 00 04.2	102 55 32.0 183 54 29.3 247 54 23.4	Moges..... York..... Mount Independence.	7458.1 2314.5 11883.2	3.872631 3.364458 4.074934
Wireless telegraph pole, east, 1904.	43 33 54.262 70 12 06.432	1674.6 144.4	50 52 38.4 175 16 47.1 185 04 39.3 218 44 56.2	230 52 35.2 355 16 30.8 5 05 04.0 38 51 54.3	Cape Elizabeth West L. H. Portland Head Lighthouse. Whithead... Haskell Island.	132.7 6479.4 9059.6 21662.8	2.122732 3.811534 3.957111 4.335715
Wireless telegraph pole, west, 1904.	43 33 52.969 70 12 09.015	1634.7 202.3	45 45 12.6 175 48 58.4 185 25 05.5 218 48 06.4	225 45 11.2 355 48 43.8 5 25 31.9 38 55 06.2	Cape Elizabeth West L. H. Portland Head Lighthouse. Whithead... Haskell Island	62.8 6514.7 9104.7 21730.3	1.79763 3.813893 3.959264 4.337066

GEOGRAPHIC POSITIONS—Continued.

CASCO BAY AND PORTLAND—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Supplementary points—Continued.</i>							
Cushing Island water tower, 1911. ¹	43 38 21.80 70 12 09.15	672.8 205.1	• ' " 14 42 18 148 52 20	• ' " 194 42 04 328 51 31	Portland Head Lighthouse. Ft. Gorges 2...	1860.1 3038.0	3.269542 3.490379
Ottawa Hotel flag-staff, 1911.	43 38 22.883 70 12 11.349	706.2 254.4	119 58 09.8 145 01 36.6 149 20 18.9	299 57 13.8 325 01 11.6 329 19 31.2	Preble (U. S. E.). Ft. Scammon 12. Ft. Gorges 2...	2099.3 1418.6 3038.9	3.322069 3.151860 3.482716
Yel, 1909.....	43 38 22.875 70 12 11.345	706.0 254.3	12 58 57.4 145 01 10.8 306 16 35.4	192 59 44.4 325 00 45.9 126 17 13.3	Portland Head Lighthouse. Fort Scammel. Ram Island Ledge L. H.	1880.8 1419.0 1526.0	3.274332 3.151971 3.183543
Neck, 1909.....	43 40 23.936 70 12 20.261	738.7 453.9	81 43 39.8 116 19 00.5 162 58 47.8	261 42 22.9 298 18 05.6 342 58 21.0	Pomeroy..... Halfway Brothers	2522.2 1986.7 2971.9	3.401787 3.298138 3.473040
High Head Point, 1850. ¹	43 33 31.92 70 12 20.09	985.1 450.9	53 17 09 95 22 38	233 15 46 275 20 07	Richmond Id. Grandy Hill..	3357.1 4035.5	3.525960 3.693334
Cushing, 1909.....	43 38 05.381 70 12 24.922	166.1 558.6	5 14 41.0 143 48 21.7 283 18 22.6	185 14 37.3 323 47 38.3 103 19 09.8	Portland Head Lighthouse. Spring Point Ledge L. H. Ram Island Ledge L. H.	1298.1 2392.1 1576.9	3.113311 3.378785 3.197796
House Island Light-house, 1911.	43 39 22.378 70 12 29.303	690.6 650.6	309 58 50.8 60 55 13.5 124 07 53.2	129 59 31.3 240 54 29.9 304 07 17.9	Whitehead... Preble (U. S. E.). Ft. Gorges 2...	1715.3 1620.5 1388.2	3.224352 3.206646 3.141836
Fort Scammel, block-house chimney, 1852.	43 39 00.980 70 12 46.937	30.2 1051.9	46 23 40.9 170 46 43.7 284 29 08.4	226 21 46.5 350 46 10.1 104 30 01.1	Dyer Hill..... Moody..... Whitehead....	5136.7 6788.8 1765.7	3.710680 3.831793 3.246923
Ledge, 1909.....	43 40 02.994 70 12 46.792	92.4 1048.4	57 47 16.9 98 28 15.4 142 09 01.0	237 46 53.6 278 27 16.8 322 08 24.4	Fort Gorges... Pomeroy..... Halfway	863.1 1922.6 1933.8	2.950907 3.283890 3.286407
Bush, 1909.....	43 40 45.282 70 12 19.009	1397.5 425.8	37 43 52.5 67 57 46.2 96 58 47.5	217 43 10.0 247 58 28.4 276 58 51.7	Fort Gorges... Pomeroy..... Halfway	2252.0 2723.0 1822.4	3.352569 3.435046 3.260649
Dyer's, Milton, house, 1852. ¹	43 36 10.32 70 13 03.94	318.5 88.4	203 25 37 235 17 43	23 26 41 55 21 35	Whitehead... Green Island..	5258.8 9159.2	3.720889 3.961858
Fort Preble flagstaff, 1869.	43 38 55.790 70 13 39.787	1721.8 891.7	43 07 18.7 39 54 52.1 142 55 30.1	223 07 07.0 219 54 18.6 322 54 50.4	Prospect Hill... Meetinghouse Hill. Fore Street....	555.0 1695.0 2135.1	2.744319 3.229175 3.329415
Fort Preble flagstaff, 1852.	43 38 56.197 70 13 39.392	1734.4 882.8	36 49 59.7 180 43 24.8 275 48 41.5	216 48 41.5 0 43 27.5 95 50 10.4	Dyer Hill..... Moody..... Whitehead....	4242.5 6849.2 2900.1	3.627620 3.835637 3.462417
Fort Preble flagstaff, 1911. ¹	43 38 48.22 70 13 45.82	1488.2 1027.0	197 11 48 253 43 40	17 12 05 73 44 20	Ft. Gorges 2... Ft. Scammon 12.	1917.8 1358.5	3.282796 3.133050
Brown Memorial Church, 1911.	43 42 51.008 70 13 43.473	1574.2 973.2	335 55 49.5 338 27 25.5 350 46 11.7	155 55 54.8 158 28 59.2 170 47 02.3	Moody..... Whitehead... Portland Head Lighthouse.	436.1 8106.7 10240.2	2.639607 3.908845 4.010308
South Portland Observatory, 1911.	43 37 50.678 70 13 35.111	1564.0 787.1	185 10 45.4 206 15 48.2 299 57 39.3	5 10 55.5 26 16 21.0 119 58 24.1	Fort Gorges 2... Ft. Scammon 12. Portland Head Lighthouse.	3622.6 2404.6 1679.5	3.559016 3.381041 3.225173

¹ No check on this position.

GEOGRAPHIC POSITIONS—Continued.

CASCO BAY AND PORTLAND—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
South Portland standpipe, 1911.	43 38 02.650 70 14 33.557	81.8 752.2	206 48 34.0 233 01 29.2 293 35 37.3	26 49 24.4 53 02 42.3 113 37 02.4	Fort Gorges 2.. Ft. Scamme 12.. Portland Head Lighthouse.	Meters. 3628.5 2971.4 3017.7	3.559727 3.472960 3.479674
Woodbury's, John, house, north chimney, 1852.	43 37 18.224 70 14 03.329	562.4 74.6	79 29 33.5 129 18 43.8 183 36 27.2	259 28 31.7 309 16 59.5 3 36 46.3	Dyer Hill..... Bramhall..... Moody.....	2040.8 4377.5 9891.9	3.309804 3.641230 3.995279
West end of barn, 1850.	48 32 38.365 70 14 16.312	1184.0 366.2	12 58 08.8 54 57 26.9 95 40 37.8	192 58 06.3 234 54 24.3 275 35 34.9	Richmond Id.. Stratton Id.. Blue Point Hill	364.0 7275.1 9918.0	2.561070 3.861841 3.996424
Richmond Id., house cupola, 1868.....	43 32 36.125 70 14 21.875	1114.9 491.1	38 17 28.2 53 54 54.3 96 07 32.3	218 13 12.4 233 51 55.1 276 02 53.4	Holmans Pt... Jordans Island Saco Hill.....	13491.7 7234.8 9796.9	4.130066 3.859429 3.991044
Richmond Id., Dr. Cummings' house, chimney, 1850.	43 32 39.540 70 14 24.119	1220.3 541.5	346 32 20.5 53 54 44.1 95 33 55.5	166 32 23.4 233 51 46.9 275 28 58.0	Richmond Id.. Stratton Id.. Blue Point Hill	402.0 7153.7 9740.0	2.604208 3.854529 3.988561
Jordan's barn, east end, 1850.	43 33 23.486 70 14 31.546	724.8 708.0	351 31 31.6 45 13 32.6 110 10 16.2	171 31 39.6 225 10 40.5 290 09 15.9	Richmond Id.. Stratton Id.. Grandy Hill..	1766.5 7908.5 2091.7	3.247110 3.898094 3.320508
Grandy Hill, yellow house chimney, 1850.	43 33 28.541 70 16 02.075	819.1 46.6	308 45 50.2 32 17 27.9 188 13 05.4	128 47 00.6 212 15 38.1 6 13 07.5	Richmond Id.. Stratton Id.. Grandy Hill..	2940.5 6702.3 630.4	3.468423 3.826223 2.799638
Poardick church, 1852.	43 38 06.405 70 14 27.169	197.7 609.0	38 22 10.8 114 16 08.7 187 51 01.0	218 21 25.5 294 14 40.9 7 51 36.6	Dyer Hill..... Bramhall..... Moody.....	2371.4 3129.2 8464.7	3.375013 3.495428 3.927613
Elevator No. 2, 1911..	43 39 40.440 70 14 46.370	1248.1 1039.0	263 27 35.3 294 49 13.7 324 09 18.4	83 28 34.6 114 50 35.7 144 10 52.4	Fort Gorges 2.. Ft. Scamme 12.. Portland Head Lighthouse.	1936.2 2831.8 5213.0	3.286958 3.467135 3.717090
Marine hospital flag, 1911.	43 41 17.996 70 14 50.983	555.4 1141.8	214 20 28.5 316 07 17.4 336 26 09.7	34 21 20.6 136 09 35.8 156 27 46.9	Moody..... Whitehead..... Portland Head Lighthouse.	2994.5 6477.4 7894.8	3.476329 3.811404 3.897339
Munjoy Hill Observatory, 1911.	43 39 55.628 70 14 55.616	1716.8 1246.0	199 40 27.3 294 50 41.2 325 13 19.6	19 41 22.6 114 53 02.8 145 15 00.0	Moody..... Whitehead..... Portland Head Lighthouse.	5325.6 5062.0 5715.2	3.726367 3.704324 3.757034
Elevator No. 1, 1911 ¹ .	43 39 34.50 70 14 51.81	1064.7 1160.9	258 49 43 290 37 21	78 50 46 110 38 47	Fort Gorges 2.. Ft. Scamme 12..	2085.0 2973.4	3.319108 3.473255
Terrace, 1869.....	43 40 10.342 70 14 45.616	319.2 1022.0	108 01 51.7 207 23 04.4 278 16 07.7	288 01 28.7 27 23 37.4 98 17 33.6	Ridge..... Mackey..... Little Hog Id..	787.4 2329.0 2316.8	2.896223 3.367165 3.449755
Munjoy Hill Observatory, 1852.	43 39 55.655 70 14 55.621	1717.6 1246.2	46 43 13.7 199 40 43.7 294 51 10.2 9 03 33.8	226 42 05.5 19 41 39.0 114 53 31.7 189 03 08.2	Bramhall..... Moody..... Whitehead..... Dyer Hill.....	3042.5 5324.8 5062.5 5297.1	3.483224 3.726306 3.704366 3.724041
Falmouth, 1869.....	43 42 55.125 70 15 00.950	1701.3 21.3	334 52 56.9 339 41 55.5 350 15 50.7	154 53 40.5 159 42 06.3 170 16 00.4	Mackey..... Green..... Presumpscot..	3332.7 1012.2 1858.9	3.522797 3.005264 3.269258
Spurwink church, 1850.	43 34 47.09 70 15 08.12	1453.3 182.2	177 01 31 225 59 11	357 01 28 46 00 10	Mount Joy..... Mount Misery..	1793.0 2677.9	3.253570 3.427796
Portland brown spire, 1869.	43 39 56.892 70 14 54.341	1755.8 1217.5	199 31 32.0 207 01 34.6 269 48 23.3	19 32 26.5 27 02 13.6 89 49 55.2	Moody..... Mackey..... Little Hog Id..	5279.3 2787.5 2983.0	3.722573 3.454218 3.474655

1 No check on this position.

GEOGRAPHIC POSITIONS—Continued.

CASCO BAY AND PORTLAND—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
Portland, engine-house cupola, 1869.	43° 39' 36.861 70° 14' 54.988	1137.6 1232.1	258° 09' 42.6 322° 00' 52.4 328° 36' 50.7	78° 11' 14.9 142° 01' 32.6 148° 38' 09.1	Little Hog Id.. Prospect Hill.. Ferry	3062.6 2122.1 114.7	3.486095 3.326756 2.059450
Portland, R. C. Reform School, 1869.	43° 39' 53.565 70° 14' 59.960	1653.1 1343.4	267° 55' 19.7 317° 47' 00.6 327° 03' 50.4	87° 56' 55.5 137° 47' 41.0 147° 04' 34.1	Little Hog Id.. Cushings Point Prospect Hill..	3110.9 1948.6 2607.1	3.492890 3.289283 3.416153
Portland standpipe, 1911. ¹	43° 40' 09.52 70° 15' 07.94	293.8 177.9	204° 16' 55 325° 22' 59	24° 17' 58 145° 24' 48	Moody..... Portland Head Lighthouse.	5031.1 6224.9	3.701664 3.794135
Portland, Episcopal residence cupola, 1869.	43° 39' 41.273 70° 15' 15.535	1273.8 348.0	261° 53' 48.2 302° 39' 43.0 315° 40' 26.7	81° 55' 34.7 122° 40' 34.1 135° 41' 21.1	Little Hog Id.. Cushings Point Prospect Hill..	3492.7 1968.3 2528.2	3.543163 3.294090 3.402811
Portland, jail, west gable, 1869.	43° 39' 55.690 70° 15' 16.531	1718.7 370.3	78° 26' 33.1 91° 28' 58.0 175° 22' 58.9	258° 26' 17.5 271° 28' 13.8 355° 22' 57.2	Stoneyard..... Lang..... Ridge	516.7 1436.2 698.2	2.713212 3.157224 2.843962
Lowell and Senter's transit, 1852. ¹	43° 39' 26.34 70° 15' 17.61	812.9 394.6	283° 31' 01 4° 30' 23	103° 33' 38 184° 30' 13	Whitehead..... Dyer Hill.....	5231.4 4339.9	3.718622 3.637483
Portland, Middle St. Church, near Willow St., 1852. ¹	43° 39' 31.76 70° 15' 10.35	980.2 231.9	285° 45' 51 6° 23' 54	105° 48' 23 186° 23' 39	Whitehead..... Dyer Hill.....	5116.1 4521.7	3.708941 3.655305
Portland, custom-house flagstaff, 1852. ¹	43° 39' 29.17 70° 15' 18.98	900.2 425.3	284° 21' 35 4° 01' 21	104° 24' 13 184° 01' 12	Whitehead..... Dyer Hill.....	5282.2 4424.7	3.722811 3.645884
Portland, Catholic Cathedral, 1911.	43° 39' 42.824 70° 15' 19.000	1321.7 425.7	203° 10' 49.3 288° 41' 28.0 318° 38' 34.3	23° 12' 00.7 108° 44' 05.6 138° 40' 30.7	Moody..... Whitehead..... Portland Head Lighthouse.	5855.1 5402.6 5727.2	3.769753 3.732800 3.757945
Portland, Baptist tower, 1869.	43° 39' 36.984 70° 15' 20.554	1141.4 460.6	311° 44' 07.5 335° 30' 49.1	131° 45' 05.3 155° 31' 25.1	Prospect Hill.. Meetinghouse Hill.. Dyer Hill	2518.1 2825.6 4663.0	3.401065 3.451109 3.668668
Portland city hall, 1869.	43° 39' 33.570 70° 15' 27.223	1036.0 610.0	258° 53' 37.0 293° 14' 58.8 307° 45' 10.3	78° 55' 31.6 113° 15' 58.0 127° 46' 12.8	Little Hog Id.. Cushings Point Prospect Hill..	3790.7 2088.6 2565.6	3.578720 3.319851 3.409187
Portland, R. C. Chapel spire, 1869.	43° 39' 42.626 70° 15' 17.158	1315.5 384.4	262° 39' 05.4 303° 06' 03.3 315° 44' 35.9	82° 40' 53.1 123° 06' 55.6 134° 45' 31.5	Little Hog Id.. Cushings Point Prospect Hill..	3528.1 2021.5 2583.5	3.546931 3.305671 3.412202
Portland, American House flagstaff, 1869.	43° 39' 37.478 70° 15' 00.486	1156.6 10.9	258° 57' 08.3 305° 36' 32.5 319° 48' 15.5	78° 58' 44.4 125° 37' 13.2 138° 48' 59.5	Little Hog Id.. Cushings Point Prospect Hill..	3179.6 1623.3 2214.5	3.502373 3.210412 3.345283
Portland, Barrack Chapel spire, 1869.	43° 39' 48.016 70° 15' 02.496	1481.9 55.9	264° 52' 19.7 312° 56' 52.4 323° 49' 56.4	84° 53' 57.2 132° 57' 34.5 143° 50' 41.8	Little Hog Id.. Cushings Point Prospect Hill..	3178.4 1864.6 2498.2	3.502213 3.270587 3.397628
Portland, Federal Street Baptist Church, low tower, 1852.	43° 39' 32.969 70° 15' 22.038	1017.5 493.8	285° 23' 14.3 3° 03' 14.3 49° 30' 20.4	105° 25' 54.0 183° 03' 06.8 229° 29' 30.4	Whitehead..... Dyer Hill..... Bramhall	5378.5 4537.4 2134.1	3.730664 3.656809 3.329210
Portland city hall, 1911. ¹	43° 39' 33.67 70° 15' 28.15	1039.1 630.8	285° 13' 30 315° 11' 31	105° 16' 14 135° 13' 34	Whitehead..... Portland Head Lighthouse.	5516.3 5660.9	3.741649 3.752884
Portland, Fidelity Building, 1911. ¹	43° 39' 27.70 70° 15' 35.86	854.9 803.5	282° 57' 16 312° 37' 56	103° 00' 05 132° 40' 04	Whitehead..... Portland Head Lighthouse.	5639.1 5657.5	3.751207 3.755262

¹ No check on this position.

GEOGRAPHIC POSITIONS—Continued.

CASCO BAY AND PORTLAND—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
Portland, First Parish Church spire, 1869.	43° 39' 30.737 70° 15' 31.281	948.6 700.9	304° 59' 14.7 329° 18' 46.1	125° 00' 19.9 149° 19' 29.5	Prospect Hill.. Meetinghouse Hill. Dyer Hill.....	2587.0 2765.9	3.412793 3.441839
Portland, Casco Church spire, 1869.	43° 39' 26.115 70° 15' 45.673	806.0 1023.4	298° 45' 56.7 322° 12' 06.6	118° 47' 11.8 142° 12' 59.9	Prospect Hill.. Meetinghouse Hill. Dyer Hill.....	2785.8 2829.6	3.444954 3.451727
Portland, Free Street spire, 1869.	43° 39' 15.195 70° 15' 46.624	488.9 1044.8	292° 10' 00.1 317° 14' 47.4	112° 11' 15.9 187° 15' 41.4	Prospect Hill.. Meetinghouse Hill. Dyer Hill.....	2659.9 2586.0	3.424867 3.412631
Portland, Congress Street, square spire, 1869.	43° 39' 13.143 70° 15' 48.662	405.6 1090.5	290° 32' 35.6 315° 32' 26.1	110° 33' 52.8 135° 33' 21.5	Prospect Hill.. Meetinghouse Hill. Dyer Hill.....	2679.4 2571.7	3.428038 3.410213
Portland, Central Church tower, 1869.	43° 39' 13.240 70° 15' 51.877	408.6 1162.5	290° 04' 26.5 314° 27' 47.7	110° 05' 45.9 134° 28' 45.3	Prospect Hill.. Meetinghouse Hill. Dyer Hill.....	2748.0 2624.7	3.439017 3.419082
Portland, St. Luke's spire, 1869.	43° 39' 08.350 70° 15' 53.903	257.7 1207.9	286° 47' 08.9 311° 19' 58.3	106° 48' 29.7 131° 20' 57.3	Prospect Hill.. Meetinghouse Hill. Dyer Hill.....	2743.4 2555.2	3.438285 3.407429
Portland, Chestnut Street Church, west spire, 1869.	43° 39' 33.635 70° 15' 30.267	1038.0 678.2	306° 52' 28.5 330° 37' 54.9	126° 53' 33.0 150° 38' 37.6	Prospect Hill.. Meetinghouse Hill. Dyer Hill.....	2621.1 2832.0	3.418479 3.452092
Portland, St. Dominic's spire, 1869.	43° 39' 01.722 70° 15' 46.443	53.1 1040.8	225° 33' 45.9 283° 22' 28.9	45° 34' 33.7 103° 27' 44.7	Fore Street.... Prospect Hill.. Dyer Hill.....	2171.7 2528.5 3579.7	3.336794 3.402867 3.553842
Portland, Miss Crascer's observatory, 1869.	43° 39' 07.349 70° 15' 47.081	226.8 1055.1	229° 17' 02.4 287° 06' 33.2	49° 17' 50.6 107° 07' 49.4	Fore Street.... Prospect Hill.. Meetinghouse Hill.	2064.7 2588.1 2421.2	3.314848 3.412982 3.384039
Portland, Park Street Unitarian Church, 1852.	43° 39' 08.421 70° 15' 46.507	259.9 1042.2	59° 40' 57.5 204° 22' 29.3	239° 40' 24.4 24° 23' 59.7	Bramhall..... Moody..... Whitehead.... Dyer Hill.....	1244.7 7105.3 5773.1 3785.8	3.095068 3.851583 3.761406 3.578162
Portland, High Street, tall dark tower, 1852.	43° 39' 13.455 70° 15' 46.497	415.2 1041.9	53° 54' 04.5 204° 54' 01.6	233° 53' 31.4 24° 55' 32.0	Bramhall..... Moody..... Whitehead.... Dyer Hill.....	1330.1 6964.0 5792.9 3940.7	3.123891 3.842858 3.762894 3.595572
Portland, Casco Street, green spire, 1852.	43° 39' 28.101 70° 15' 45.672	805.5 1023.4	206° 10' 51.9 281° 59' 56.8	26° 12' 21.8 102° 02' 52.9	Moody..... Whitehead.... Dyer Hill.....	6603.8 5843.1 4928.6	3.819797 3.766643 3.636349
Portland, Congress Street, stone spire, 1852.	43° 39' 30.731 70° 15' 31.285	948.4 701.0	47° 04' 19.4 204° 08' 16.3	227° 03' 35.8 24° 09' 36.2	Bramhall..... Moody..... Whitehead.... Dyer Hill.....	1933.4 6337.4 5561.3 4462.1	3.286323 3.801912 3.745178 3.649535
Portland, Congress Street, Third Parish Church, dark spire, 1852.	43° 39' 34.605 70° 15' 24.477	1068.0 548.5	285° 44' 47.6 2° 20' 16.7	105° 47' 29.0 182° 20' 10.9	Whitehead.... Dyer Hill..... Bramhall.....	5444.7 4985.3 2126.6	3.735977 3.661367 3.327684
St. Dominic's Church, 1911.	43° 39' 02.262 70° 15' 47.465	69.8 1063.7	246° 58' 26.5 270° 44' 08.0	67° 00' 07.9 90° 46' 12.1	Fort Gorges 2, Fort Scammon 2, Portland Head Lighthouse.	3577.5 4030.5 5370.4	3.553584 3.605358 3.730003

GEOGRAPHIC POSITIONS—Continued.

CASCO BAY AND PORTLAND—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
Swedenborgian dome, 1869.	43 39 19.068 70 15 54.615	588.5 1223.8	75 16 18.2 210 55 42.0 353 12 20.8	255 16 11.8 30 56 11.2 173 12 35.8	State Street... Bluff..... Dyer Hill.....	Meters. 212.6 184.6 413.0	2.327576 3.265912 3.616052
Portland, State Street, tall dark spire, 1852.	43 39 09.131 70 15 57.084	281.8 1292.6	51 43 19.1 206 15 44.2 276 35 03.3 351 38 24.3	231 42 53.7 26 17 22.3 96 38 07.6 171 38 51.4	Bramhall..... Moody..... Whitehead..... Dyer Hill.....	1049.7 7192.6 6024.4 3836.0	3.021053 3.856888 3.779012 3.583877
Portland, Pine Street Methodist Church, 1852.	43 39 09.571 70 16 04.267	295.4 95.6	45 32 19.2 207 21 16.7 276 33 04.6 349 30 40.6	225 31 58.4 27 22 59.4 96 36 13.5 169 31 02.3	Bramhall..... Moody..... Whitehead..... Dyer Hill.....	947.8 7247.0 6172.5 3873.6	3.976710 3.860161 3.790460 3.588110
Portland, St. Stephen's tower, 1869.	43 39 12.169 70 16 01.014	375.6 22.7	288 05 29.0 310 59 00.6	106 06 54.7 131 00 04.5	Prospect Hill... Meetinghouse Hill..... Dyer Hill.....	2030.7 2752.8	3.466978 3.439773
Portland, C. E. Chapel, white cupola, 1869.	43 37 45.906 70 17 02.821	1416.8 63.2	220 11 34.2 240 23 16.6 256 05 39.7	40 13 14.6 60 24 25.6 76 07 26.3	Fore Street... Portland Bridge... Meetinghouse Hill.....	5054.4 2581.1 3568.1	3.703666 3.411813 3.552432
Payson cottage chimney, 1852.	43 41 00.466 70 16 19.336	14.4 433.1	230 34 53.2 302 31 44.6 4 44 20.0	50 36 46.3 122 35 03.9 184 44 09.6	Moody..... Whitehead..... Bramhall.....	4747.2 7673.8 4100.4	3.676437 3.885008 3.612823
Lang, 1868..	43 39 56.889 70 16 20.614	1755.7 461.8	244 27 46.8 254 49 14.9	64 28 29.3 74 50 02.1	Ridge..... Bluff.....	1528.8 1586.9	3.184338 3.200270
Brick spire, 1869....	43 39 15.154 70 17 02.530	467.7 56.7	140 17 23.2 209 28 21.6 280 23 41.9	320 17 08.0 29 28 30.3 100 23 58.9	Lane..... Farm..... Arsenal.....	767.8 573.3 561.6	2.885232 2.758393 2.749442
Bennett's house, 1852.	43 37 57.208 70 17 10.331	1765.6 231.6	207 07 45.6 258 37 55.7 306 46 15.5	27 08 10.4 78 41 50.2 125 47 22.8	Bramhall..... Whitehead..... Dyer Hill.....	1763.5 7765.1 2694.8	3.246366 3.880149 3.430525
Longfellow's, A. W., house, east chimney, 1852.	43 39 57.508 70 17 27.325	1774.9 612.2	226 18 16.3 285 15 57.4 331 03 39.7	46 20 56.4 105 20 03.7 151 04 16.3	Moody..... Whitehead..... Bramhall.....	7177.5 8286.1 2449.0	3.855974 3.918348 3.389904
Hubbards Point house, 1850.	43 33 20.671 70 17 42.497	637.9 953.9	290 02 26.6 13 34 33.2 17 46 21.2	110 04 46.2 193 33 52.6 197 44 23.7	Richmond Id... Stratton Id... Fletchers Neck	4840.5 5643.1 12576.3	3.664891 3.751516 4.098552
Whitespire, 1869....	43 39 45.487 70 18 01.474	1403.8 33.0	246 49 57.5 288 14 07.2 298 58 23.2	66 50 22.6 108 15 28.4 118 59 21.0	Highfield..... State Street... Arsenal.....	887.6 276.6 2141.3	2.948239 3.443510 3.330671
State Reform School, east tower, 1852.	43 38 16.605 70 18 30.096	512.5 674.6	249 27 25.4 298 39 52.1 349 47 09.1	69 28 45.2 118 41 54.4 169 47 35.6	Bramhall..... Dyer Hill..... Pleasant Hill.....	2767.9 4530.2 4863.9	3.442143 3.656117 3.688987
Capisie church spire, 1852.	43 39 45.483 70 18 01.476	403.7 33.1	171 22 38.4 312 15 12.3 358 19 21.0	351 21 48.0 132 16 12.4 178 19 27.8	Mount Inde- pendence. Bramhall..... Pleasant Hill.....	10871.7 2635.1 7533.0	4.036296 3.420789 3.876969

PORTLAND TO PORTSMOUTH.

Principal points.							
Ossipee, 1851.....	43 35 18.873 70 44 27.659	582.5 620.5	35 35 55.03 81 25 40.91 171 20 07.88 240 36 58.51 354 26 44.96	215 17 06.82 260 59 41.13 352 16 44.16 60 54 23.54 174 28 45.04	Patuccawa... Gunstock... Mt. Pleasant Mount Inde- pendence. Agamenticus..	Meters. 51416.46 49138.69 38850.87 40748.91	4.8050496 4.7111022 4.6914236 4.5894007 4.6101160

GEOGRAPHIC POSITIONS—Continued.

PORTLAND TO PORTSMOUTH—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of dis- tance.
<i>Principal points—Continued.</i>							
Sand Knoll, 1850.....	43 33 13.705 70 15 21.857	423.0 490.6	316 07 04.3 40 23 51.5 140 47 54.5	136 07 47.0 220.21 34.0 320 47 28.9	Richmond Id. Stratton Id... Grandy Hill..	2005.1 6918.7 1320.0	3.302132 3.840026 3.120579
Blue Point Hill, 1850.	43 33 09.921 70 21 35.990	306.2 807.9	97 29 54.3 187 51 31.1	277 14 08.9 7 53 08.9	Ossipee..... Mount Inde- pendence. Johns Hill.... Fletchers Neck	31036.7 23174.9 12133.2 11730.5	4.491876 4.365018 4.083976 4.069316
Saco Hill, 1868.....	43 33 09.767 70 21 35.788	301.4 803.3	136 19 45 346 58 58.1 356 32 09.0	316 19 45 167 00 13.5 176 32 28.8	Blue Pt. Hill.. Wood Id. L.H. Stage Island Monument.	6.6 10930.4 10674.9	0.818135 4.038436 4.028362
Richmond Island, 1850.	43 32 26.872 70 14 19.951	829.3 447.9	56 56 51.6 97 46 15.4 137 59 15.3 204 35 35.2	236 53 51.5 277 41 15.0 317 58 07.0 24 36 35.9	Stratton Id... Blue Pt. Hill... Grandy Hill... Johns Hill....	7008.8 9878.4 3322.4 4744.1	3.845646 3.994687 3.521457 3.876156
Prouty, 1905.....	43 31 39.908 70 18 53.746	1231.6 1206.9	245 10 26.8 354 13 45.6 8 31 40.5	65 15 10.5 174 13 53.5 188 31 04.3	Cape Eliza- beth E. L. H. Jordans Id. 2... Wood Id. L.H.	10179.2 2551.1 7964.7	4.007712 3.406725 3.901171
Gunstock (N. H.), 1860.	43 31 04.319 71 22 11.378	133.2 255.6	217 43 29.75 252 03 10.79	38 06 12.03 72 46 37.39	Mt. Pleasant... Mount Inde- pendence. Agamenticus..	71681.66 88811.68	4.8554081 4.9484701 4.8055156
Stratton Island, 1850.	43 30 22.925 70 18 41.463	707.5 931.5	21 09 45.2 142 45 58.7 223 55 11.4	201 08 28.3 322 43 58.5 43 59 12.2	Fletchers Neck Blue Pt. Hill... Johns Hill....	6960.6 6474.6 11305.2	3.842845 3.811214 4.053278
Jordans Island, 1868.	43 30 17.968 70 18 42.143	554.5 946.7	15 05 23.6 21 36 45.4 31 20 06.7	195 04 39.5 201 35 28.7 211 18 27.0	Wood Id. L.H. Holman Pt... Stage Island Monument. Saco Hill.....	5538.8 6808.9 6266.6 6581.5	3.743415 3.833077 3.797034 3.818323
Jordans Island 2, 1905.	43 30 17.664 70 18 42.328	545.1 951.0	15 04 25.7	195 03 41.7	Cape Eliza- beth E. L. H. Wood Id. L.H.	11273.0 5528.7	4.052038 3.742621
Wood Island Light- house, 1850.	43 27 24.683 70 19 46.249	761.8 1039.8	166 58 56.8 194 49 08.4 218 08 19.2	346 57 41.3 14 49 53.0 38 12 03.8	Blue Pt. Hill... Stratton Id... Richmond Id.	10936.0 5690.2 11862.4	4.038860 3.755127 4.074172
Stage Island Monu- ment, 1905.	43 27 24.447 70 21 06.989	754.5 157.2	200 46 53.0 211 17 32.7 269 46 01.9	20 48 24.6 31 19 12.2 89 46 57.4	Prouty..... Jordans Id. 2... Wood Id. L.H.	8433.2 6256.7 1814.5	3.925994 3.796344 3.258768
Holman Point, 1868.	43 26 52.835 70 20 33.678	1630.6 757.2	36 03 30.1 142 26 50.6	216 00 20.6 322 26 27.6	Stage Island... Stage Island Monument.	10547.6 1232.8	4.023154 3.090888
				173 09 56.8 227 18 55.7	Saco Hill.... Wood Id. L.H.	11716.1 1449.6	4.068782 3.161255
Biddeford, 1851.....	43 25 57.579 70 22 39.047	1777.0 878.2	239 01 55.3 11 57 48.3 26 23 25.1	59 03 21.8 191 57 33.6 206 21 41.7	Fletchers Neck Hoyts Neck... Stage Island..	3299.7 2290.8 7617.4	3.518474 3.359990 3.881809
Merrill, 1868.....	43 23 50.840 70 28 44.970	1569.0 1012.0	300 57 46.0 336 30 42.2	121 00 13.9 156 31 33.2	Stage Island... S u m i t (S m i t h s Hill). Boothbay..... Coles Hill....	5659.0 4196.6 9618.0	3.752737 3.622902 3.983086

GEOGRAPHIC POSITIONS—Continued.

PORTLAND TO PORTSMOUTH—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Principal points—Continued.</i>							
Cape Porpoise Light- house, 1850.	43 21 28.504 70 25 32.522	879.7 732.4	39 17 54.0 55 29 51.4 101 33 18.5	219 11 34.6 235 18 52.9 281 31 57.4	Bald Head Cliff. Agamenticus. Summit (Smiths Hill).	19723.5 26300.8 2715.8	4.294984 4.419969 3.433903
Fairfield Hill, 1851...	43 23 50.801 70 28 44.357	1567.7 998.2	41 56 38.0 135 08 38.0 350 53 44.9	221 47 50.8 314 57 48.7 170 54 15.0	Agamenticus.. Ossipee..... Kennebunk Port.	25950.2 30002.5 6244.6	4.414140 4.477157 3.795502
Stage Island, 1850....	43 22 16.443 70 25 09.435	507.5 212.4	49 49 38.4 53 34 50.1 121 03 54.5 216 04 35.3	229 47 41.0 233 23 35.7 301 01 26.9 36 07 45.3	Kennebunk Port. Agamenticus.. Fairfield Hill.. Fletchers Neck	5042.6 27582.7 5646.5 10547.2	3.702851 4.440637 3.751781 4.028138
Goat Island Light- house, 1903.	43 21 28.475 70 25 32.341	878.8 728.4	9 01 55.8 55 30 15.2 215 16 42.4	188 59 49.3 235 19 16.5 35 20 40.2	Boon Id. L. H. Agamenticus.. Wood Id. L. H.	26589.5 26303.7 13471.2	4.424711 4.420017 4.129406
Boothbay, 1851.....	43 20 54.061 70 29 49.793	1668.4 1121.5	286 06 43.3 48 52 59.8 84 41 15.5 143 36 22.8	106 07 58.3 228 44 57.7 264 38 11.3 323 26 18.9	Kennebunk Port. Agamenticus.. Coles Hill..... Ossipee.....	2562.7 21063.1 6070.1 33191.7	3.408693 4.323522 3.783199 4.521030
Coles Hill, 1851.....	43 20 35.762 70 34 18.127	1103.7 408.3	2 38 23.0 36 25 25.0 231 16 27.5 270 57 12.9	182 38 03.9 216 26 26.9 51 20 16.6 91 01 32.0	Bald Head Cliff. Agamenticus.. Fairfield Hill.. Kennebunk Port.	13661.5 16526.1 9628.0 8507.4	4.135498 4.218171 3.983536 3.929797
Butland Island, 1867.	43 18 07.464 70 34 07.781	230.3 175.4	11 40 17.6 44 48 02.9	191 40 07.0 224 46 22.9	Butland..... Maxwell.....	1710.5 4667.0	3.233122 3.669034
Butland, 1867.....	43 17 13.183 70 34 23.129	406.8 521.4	3 59 37.0 36 28 24.9	183 59 21.3 216 27 09.8	Bald Head Cliff. Ogunquit.....	7413.3 4156.5	3.370013 3.618724
Wells Neck, 1851....	43 17 16.707 70 34 24.713	515.6 557.1	3 39 51.2 35 12 23.7 53 29 01.7 181 22 59.5	183 39 36.6 215 11 09.7 233 24 08.3 1 23 04.0	Bald Head Cliff. Ogunquit..... Agamenticus.. Coles Hill.....	7519.5 4223.7 12024.2 6144.7	3.376187 3.625698 4.080058 3.788501
Donnell, 1867.....	43 16 00.242 70 36 04.212	7.5 95.0	225 20 55.8 341 03 40.4 9 54 37.2	45 22 05.1 161 04 34.0 189 54 31.4	Butland..... Bald Head Cliff. Ogunquit.....	3203.5 5438.5 1108.4	3.505620 3.735483 3.044678
Maxwell, 1867.....	43 16 20.132 70 36 33.610	621.3 757.9	240 53 35.7 337 07 47.7 344 31 13.7	60 55 05.1 157 09 01.4 164 31 28.0	Butland..... Bald Head Cliff. Ogunquit.....	3366.9 6249.0 1769.8	3.527232 3.795810 3.247928
Ogunquit, 1851.....	43 15 24.862 70 36 12.669	767.2 285.8	334 14 01.8 62 50 57.3 195 03 00.8	154 15 01.2 242 47 17.9 15 04 19.4	Bald Head Cliff. Agamenticus.. Coles Hill.....	4499.6 8122.3 9935.8	3.653178 3.909681 3.997202
Agamenticus, 1847...	43 13 24.630 70 41 32.907	780.1 742.6	74 35 59.52 173 19 31.82 206 49 29.47	254 15 15.37 353 14 08.21 26 55 50.74	Patuccawa.... Mt. Pleasant.... Mount Inde- pendence.	42638.85 89872.51 66701.36	4.6298055 4.9536269 4.8241347
Agamenticus 2, 1908.	43 13 19.811 70 41 38.624	611.4 871.7	38 19 31.0 74 44 45.5 220 57 28.3 348 33 02.4	218 11 27.2 254 24 05.1 40 57 32.0 168 35 55.2	Stratham..... Patuccawa.... Agamenticus.. Isles of Shoals Lighthouse.	25830.9 42475.1 196.90 28885.3	4.412139 4.628134 2.291246 4.460677

GEOGRAPHIC POSITIONS—Continued.

PORTLAND TO PORTSMOUTH—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Principal points—Continued.</i>							
Bald Head Cliff, 1851.	43 13 13.542 70 34 46.005	417.9 1038.4	29 09 01.0 92 10 22.0 214 04 12.6	209 06 23.7 272 05 43.3 34 08 50.5	York..... Agamenticus..... Kennebunk Port.	Meters. 10664.7 9189.8 16305.0	4.027947 3.963307 4.212320
Ber, 1908.....	43 14 00.618 70 48 06.086	19.1 137.3	5 18 36.6 16 26 45.8 42 30 59.1	185 18 09.5 196 25 13.4 222 28 38.3	School..... Fort..... Dover.....	9668.6 10780.8 6873.6	3.985363 4.032649 3.837186
Dover (N. H.), 1908..	43 11 16.391 70 51 31.791	505.8 717.9	320 31 45.2 343 09 04.8	140 33 38.8 163 09 53.1	School..... Fort.....	5904.7 5508.6	3.771196 3.741042
Cape Neddick, 1851..	43 10 03.262 70 35 59.063	100.6 1334.2	3 19 09.1 31 29 58.8 45 49 41.1 128 32 01.9	183 18 34.1 211 28 21.4 225 47 53.9 309 28 13.4	Isles of Shoals..... Sweats Point..... York..... Agamenticus.....	20042.6 3164.8 4940.7 9769.1	4.301954 3.789922 3.693787 3.989854
Cape Neddick Light-house, 1903.	43 09 55.007 70 35 29.801	1807.4 673.3	128 18 30.9 212 08 27.2 297 28 54.3	308 14 22.4 32 15 16.7 117 33 36.6	do..... Goat Id. L. H..... Boon Id. L. H.....	10443.5 25289.7 10519.0	4.018845 4.402944 4.021976
Frosts Hill, 1851.....	43 09 44.997 70 47 23.031	1388.7 540.6	31 00 07.32 82 07 28.32 229 25 54.81 323 32 31.83	210 54 55.74 261 50 44.91 49 29 55.07 143 39 44.58	Stratham..... Patuacawa..... Agamenticus..... Isles of Shoals.....	15923.87 32488.39 10428.89 24158.26	4.2020487 4.5248943 4.0182380 4.3830657
Frost, 1908.....	43 09 44.975 70 47 24.412	1388.0 551.5	30 58 10.5 82 07 22.9 229 37 56.1 327 56 37.4	210 54 03.3 261 50 39.7 49 41 52.8 148 03 26.3	Stratham..... Patuacawa..... Agamenticus..... Isles of Shoals Lighthouse.	15917.7 33477.5 10242.9 25568.1	4.201873 4.524753 4.010425 4.407699
School, 1908.....	43 08 48.653 70 48 45.684	1501.5 1032.3	27 52 23.1 71 42 51.8 228 33 56.6	207 51 20.1 251 41 46.5 46 34 52.2	Hill..... Fort..... Frost.....	4456.9 2272.0 2528.4	3.649035 3.358407 3.402842
Fort (N. H.), 1908....	43 08 25.542 70 50 21.141	788.3 477.7	238 26 21.7 314 58 16.1 20 30 42.8	58 28 22.6 135 01 06.2 200 28 36.4	do..... Paper..... Stratham.....	4885.6 7056.3 11859.1	3.670762 3.900711 4.077697
Went (N. H.), 1908...	43 08 24.542 70 51 59.299	757.4 1340.1	269 11 38.5 305 27 31.9 9 58 38.1 36 42 36.7	89 12 45.6 125 31 20.1 189 58 38.7 216 39 33.8	Fort..... Paper..... Stratham..... Mark.....	2218.5 9636.1 11343.1 10133.7	3.346065 3.983901 4.054732 4.005768
York, 1851.....	43 08 11.661 70 38 35.855	359.8 810.4	61 58 23.7 103 37 15.3 157 31 34.9	241 46 15.5 283 31 14.1 337 29 33.7	Stratham..... Frosts Hill..... Agamenticus.....	22840.4 12275.0 10458.2	4.358703 4.089023 4.019248
Leighton, 1900.....	43 07 32.085 70 49 10.797	990.2 244.1	333 09 33.6 60 38 14.7	153 09 48.7 240 37 54.8	Upper Birch..... Dover Point.....	1102.2 756.4	3.042260 2.878773
Leighton 2, 1908.....	43 07 32.067 70 49 10.722	989.6 242.4	43 53 23.6 113 02 30.5 136 02 32.0	223 53 37.7 293 08 35.2 318 01 43.8	Hill..... Went..... Fort.....	2188.3 4140.0 2292.7	3.340107 3.617004 3.360343
Dover Point (N. H.), 1900.	43 07 20.065 70 49 39.960	619.2 903.3	262 28 00.3 278 05 35.4 297 53 38.8 317 02 26.6	82 28 29.6 98 06 32.7 117 54 13.8 137 02 41.6	House..... Bluff..... Upper Birch..... Newington railroad station, SE. chimney.	977.5 1915.6 1309.1 728.5	2.990095 3.282302 3.116963 2.862415
Boon Island, 1851 ..	43 07 17.729 70 28 38.764	547.1 876.3	36 47 17.2 122 59 50.8 142 57 54.1	216 41 41.6 302 51 01.1 322 53 42.9	Isles of Shoals..... Agamenticus..... Bald Head Cliff.	18594.8 20831.5 13761.4	4.269391 4.318721 4.138604
Boon Island Light-house, 1851.	43 07 17.494 70 28 36.912	539.9 834.4	36 54 19.7 75 01 23.7 122 57 08.5	216 48 42.9 254 44 26.4 302 48 17.6	Isles of Shoals..... Stratham..... Agamenticus.....	19613.9 34898.8 20870.7	4.269838 4.542811 4.319538

GEOGRAPHIC POSITIONS—Continued.

PORTLAND TO PORTSMOUTH—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Principal points—Continued</i>							
Boon Island Light-house, 1900-3.	43 07 17.500 70 28 36.994	540.1 836.3	53 07 25.1 122 57 14.5 189 33 39.7	232 48 31.9 302 48 23.6 9 36 01.9	Powow (Bdn.) Agamenticus. Stage Island...	47156.8 20869.0 28133.8	4.673544 4.319502 4.449229
Patuccawa (N. H.), 1851.	43 07 13.689 71 11 51.318	422.5 1160.1	64 34 34.63	244 18 33.41	Unkonoonuc..	35323.24	4.5480605
Sweats Pt., 1851.....	43 07 12.904 70 38 21.548	398.2 487.2	159 22 19.0 169 53 10.1 352 01 16.7	339 20 08.1 349 53 00.4 172 02 19.0	Agamenticus.. York..... Isles of Shoals	12258.7 1842.1 14895.8	4.088444 3.265323 4.173064
Newington railroad station, SE. chimney (N. H.), 1900-1908.	43 07 02.789 70 49 18.002	86.1 407.0	63 32 54.1 190 19 18.3 276 51 02.5	243 32 13.2 10 19 23.3 96 51 22.5	Hill..... Leighton 2... Upper Birch..	1511.2 918.4 665.3	3.179312 2.963018 2.823004
Upper Birch (N. H.), 1900-1908.	43 07 00.216 70 48 48.785	6.7 1102.9	141 36 02.1 153 13 43.8	321 34 58.9 333 13 28.8	Fort..... Leighton 2...	3360.2 1100.9	3.526370 3.041755
Greenacre, 1900.....	43 06 41.417 70 47 50.324	1278.1 1137.8	113 42 08.6 315 58 29.6 239 22 12.6	293 41 28.7 135 59 10.6 144 29 44.5	Upper Birch.. Boiling Rock.. Huntress....	1443.4 1955.0 1819.1	3.159400 3.291147 3.259860
Rollins (N. H.), 1900.	43 06 34.739 70 48 15.265	1072.0 345.1	249 55 21.7 301 57 30.5 305 01 45.2 308 10 52.5	69 55 38.7 121 58 28.5 125 02 46.8 128 11 41.4	Greenacre.... Boiling Rock.. Jake..... Huntress....	600.4 2266.2 2495.4 2061.8	2.778434 3.355293 3.397136 3.314256
Hill (N. H.), 1908....	43 06 40.972 70 50 17.841	1264.4 403.4	28 08 31.9 144 20 51.8 178 34 30.0 214 36 00.7	208 06 23.2 324 19 42.4 358 40 31.7 34 37 50.2	Stratham..... Went..... Fort..... Frost.....	9042.9 3933.8 3227.8 6899.7	3.956306 3.594817 3.508912 3.838830
Brooks, 1851.....	43 06 40.626 70 47 19.359	1253.7 437.7	46 13 06.3 91 53 45.2 116 55 36.4	226 08 55.8 271 36 59.1 296 52 24.9	Stratham..... Patuccawa.. Wentworth...	11503.5 33294.0 7098.4	4.060830 4.522366 3.851161
Huntress (N. H.), 1900.	43 05 53.431 70 47 03.598	1648.9 81.4	290 29 15.7 297 31 53.0 305 01 13.8	110 29 28.4 117 32 20.1 125 01 31.3	Jake..... Cliff..... Cutts.....	451.1 1013.3 710.0	2.654294 3.005741 2.851254
Boiling Rock, 1900...	43 05 55.860 70 46 50.245	1723.8 1136.3	332 37 15.7 76 03 39.3	152 37 19.3 256 03 30.2	Jake..... Huntress....	282.2 311.1	2.418701 2.492963
Newington (N. H.), 1851.	43 05 52.355 70 50 11.745	1615.7 265.6	34 13 23.3 98 00 19.9 152 38 19.3	214 11 10.5 274 45 31.7 332 37 05.7	Stratham..... Patuccawa.. Wentworth...	7829.0 29491.3 5293.9	3.893706 4.469694 3.723773
Durham (N. H.), 1851.	43 05 19.464 70 53 38.834	600.6 878.3	201 27 29.8 257 45 10.0 357 00 59.3	21 28 37.7 77 47 31.5 177 01 07.9	do..... Newington.. Stratham....	6142.3 4792.4 5467.3	3.788332 3.680549 3.737769
Cutts (N. H.), 1900..	43 05 40.227 70 46 37.889	1241.4 856.9	147 31 28.7 261 06 55.3 280 52 59.3	327 31 23.9 81 07 11.9 100 53 08.9	Jake..... Cole..... Cliff.....	295.8 557.0 322.9	2.471028 2.745870 2.509083
Jones (N. H.), 1900...	43 05 28.600 70 45 59.981	882.6 1356.6	201 42 23.1 314 53 16.6 332 45 18.3	21 42 25.9 134 53 30.9 132 45 19.6	Hurd..... Bridge..... Freeman...	254.2 670.6 98.4	2.405113 2.826456 1.992807
Cole, 1900.....	43 05 43.014 70 46 13.555	1327.4 306.5	297 29 27.6 319 34 13.4 325 23 12.6	117 29 39.7 139 34 37.0 145 23 21.9	Hurd..... Bridge..... Jones....	452.0 1206.0 540.5	2.655177 3.081359 2.732773
Cliff (N. H.), 1900....	43 05 38.251 70 46 23.868	1180.4 539.8	237 46 52.0 275 33 12.0	57 46 59.0 95 33 31.1	Cole..... Hurd.....	275.7 637.2	2.440422 2.804299
Jake, 1900.....	43 05 48.314 70 46 44.912	1490.9 1015.7	282 59 01.7 303 07 16.3	102 59 23.1 123 07 30.7	Cole..... Cliff.....	727.8 568.3	2.862002 2.754566
Paper (N. H.), 1908..	43 05 23.249 70 46 12.277	717.5 277.7	60 26 56.0 79 44 22.8 168 35 34.8	240 21 59.7 259 37 22.9 348 34 45.5	Stratham..... Mark..... Frost.....	11292.9 14135.5 8239.7	4.052804 4.150310 3.915909

GEOGRAPHIC POSITIONS—Continued.

PORTLAND TO PORTSMOUTH—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Principal points—Continued.</i>	° ' "		° ' "	° ' "			
Bridge, 1900.....	43 05 13.263 70 45 38.977	409.3 881.6	278 09 17.5	98 09 46.0	Kittery Second Methodist Episcopal Church. Portsmouth N. Church.	Meters. 951.9	2.978611
			349 49 34.0	169 49 40.2		1154.6	3.062445
Toll (N. H.), 1900....	43 05 03.599 70 45 46.795	111.1 1035.9	207 20 44.0 261 32 02.4	27 20 48.7 81 32 35.5	Bridge..... Kittery Second Methodist Episcopal Church. Portsmouth N. Church.	335.7 1108.6	2.526005 3.044785
			336 51 43.1	156 51 53.9		911.6	2.959793
Hurd, 1900.....	43 05 36.252 70 45 55.825	1118.8 1262.6	331 45 18.0 347 18 39.5	151 45 29.5 167 18 46.3	Bridge..... Toll.....	805.3 1032.8	2.905646 3.014037
Kittery Second Methodist Episcopal Church cupola, 1900.	43 05 08.885 70 44 57.317	274.2 1296.5	271 35 45.5 289 18 32.3 296 29 41.0	91 37 35.2 109 20 43.2 116 31 19.6	Pepperell..... False..... Portsmouth Harbor L. H.	3633.9 4594.8 3650.0	3.560371 3.662271 3.562296
Pepperell, 1900.....	43 05 05.574 70 42 16.727	172.0 378.4	333 37 56.8 335 16 14.5 13 30 02.7	153 38 18.0 155 16 53.1 193 29 51.6	False..... White Island..... Portsmouth Harbor L. H.	1583.2 3062.9 1570.3	3.199541 3.486139 3.195989
False, 1900.....	43 04 19.606 70 41 45.848	605.1 1032.7	337 01 40.4 40 59 50.9 84 13 08.9	157 01 57.8 220 59 09.0 264 12 34.6	White Id..... Terrace..... Portsmouth Harbor L. H.	1481.1 2116.5 1075.2	3.170574 3.325622 3.031504
Fort Constitution, flagstaff (N. H.), 1900.	43 04 18.245 70 42 36.702	563.0 830.4	197 11 23.7 267 54 46.7 8 31 25.6	17 11 37.4 87 55 21.6 188 31 18.6	Pepperell..... False..... Terrace.....	1528.8 1155.8 1572.9	3.184363 3.062900 3.196710
Mark (N. H.), 1908..	43 04 01.200 70 56 27.023	37.0 611.4	229 05 47.4 306 38 32.0	49 11 58.2 128 40 35.4	Frost..... Stratham.....	16218.5 5099.6	4.210012 3.707532
Wood Id., 1842-1898..	43 03 46.231 70 41 52.347	1426.8 1184.5	29 35 34.8 58 32 07.8 294 34 39.5	209 34 57.4 238 31 14.2 114 35 01.5	S E. base..... Frost Pt. 2..... White Island..	2510.1 2083.5 802.3	3.399687 3.318796 2.904433
New Castle (N. H.), 1842.	43 03 37.101 70 43 20.487	1144.9 463.6	80 31 48.6 154 09 27.8 187 37 37.2 312 27 03.8	260 24 55.0 334 06 41.4 7 38 50.8 132 31 30.1	Stratham..... Frosts Hill..... Agamenticus..... Isles of Shoals..	13902.0 12617.0 15293.1 11981.0	4.143078 4.100556 4.262288 4.078492
New Castle 2 (N. H.), 1898.	43 03 37.171 70 43 20.533	1147.1 464.7	271 07 37.3 313 52 48.7 338 19 16.7	91 08 59.5 133 57 07.3 158 19 39.5	White Island.. Appledore..... Portsmouth Harbor, S E. base.	2725.7 11912.9 2048.0	3.435478 4.076019 3.311327
White Island, 1842..	43 03 35.416 70 41 20.104	1002.9 454.9	46 48 35.4	226 47 36.0	Portsmouth Harbor, S E. base.	2701.2	3.431551
			64 38 05.2	244 36 47.3	Portsmouth Harbor, NW. base.	2857.6	3.456009
			91 06 16.8	271 04 54.6	New Castle.....	2724.6	3.435305
Terrace (N. H.), 1898.	43 03 27.836 70 42 47.005	859.1 1063.8	263 12 28.6 0 05 02.8	83 13 27.9 180 05 02.7	White Island.. Portsmouth Harbor, S E. base.	1980.4 1615.1	3.296748 3.208197
			9 55 43.5	189 55 28.9	Pulpit Rock ..	2797.4	3.446750
Portsmouth Harbor, (New Castle) L. H. (N. H.), 1850-1878.	43 04 16.108 70 42 32.921	497.1 744.8	76 43 36.3 184 34 29.3 320 07 24.7	256 36 10.2 4 35 10.3 140 11 18.5	Stratham..... Agamenticus..... Isles of Shoals..	15195.2 16981.4 12107.6	4.181706 4.229973 4.053053

GEOGRAPHIC POSITIONS—Continued.

PORTLAND TO PORTSMOUTH—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Azimuth.	Back azimuth.	To station.	Distance.	Logarithm of distance.
<i>Principal points—Continued.</i>							
Portsmouth Harbor, SE. base (N. H.), 1842.	43° 02' 35.498 70° 42' 47.110	1095.5 1066.3	22° 49' 30.1 158° 19' 56.7	202° 49' 15.6 338° 19' 33.9	Pulpit Rock... New Castle....	Meters. 1237.3 2045.6	3.092465 3.310817
Portsmouth Harbor, NW., base (N. H.) 1842.	43° 02' 55.730 70° 43' 14.193	1719.8 321.2	173° 38' 03.4 315° 31' 24.8	353° 37' 50.1 135° 31' 43.3	do..... Portsmouth Harbor, SE. base.	1284.6 874.97	3.108759 2.941992
Stratham (N. H.), 1851.	43° 02' 22.535 70° 53' 26.262	695.5 594.5	109° 52' 27.15 218° 12' 38.66 284° 18' 22.44	289° 39' 52.37 38° 20' 46.37 104° 29' 41.87	Patuccawa.... Agamenticus.... Isles of Shoals.	28563.60 28027.54 23286.50	4.4242870 4.4154332 4.3671042
Pulpit Rock (N. H.), 1851-52.	43° 01' 58.542 70° 43' 08.310	1806.6 188.1	174° 49' 25.0 185° 48' 24.1 300° 30' 15.0	354° 49' 16.7 5° 49' 29.3 120° 34' 32.9	New Castle.... Agamenticus.... Isles of Shoals.	3053.9 21281.8 9940.2	3.484850 4.328008 3.997393
A (N. H.), 1908.....	43° 01' 06.148 70° 56' 21.762	189.7 492.8	239° 18' 16.8 296° 30' 49.3	59° 20' 16.6 118° 31' 51.4	Stratham..... Bunker.....	4620.0 2303.2	3.664641 3.362328
Bunker (N. H.), 1908.	43° 00' 32.820 70° 54' 50.762	1012.8 1149.6	161° 17' 21.9 209° 27' 45.9	341° 16' 16.2 29° 28' 43.6	Mark..... Stratham.....	6789.6 3888.9	3.831843 3.589826
Isles of Shoals (N. H.), 1851.	42° 59' 14.862 70° 36' 50.285	458.6 1139.2	107° 27' 43.68 166° 19' 50.29	287° 03' 49.32 346° 16' 37.16	Patuccawa.... Agamenticus....	49791.52 28990.73	4.6971554 4.4312146
Isles of Shoals Light-house (N. H.), 1886-1903.	42° 58' 02.324 70° 37' 25.023	71.7 580.7	40° 04' 35.0 66° 25' 48.1 74° 48' 52.7 133° 14' 00.5 152° 42' 05.2 168° 54' 24.7 186° 47' 03.9 214° 52' 52.2	219° 55' 20.3 246° 12' 56.5 254° 37' 40.7 313° 10' 06.8 332° 39' 25.2 348° 51' 35.6 6° 48' 22.6 34° 58' 53.0	Old Town..... Powow (B'd'n.) Hampton Falls Pulpit Rock.. White Island.. Agamenticus.. Cape Neddick Lighthouse. Boon Id. L. H.	28791.1 28063.4 23180.7 10648.3 11569.4 29005.9 22148.2 20896.9	4.4592548 4.4481411 4.365126 4.0272811 4.0633111 4.4624868 4.345339 4.320081
Appledore, 1898.....	42° 59' 09.407 70° 37' 01.528	290.3 34.6	14° 46' 39.2 122° 10' 37.0 129° 07' 54.4 144° 31' 35.4	194° 46' 22.8 302° 06' 26.8 309° 03' 58.6 324° 28' 38.9	Isle of Shoals Lighthouse. Pulpit Rock.. Portsmouth Harbor, SE. base. White Island..	2140.9 9810.3 10084.1 10082.7	3.330596 3.991682 4.0036383 4.003578
Jenns Ledge (N. H.), 1851.	42° 58' 28.221 70° 45' 57.240	870.9 1297.0	192° 10' 08.0 210° 30' 16.9 210° 39' 44.8 263° 19' 25.5	12° 13' 08.6 30° 32' 12.1 30° 40' 19.3 83° 25' 38.4	Agamenticus.. Pulpit Rock.. Locks Point... Isles of Shoals.	28301.1 7534.2 2247.1 12476.2	4.451803 3.877035 3.351632 4.096082
Hampton Falls (N. H.), 1850-51....	42° 54' 44.372 70° 53' 51.877	1369.2 1176.7	205° 44' 26.82 133° 30' 41.03	25° 52' 51.44 313° 18' 25.53	Agamenticus.. Patuccawa....	38401.12 33647.75	4.5843439 4.5269560
<i>Supplementary points.</i>							
Hennifell's house chimney, 1852. ¹	43° 36' 20.32 70° 19' 48.68	627.1 1091.8	223° 39' 44 294° 31' 10	43° 41' 58 114° 32' 31	Bramhall..... Pleasant Hill..	6305.0 2885.4	3.799682 3.460199
Scottoway, L., water house, 1852.	43° 35' 15.470 70° 22' 12.285	477.4 275.6	229° 04' 15 288° 02' 58 348° 07' 33	49° 08' 08 108° 07' 15 168° 07' 58	Bramhall..... Grandy Hill.... Blue Point Hill	10021.6 8810.5 3959.4	4.000937 3.944999 3.597624
Blue Point Hill, S. chimney, 1868. ¹	43° 32' 56.92 70° 21' 23.95	1756.6 537.7	323° 27' 23 354° 15' 19	143° 29' 14 174° 15' 54	Jordans Island Holman Pt....	6104.5 11292.7	3.785653 4.052797
Prout Neck, Libby house chimney, 1860.	43° 31' 55.287 70° 19' 14.526	1706.2 326.1	231° 51' 57.9 261° 35' 16.7 345° 23' 42.7	51° 44' 12.6 81° 38' 39.6 165° 24' 05.5	Grandy Hill... Richmond Id.... Stratton Id....	5578.0 6685.5 2945.6	3.746477 3.825134 3.469171
Staple's boarding-house chimney, 1860.	43° 31' 04.495 70° 22' 42.574	138.7 956.2	201° 06' 41.5 283° 18' 13.8 339° 29' 10.6	21° 07' 27.4 103° 20' 59.8 159° 30' 39.6	Blue Point Hill Stratton Id.... Fletchers Neck	4149.5 5565.7 3800.2	3.617999 3.745519 3.019091

¹ No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PORTLAND TO PORTSMOUTH—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>	° ° °	• • •	° ° °	° ° °			
Staple's cupola, 1868.	43 31 03.700 70 22 43.099	114.2 968.0	201 13 21.7 284 35 32.4 339 23 52.7	21 14 08.0 104 38 18.3 159 25 21.8	Saco Hill..... Jordans Island Holman Point.	4173.9 5593.4 8270.3	3.620540 3.747674 3.917523
Saco Orthodox Church spire, 1850.	43 30 02.951 70 26 35.080	91.1 787.4	229 18 08.8 266 38 19.6 305 48 39.7	49 21 34.7 86 43 45.6 125 52 48.6	Blue Pt. Hill .. Stratton Id.... Fletchers Neck	8854.3 10657.0 10032.7	3.947152 4.027635 4.001419
Biddeford Congregational Church spire, 1868. ¹	43 29 34.11 70 27 26.65	1052.7 598.8	263 23 53 298 09 38	83 29 54 118 14 23	Jordans Island Holman Pt....	11861.5 10532.8	4.074138 4.022542
Biddeford Baptist Church spire, 1868. ¹	43 29 40.41 70 27 30.59	1247.1 687.3	264 22 22 298 51 11	84 28 25 118 55 58	Jordans Island Holman Pt....	11928.7 10703.1	4.076592 4.029510
Biddeford Orthodox Church spire, 1850.	43 29 31.791 70 27 32.638	981.1 733.3	115 16 20.5 229 55 10.5 262 24 58.8 297 29 17.5	295 04 41.3 49 59 16.5 82 31 04.4 117 34 06.0	Ossipee..... Blue Pt. Hill .. Stratton Id.... Fletchers Neck	25180.7 10462.9 12037.6 10631.1	4.401067 4.019650 4.080539 4.026578
Johnson's house, east chimney, 1868. ¹	43 29 07.70 70 23 12.59	237.6 283.0	250 20 01 319 20 46	70 23 07 139 22 36	Jordans Island Holman Pt....	6451.9 5849.4	3.809685 3.739166
Mouth of Saco River, beacon on pier, 1850.	43 27 43.953 70 22 14.447	1356.5 324.8	184 54 16.0 224 16 15.2 304 51 10.5	4 54 42.5 44 18 41.8 124 52 20.1	Blue Pt. Hill .. Stratton Id.... Fletchers Neck	10096.9 6854.0 2773.8	4.004189 3.835946 3.443069
Wood Island Light- house, 1868-1903.	43 27 24.678 70 19 46.280	761.6 1040.6	17 51 20.5 37 25 18.3 48 45 03.0 220 32 13.1	197 45 16.6 217 21 36.2 228 30 06.2 40 37 26.5	Boon Id. L. H .. Stage Island .. Agamanticus .. Cape Elizabeth .. West L. H .. Cape Elizabeth .. East L. H ..	39128.0 11872.7 39221.8 15720.3 16006.0	4.502488 4.078192 4.503527 4.198461 4.204282
Nason, 1851.....	43 26 57.421 70 26 33.831	1772.1 760.6	7 35 26.4 122 47 23.9 271 01 18.0	187 34 47.3 302 35 04.4 91 05 25.9	S u m m i t (Smith's Hill) .. Ossipee..... Fletchers Neck	9802.0 28655.7 8109.9	3.986413 4.457211 3.909016
Oakridge, 1868.....	43 26 54.781 70 26 26.500	1690.6 595.9	209 24 40.2 238 57 23.6 270 24 00.2	29 28 00.3 59 02 43.1 90 28 02.9	Saco Hill..... Jordans Island .. Holman Pt ...	13288.4 12175.4 7933.6	4.123473 4.085482 3.899473
Pool, cupola of old warehouse, 1850.	43 26 48.965 70 21 20.299	1511.1 456.4	178 17 02.4 208 22 54.5 263 59 01.1	358 16 51.6 28 24 43.8 83 59 33.5	Blue Pt. Hill .. Stratton Id.... Fletchers Neck	11762.2 7506.3 1084.5	4.070487 3.875427 3.027154
Hoyt's Neck, 1851...	43 24 44.959 70 23 00.154	1387.5 3.5	30 49 35.9 32 25 15.2 61 33 08.5	210 48 59.5 212 23 46.4 241 32 20.3	Timber Island .. Stage Island .. Wards.....	2824.4 5428.9 1793.8	3.366312 3.734714 3.253782
Curtis Cove, 1868....	43 24 24.782 70 23 47.193	764.8 1061.9	25 03 27.0 44 46 04.8	205 02 30.5 224 44 05.2	Stage Island... Schoolhouse .. Hill.	4271.9 5366.9	3.640668 3.745614
Emmons's, Geo., house, middle chimney, 1868.	43 24 17.366 70 24 14.016	535.9 315.4	337 56 33.2 18 29 15.6 41 41 22.2	157 56 47.4 198 28 37.5 221 39 41.0	Little River... Stage Island... Schoolhouse .. Hill.	1240.3 3934.7 4986.6	3.093521 3.594917 3.697801
Cleaves's, Chas., house, west apex, 1868.	43 23 58.797 70 23 50.349	1814.5 1268.1	353 15 23.6 27 31 04.4 49 41 43.0	173 15 25.7 207 30 14.2 229 39 49.7	Little River... Stage Island... Schoolhouse .. Hill.	580.5 3561.4 4870.5	2.763768 3.551625 3.687570
Kennebunk Unitarian Church spire, 1851.	43 23 16.664 70 32 15.902	514.3 357.9	143 39 07.5 293 29 30.0 49 41 43.0	323 30 43.8 113 32 45.9 143 14 07.6	Ossipee..... S u m m i t (Smiths Hill). Boothbay.....	27697.5 7002.6 5494.5	4.442440 3.845259 3.739926
Kennebunk Ortho- dox Church spire, 1851.	43 23 13.166 70 32 15.091	406.3 339.7	143 45 13.6 292 44 06.0 322 40 36.2	323 36 49.4 112 47 21.3 142 42 15.9	Ossipee..... S u m m i t (Smiths Hill). Boothbay.....	27795.3 6943.4 5397.3	4.443971 3.841574 3.732179

1 No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PORTLAND TO PORTSMOUTH—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
Cape Porpoise Methodist Church spire, 1903. ¹	43 22 18.27 70 26 18.66	564.7 421.0	272 04 05 325 50 08	92 04 52 145 50 40	Stage Island... Goat Island Lighthouse.	1559.5 1857.2	3.192973 3.268860
Cape Porpoise Casino chimney, 1903. ¹	43 21 57.04 70 25 54.08	1759.0 1218.0	239 13 05 330 57 41	59 13 36 150 57 56	Stage Island... Goat Island Lighthouse.	1169.9 1008.4	3.068155 3.003647
Curtis's, Enoch, barn cupola, 1868. ¹	43 22 18.85 70 26 41.92	583.3 943.3	272 02 02 314 46 14	92 03 06 134 47 02	Stage Island... Goat Island Lighthouse.	2083.6 2207.1	3.318807 3.343831
Schoolhouse chimney, 1868.	43 22 16.373 70 26 40.631	505.3 914.8	235 31 29.2 269 55 50.2 50 21 47.7	55 33 24.1 89 56 52.8 230 21 13.4	Little River... Stage Island... S um m i t (Smiths Hill).	4567.6 2053.2 1463.6	3.659689 3.312430 3.165434
Stone's, C., house, middle chimney, 1868.	43 22 07.525 70 26 00.798	232.2 18.0	107 12 14.0 225 06 30.3 256 36 27.9	287 11 46.2 45 07 57.9 76 37 03.2	Schoolhouse Hill. Little River... Stage Island...	955.2 4049.6 1188.7	2.980079 3.607417 3.075076
Stone Haven Inn windmill, 1903. ¹	43 22 11.11 70 25 57.80	342.6 1301.4	261 23 58 336 27 25	81 24 31 156 27 42	...do... Goat Island Lighthouse.	1101.2 1435.2	3.041884 3.156908
Stone Haven Inn flagstaff, 1903. ¹	43 22 06.92 70 26 01.13	212.9 24.8	255 49 05 331 20 30	75 49 41 151 20 50	Stage Island... Goat Island Lighthouse.	1200.5 1351.9	3.079356 3.130941
Huff's, Andrew, barn cupola, 1868.	43 21 49.608 70 26 41.856	1531.0 942.4	84 24 16.1 228 01 52.4 248 17 24.6	264 23 42.7 48 03 48.2 68 18 28.1	S um m i t (Smiths Hill). Little River... Stage Island...	1104.8 5101.5 2239.6	3.043297 3.707694 3.350176
Kennebunk Port, Orthodox Church spire, 1851.	43 21 46.290 70 28 41.370	1428.6 931.5	270 11 16.8 43 43 01.8 74 01 08.9	90 12 05.3 223 42 14.8 253 57 17.8	S um m i t (Smiths Hill). Boothbay.... Coles Hill....	1591.6 2229.9 7890.2	3.201824 3.348282 3.897087
Kennebunk Port, Baptist Church spire, 1851.	43 21 46.707 70 28 34.890	1441.4 785.7	270 43 04.7 43 26 30.8 74 13 07.0	90 43 48.8 223 22 30.9 254 09 11.4	S um m i t (Smiths Hill). Wells Neck... Coles Hill....	1445.8 11469.6 8034.1	3.160103 4.059547 3.904935
Kennebunk Port Observatory, 1851.	43 21 22.558 70 28 06.189	696.2 139.4	44 51 09.6 48 22 51.2 30 53 14.3	224 45 36.0 228 18 31.5 210 48 40.2	Ogunquit.... Wells Neck... Bald Head Cliff.	15558.5 11415.2 17578.2	4.191968 4.057484 4.244974
Kennebunk Port Lighthouse, 1868. ¹	43 20 46.01 70 28 35.44	1419.9 798.2	300 28 26 98 26 32	120 28 50 278 25 41	Kennebunk Port. Boothbay....	913.4 1692.9	2.960680 3.228638
Wentworth's cupola, 1868.	43 20 52.928 70 30 14.721	1633.4 331.5	282 36 11.3 40 09 02.8 84 30 13.8	102 37 43.4 220 06 11.5 264 27 26.7	Kennebunk Port. Wellstown.... Coles Hill....	3098.2 8728.1 5507.9	3.491106 3.940918 3.740986
Fishing house flagstaff, 1868.	43 20 26.559 70 30 05.463	819.6 123.1	92 52 51.9 202 34 47.0 267 11 59.5	272 49 58.5 22 34 57.8 87 13 25.3	...do... Boothbay.... Kennebunk Port.	5698.3 919.2 2818.4	3.755746 2.963409 3.449997
Clarke's house, south chimney, 1868.	43 20 14.391 70 33 05.688	444.1 128.1	112 00 52.9 265 42 24.2	292 00 03.2 85 45 53.7	Coles Hill.... Kennebunk Port.	1760.0 6893.9	3.245508 3.838463
Fishing Rock Spindle, 1868.	43 20 11.291 70 28 47.479	348.5 1069.5	95 49 16.5 133 14 44.9 240 06 37.2	275 45 29.6 313 14 02.1 60 07 09.4	Coles Hill.... Boothbay.... Kennebunk Port.	7486.3 1926.7 1220.8	3.874265 3.284817 3.086639

¹ No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PORTLAND TO PORTSMOUTH—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
Wells church spire, 1851.	43 19 34.996 70 34 39.996	1080.0 901.1	355 23 03.2 15 09 11.0 194 42 58.3	175 23 13.7 195 08 07.4 14 43 14.8	Wells Neck ... Ogunquit ... Coles Hill ...	4281.5 7996.9 1938.9	3.631595 3.902922 3.287560
South Congregational Church spire, 1868.	43 18 05.828 70 35 12.872	179.9 290.1	194 55 19.4 234 28 19.8 324 12 02.2	14 55 57.0 54 32 01.5 144 12 35.5	...do ... Boothbay ... Wellstown ...	4788.6 8941.1 1870.1	3.680212 3.951391 3.271187
Congregational Church spire, 1867.	43 18 05.81 70 35 12.81	179.3 288.7	268 00 14 325 24 22 16 39 14	88 00 59 145 24 56 196 38 59	Butland Id ... Butland ... Donnell ...	1466.7 1972.9 4044.7	3.166345 3.205113 3.606891
Atlantic House cupola, 1868.	43 17 36.743 70 34 06.413	1134.0 144.6	33 08 44.4 177 15 56.9 236 51 12.2	213 08 32.1 357 15 48.9 56 55 23.3	Wellstown ... Coles Hill ... Kennebunk Port.	739.6 5530.9 9844.3	2.860008 3.742796 3.993185
Wellstown, 1868.....	43 17 16.676 70 34 24.351	514.6 549.0	181 18 25.9 222 39 24.4 228 13 22.8	1 18 30.2 42 42 32.8 48 18 06.7	Coles Hill ... Boothbay ... S um m i t (Smiths Hill). Kennebunk Port.	6145.5 9125.9 12490.3 10525.7	3.788556 3.960275 4.066572 4.022250
North Berwick, prominent tall square church spire, 1908. ¹	43 15 43.69 70 52 06.52	1348.3 147.1	300 21 51 354 34 07	120 24 36 174 34 30	Ber ... Dover ...	6288.0 8285.9	3.798512 3.918339
North Berwick, large standpipe, 1908.	43 15 33.772 70 52 11.923	1042.2 268.9	297 22 32.5 349 16 19.5 353 29 26.7	117 25 20.9 169 17 35.3 173 29 54.2	Ber ... Fort ... Dover ...	6246.9 13449.7 7994.2	3.795666 4.128713 3.902777
North Berwick, small standpipe, 1908.	43 15 39.100 70 52 10.381	1206.6 234.1	298 51 03.2 349 32 42.8 353 51 53.7	118 53 50.6 169 33 57.6 173 52 01.2	Ber ... Fort ... Dover ...	6293.7 13604.9 8153.8	3.798906 4.133666 3.911361
Butland's house, middle chimney, 1868.	43 17 15.072 70 34 26.626	465.1 600.3	181 46 13.8 222 40 56.6 235 10 07.9	1 46 19.6 42 44 06.5 55 14 32.8	Coles Hill ... Boothbay ... Kennebunk Port.	6196.4 9197.0 10596.1	3.792136 3.963648 4.025144
South Berwick, large black tank, 1908.	43 14 16.742 70 48 33.303	516.7 751.4	309 00 42.3 12 40 24.6 35 55 03.9	129 01 00.9 192 39 10.8 215 53 01.7	Ber ... Fort ... Dover ...	790.4 11108.1 6870.8	2.897854 4.045641 3.837007
South Berwick Academy, large square stone cupola, 1908.	43 13 49.209 70 48 17.813	1518.6 402.0	15 35 31.4 42 53 44.9 216 55 47.9 3 53 04.2	195 34 07.0 222 51 32.1 36 55 55.9 183 52 45.1	Fort ... Dover ... Ber ... School ...	10369.3 6435.4 440.5 9296.4	4.015749 3.808576 2.643897 3.968315
Yellow, red-top cupola, 1908. ¹	43 14 01.21 70 49 49.96	37.3 1127.3	270 26 15 24 19 45	90 27 26 204 18 35	Ber ... Dover ...	2344.0 5581.6	3.369963 3.746760
Garrison Hill, house cupola, white trimmings(N.H.), 1908. ¹	43 12 33.54 70 52 03.95	1035.1 89.2	243 23 08 343 02 18	63 25 51 163 02 40	Ber ... Dover ...	6003.4 2498.9	3.778399 3.396012
Dover, largest smoke chimney (N. H.), 1908. ¹	43 11 46.64 70 52 24.86	1439.3 561.3	234 40 54 307 54 42	54 43 51 127 55 18	Ber ... Dover ...	7156.3 1518.8	3.854666 3.181512
Dover, St. Marys Catholic, large square church spire(N.H.), 1908. ¹	43 11 56.18 70 52 39.05	1733.7 881.6	238 02 22 308 56 49	58 05 29 128 57 35	Ber ... Dover ...	7260.0 1953.0	3.860039 3.290698
Dover, St. Johns Methodist, conical church spire, horizontal stripes (N.H.), 1908. ¹	43 11 54.84 70 52 21.54	1692.4 486.3	236 01 46 316 33 56	56 04 41 136 34 30	Ber ... Dover ...	6950.6 1634.0	3.842025 3.213360

1 No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PORTLAND TO PORTSMOUTH—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
Dover town hall cupola (N. H.), 1908.	43 11 37.302 70 52 31.000	1151.1 700.0	233 29 15.0 295 45 31.0 315 37 06.8	53 32 16.4 115 46 11.6 135 39 39.8	Ber..... Dover..... School.....	Meters 7437.6 1484.6 7279.4	3.871432 3.171599 3.862093
Dover church ball spire (N. H.), 1908. ¹	43 11 32.15 70 52 34.78	992.2 785.3	232 54 22 288 52 17	52 57 26 108 53 00	Ber..... Dover.....	7601.1 1503.1	3.890877 3.176990
Dover, first parish Congregational Church spire, tall rooster vane (N. H.), 1908.	43 11 28.180 70 52 27.306	869.6 616.6	231 23 31.6 286 10 39.2 314 29 55.4	51 26 30.4 106 11 17.2 134 32 27.0	Ber..... Dover..... School.....	7543.1 1305.3 7021.2	3.877548 3.115710 3.846409
Dover, Coleman's house chimney (N. H.), 1900. ¹	43 08 09.87 70 50 15.50	304.6 350.3	308 33 24 332 23 56	128 34 08 152 24 20	Leighton..... Dover Point..	1870.5 1734.2	3.271947 3.239110
Newington railroad station, N.W. chimney (N. H.), 1908. ¹	43 07 02.86 70 49 18.13	88.3 409.9	190 31 28 277 00 32	10 31 33 97 00 53	Lcighton 2.... Upper Birch..	916.7 668.4	2.962238 2.825050
Passaconaway Inn cupola, 1908.	43 11 26.249 70 35 56.959	810.1 1286.2	115 45 08.2 215 58 44.7 217 05 54.0 347 42 29.4	295 41 18.2 34 06 08.6 37 13 02.2 167 42 48.0	Agamenticus... Stage Island... Goat Id. L. H. Cape Neddick Lighthouse.	8418.0 24814.7 23191.1 2881.8	3.925207 4.394709 4.367712 3.459656
Bald Head Cliff, Cliff House cupola, 1903. ¹	43 13 14.58 70 34 40.45	450.6 914.1	10 15 35 91 56 49	190 15 01 271 52 06	Cape Neddick Lighthouse. Agamenticus..	6258.9 9313.9	3.796496 3.969132
Gray barn cupola (N. H.), 1908. ¹	43 10 49.31 70 50 23.54	1521.7 531.7	118 28 37 207 40 52	298 27 50 27 44 24	Dover..... Ber.....	1753.3 6669.7	3.243850 3.824104
Ridge cupola, 1908. ¹	43 10 38.60 70 48 37.44	1191.2 845.6	29 42 58 106 30 49	209 41 47 286 28 50	Fort..... Dover.....	4727.5 4106.4	3.674635 3.613465
Yellow house flag-staff, 1908. ¹	43 10 18.04 70 48 24.04	556.7 543.0	37 19 13 113 01 34	217 17 52 292 59 25	Fort..... Dover.....	4364.9 4606.7	3.639975 3.663389
White flagstaff, 1908.	43 10 01.576 70 48 38.602	48.6 872.0	286 59 23.6 4 04 02.8 38 01 36.2 120 34 02.0	107 00 14.4 184 03 58.0 218 00 26.1 300 32 03.6	Frost..... School..... Fort..... Dover.....	1752.5 2256.1 3761.7 4542.1	3.243663 3.353349 3.575382 3.657259
Tank windmill (N. H.), 1908. ¹	43 09 59.16 70 50 32.57	1825.7 735.8	150 42 11 275 51 45	330 41 30 95 53 53	do..... Frost.....	2733.0 4273.0	3.436640 3.630734
Yellow cupola, horizontal stripes, 1908.	43 08 53.885 70 49 47.244	1662.9 1067.5	243 56 55.9 9 34 24.7 41 12 48.2	63 58 33.6 189 34 03.8 221 12 25.0	do..... Hill..... Fort.....	3501.6 4159.5 1162.7	3.555294 3.619046 3.065452
Pinkham's barn 2 gables (N. H.), 1908.	43 08 47.590 70 50 23.088	1468.6 521.7	324 55 58.9 356 17 56.2 358 15 38.9	144 56 48.4 176 17 57.5 178 15 42.5	Leighton 2.... Fort..... Hill.....	2847.2 681.8 3909.2	3.454419 2.833660 3.592083
School ventilator, 1908.	43 08 45.233 70 48 38.610	1395.9 872.5	123 25 54.3 140 01 52.1 184 18 44.3	303 25 49.4 319 59 53.6 4 19 06.8	School..... Dover..... Ber.....	191.5 6088.0 9760.4	2.282282 3.784474 3.989486
York village white church spire, 1908.	43 08 41.138 70 39 09.710	1269.5 219.4	58 59 15.4 100 02 32.6 158 39 20.9	238 49 30.2 279 56 54.2 338 37 39.0	Stratham..... Frost..... Agamenticus 2	22623.0 11349.8 9234.0	4.354551 4.054987 3.965388
York church spire, 1851.	43 08 41.032 70 39 09.841	1268.3 222.4	58 59 27.2 159 45 03.6 319 43 09.9	238 49 42.3 339 43 25.7 139 43 33.1	Stratham..... Agamenticus.. York.....	28475.4 9329.1 1188.0	4.454470 3.969839 3.074828
Barn cupola, double windows with green slats (N. H.), 1908.	43 08 10.819 70 50 15.788	333.9 356.8	0 57 32.5 100 16 13.9 165 05 25.0 240 09 47.5	180 57 31.1 280 15 03.1 345 05 21.3 60 10 49.1	Hill..... Went..... Fort..... School.....	2773.0 2377.4 470.2 2347.2	3.442957 3.376099 2.672238 3.370554

¹ No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PORTLAND TO PORTSMOUTH—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
Durham tall white spire (N. H.), 1850-1908.	43 07 58.894 70 55 22.882	1817.4 517.1	253 06 33.2 345 43 48.2 11 11 30 8	73 12 00.3 165 45 07.9 191 10 47.0	Frost..... Stratham..... Mark.....	11296.5 10709.7 7477.1	4.052944 4.028779 3.873734
Oyster River flag-staff (N. H.), 1908.	43 07 38.710 70 51 56.321	1194.6 1273.1	177 16 32.4 236 05 51.5 308 39 40.6	357 16 30.4 56 06 56.6 128 40 48.0	Went..... Fort..... Hill.....	1416.0 2501.6 2851.6	3.151052 3.413570 3.455081
Dover Point house cupola (N. H.), 1908. ¹	43 07 20.29 70 49 43.19	626.2 978.3	32 50 57 122 49 01	212 50 33 302 47 28do..... Went.....	1444.1 3660.0	3.159608 3.563480
Dover Point, red-top barn cupola (N. H.), 1908.	43 07 16.872 70 49 52.525	520.7 1187.4	27 19 25.1 126 05 44.3 163 01 46.9 289 37 29.3	207 19 07.8 306 04 17.6 343 01 27.3 109 38 12.9	Hill..... Went..... Fort..... Upper Birch.....	1247.0 3545.7 2215.6 1529.9	3.095857 3.549696 3.345495 3.184669
Dover Point, white flagstaff (N. H.), 1908.	43 07 23.139 70 49 43.806	714.1 990.3	249 46 25.2 299 37 20.2 30 35 58.5	69 46 47.8 119 37 57.8 210 35 35.2	Leighton 2..... Upper Birch..... Hill.....	797.0 1430.9 1511.8	2.901455 3.155618 3.179450
Fox Point windmill (N. H.), 1908.	43 07 13.184 70 51 26.219	406.8 592.8	161 14 54.4 213 22 09.8 302 44 07.6	341 14 31.8 33 22 54.3 122 44 54.4	Went..... Fort..... Hill.....	2325.5 2673.9 1837.9	3.366525 3.427143 3.264332
Draw signal pole, E. end of breakwater (N. H.), 1908.	43 07 11.557 70 49 31.454	356.6 711.1	48 01 02.6 216 31 00.3 289 56 12.3	228 00 30.9 36 31 14.5 109 58 41.5do..... Leighton 2..... Upper Birch.....	1410.9 787.5 1026.2	3.149503 2.896278 3.011215
Hill windmill (N. H.), 1908.	43 06 53.963 70 50 06.111	1665.3 138.2	33 29 02.0 137 32 31.9 226 47 42.5	213 28 54.0 317 31 14.5 46 48 20.4	Hill..... Went..... Leighton 2.....	480.7 3789.3 1717.7	2.681882 3.578564 3.234949
White barn cupola (N. H.), 1908.	43 06 53.701 70 52 34.177	1657.2 772.7	195 42 15.3 226 41 01.3 232 55 05.7	15 42 39.1 46 42 32.2 52 58 37.5	Went..... Fort..... Frost.....	2912.1 4132.2 6987.7	3.464199 3.616184 3.843089
D (N. H.) 1908 ¹	43 06 50.14 70 51 09.96	1547.3 225.2	223 21 04 283 29 33	43 23 38 103 30 09do..... Hill.....	7422.5 1211.7	3.870548 3.083411
Greensacre flagstaff, tall one, 1900.	43 06 42.362 70 47 47.127	1307.3 1065.5	69 42 39.5 109 57 48.6 143 47 15.4	249 42 20.3 289 57 09.3 323 46 55.6	Rollins..... Lower Birch..... Bluff.....	678.3 1383.0 1107.5	2.831421 3.140807 3.044351
Greensacre Hotel, W. chimney, 1900.	43 06 41.204 70 47 41.529	1271.6 939.0	329 48 20.3 75 20 43.0 127 51 08.0	149 48 46.2 255 20 20.0 307 50 16.4	Huntress..... Rollins..... House.....	1705.6 788.4 2163.4	3.231875 2.896768 3.335133
S. Eliot schoolhouse No. 7, flagstaff, 1900.	43 06 03.133 70 46 42.158	96.7 953.4	58 18 30.6 114 51 56.0 127 28 32.8	238 18 15.9 294 50 52.4 307 27 46.2	Huntress..... Rollins..... Greensacre.....	569.8 2320.3 1942.1	2.755754 3.365546 3.288264
Hill One (N. H.), 1908	43 06 28.200 70 50 24.335	870.2 550.3	28 30 56.8 149 07 58.1 181 08 30.5	208 28 52.6 329 06 53.2 1 08 32.7	Stratham..... Went..... Fort.....	8626.2 4183.1 3621.8	3.935822 3.621199 3.558328
Newington square church spire (N. H.), 1850-1908.	43 05 53.861 70 50 00.530	1662.1 12.0	35 32 16.7 68 21 03.0 150 00 27.9	215 29 56.2 248 16 39.0 329 59 06.7	Stratham..... Mark..... Went.....	8012.2 9408.6 5369.5	3.903751 3.973524 3.729392
B (N. H.), 1908 ¹	43 05 52.46 70 50 58.19	1618.9 1315.9	27 21 39 65 15 19	207 19 57 245 11 34	Stratham..... Mark.....	7293.0 8192.5	3.862906 3.913415
Elliot, H. E. Spinney's store, S. gable, 1900.	43 05 48.273 70 46 05.650	1489.7 127.8	329 04 37.5 345 59 38.9 348 04 29.1	149 04 44.2 165 59 44.1 168 04 33.0	Hurd..... Freeman..... Jones.....	432.4 715.8 620.5	2.635902 2.854894 2.792732
Pickering, D., barn, N. gable (N. H.), 1900. ¹	43 05 43.38 70 47 11.97	1338.7 270.7	154 10 01 231 53 53	334 09 35 51 54 08	Greensacre..... Boiling Rock..	1990.0 624.4	3.298862 2.795450

¹ No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PORTLAND TO PORTSMOUTH—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
Old wharf, W. corner spile (N. H.), 1900. ¹	43 05 35.67 70 46 16.21	1100.8 366.6	194 48 43 267 45 20	14 48 45 87 45 34	Cole..... Hurd.....	234.5 461.3	2.370182 2.663991
Boathouse (Mrs. Dickson's), S. gable, 1900. ¹	43 05 42.93 70 46 15.88	1324.9 359.1	80 28 32 104 11 42	260 28 16 284 11 22	Cutts..... Jake.....	504.7 677.2	2.703004 2.830720
North (N. H.), 1908..	43 05 26.578 70 51 38.360	820.2 867.6	23 16 20.8 68 03 18.0 175 04 31.0	203 15 07.1 248 00 00.9 355 04 16.7	Stratham..... Mark..... Went.....	6181.9 7041.6 5512.3	3.791125 3.847671 3.741329
Great Hill, 1842.....	43 05 23.633 70 45 21.818	729.4 493.5	339 22 39.5 63 01 56.4 67 49 01.5	159 23 15.3 242 56 25.6 247 48 00.4	Wentworth Height..... Stratham..... Poverty Height.....	3368.8 12304.0 2183.0	3.527471 4.090045 3.339053
S. chimney, house off Kittery Junction railroad station, 1900. ¹	43 05 19.04 70 45 33.75	587.6 763.4	110 43 31 116 25 45	290 43 15 296 25 27	Freeman..... Jones.....	586.3 662.6	2.768125 2.821279
Portsmouth paper mill, large chimney (N. H.), 1908. ¹	43 05 22.27 70 46 08.44	687.2 190.9	60 47 56 168 02 50	240 42 57 348 01 58	Stratham..... Frost.....	11353.6 8287.0	4.055132 3.918395
Portsmouth Electric Light and Power Works water tank, top (N. H.), 1900.	43 05 00.074 70 45 41.493	2.3 938.6	154 35 32.3 154 47 53.1 163 48 38.8	334 35 19.7 334 47 41.8 343 48 29.0	Jones..... Freeman..... Hurd.....	974.6 876.3 1162.5	2.988814 2.942634 3.065408
Portsmouth Navy Yard office building, flagstaff, 1900.	43 04 53.401 70 44 22.330	1648.0 505.1	121 07 35.7 286 22 48.2 294 56 11.0	301 07 11.8 106 24 35.2 114 57 25.7	Kittery Second Methodist Episcopal Church..... False..... Portsmouth Harbor L.H.	924.5 3694.8 2729.6	2.965887 3.567592 3.436099
Portsmouth Navy Yard derrick, flagstaff, 1900.	43 04 45.874 70 44 27.857	1415.7 630.2	136 49 18.9 282 26 27.2 289 27 20.7	316 48 58.8 102 28 18.0 109 28 39.2	Kittery Second Methodist Episcopal Church..... False..... Portsmouth Harbor L.H.	973.8 3758.1 2757.6	2.988482 3.574970 3.440535
Portsmouth, Franklin schoolhouse cupola (N. H.), 1900. ¹	43 04 48.35 70 46 06.78	1402.1 153.4	219 18 40 225 14 26	39 16 59 45 14 40	Bridge..... Toll.....	993.3 668.4	2.997083 2.825061
Portsmouth, St. John's Church spire (N. H.), 1900.	43 04 42.941 70 45 21.763	1325.2 492.3	214 37 54.0 260 30 33.1 278 21 29.2 290 50 20.9	34 38 10.7 80 32 39.5 98 23 56.8 110 53 05.9	Kittery Second Methodist Episcopal Church..... Pepperell..... False..... White Island..	973.0 4243.5 4942.0 5851.3	2.988125 3.627728 3.693899 3.767249
Portsmouth, North Church spire (N. H.), 1900.	43 04 36.435 70 45 29.961	1124.4 677.8	216 24 10.7 258 21 26.2 275 49 18.5 278 53 27.2	36 24 33.0 78 23 38.2 95 51 51.7 98 55 28.1	Kittery Second Methodist Episcopal Church..... Pepperell..... False..... Portsmouth Harbor L.H.	1244.2 4462.7 5101.3 4054.0	3.094897 3.649598 3.707677 3.607880
			288 23 53.3 69 04 13.5 146 28 35.8 164 48 29.3 197 54 43.9	108 26 43.9 248 58 48.3 326 28 06.8 344 47 11.0 17 57 22.1	White Island..... Stratham..... Paper..... Frost..... Agamemnonius 2	5958.5 11543.4 1733.0 9866.6 10976.0	3.775140 4.062332 3.238801 3.994169 4.229835

¹ No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PORTLAND TO PORTSMOUTH—Continued.

Station.	Latitude and longitude.	Sec- ond- s in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
Portsmouth N. a v y Yard prison, tall black chimney, 1908.	43 04 24.815 70 43 53.672	1074.4 1214.2	72 34 05.0 115 30 03.2 153 33 28.4	252 27 34.1 295 28 28.5 333 31 04.3	Stratham..... Paper..... Frost.....	13585.3 3473.3 10691.5	4.133068 3.540745 4.029038
Portsmouth brewery flagstaff, clocktow- er (N. H.), 1908.	43 04 10.145 70 46 15.508	313.1 350.9	71 13 46.3 171 25 58.5 181 51 19.6	251 08 52.3 351 25 11.4 1 51 21.8	Stratham..... Frost..... Paper.....	10298.4 10449.4 2257.1	4.012770 4.019091 3.383556
Portsmouth Catholic Church spire (N. H.), 1908.	43 04 22.523 70 45 50.642	665.1 1145.7	70 17 21.8 165 21 57.5 167 58 56.3 198 55 54.2 220 07 56.3	250 12 10.8 345 21 42.7 347 57 52.2 18 58 46.8 40 08 32.8	Stratham..... Paper..... Frost..... Agamenticus 2 Kittery, Sec- ond Metho- dist Episco- pal Church. Pepperell..... False.....	10655.5 1936.8 10174.0 17531.2 1871.4	4.039631 3.287091 4.007490 4.243811 3.272173
Portsmouth stand- pipe (N. H.), 1908. ¹	43 03 51.34 70 46 47.06	1584.3 1064.8	175 34 44 195 30 13	355 34 18 15 30 36	Frost..... Paper.....	10945.6 2943.4	4.039241 3.468856
Portsmouth & Exe- ter Electric Ry., large and high tank, 1908.	43 01 28.612 70 54 53.232	882.9 1205.2	358 08 22.3 155 44 28.4 229 47 21.5	178 08 24.0 335 43 24.4 49 48 20.9	Bunker..... Mark..... Stratham.....	1722.6 5165.1 2577.9	3.236183 3.713082 3.411266
Smith, John, barn cupola (N. H.), 1900. ¹	43 05 17.82 70 45 58.25	549.9 1317.5	185 30 27 327 18 36	5 30 29 147 18 45	Hurd..... Toll.....	571.3 521.6	2.756846 2.717340
Smith, John, house cupola (N. H.), 1900.	43 05 17.208 70 45 58.708	531.0 1327.9	186 19 49.4 285 15 23.0 325 10 53.7	6 19 51.4 105 15 36.5 145 11 02.5	Hurd..... Bridge..... Toll.....	591.3 462.6 511.5	2.771786 2.665202 2.708881
Kittery Point Bap- tist Church, yellow spire, 1898.	43 05 09.137 70 41 55.795	282.0 1262.1	320 00 16.4 13 45 54.4	149 03 37.2 193 45 19.3	Appledore..... Portsmouth Harbor, S.E. base.	12946.3 4881.3	4.112144 3.688536
Kittery Point Con- gregational Church spire, 1900. ¹	43 04 54.250 70 42 57.015	1674.2 1289.7	15 35 45.3 20 20 23.4	195 34 55.8 200 19 48.4	Pulpit Rock.. Terrace.....	6106.2 3333.9	3.785772 3.622654
Durham Point, barn cupola (N. H.), 1908. ¹	43 05 03.91 70 53 16.18	120.6 366.0	2 37 24 65 52 34	182 37 17 245 50 24	Stratham..... Mark.....	4985.0 4731.2	3.697665 3.674973
Parkfield Hotel cu- pola, 1900. ¹	43 04 58.50 70 42 17.52	1805.1 396.3	329 00 13 14 55 11	149 00 35 194 55 01	False..... Portsmouth Harbor L. H.	1400.2 1354.3	3.146182 3.131719
Apex, 1898 ¹	43 04 54.57 70 42 35.10	1683.8 794.0	313 57 28 357 38 01	133 58 02 177 38 03	False..... Portsmouth Harbor L. H.	1554.2 1188.3	3.191516 3.074940
Poverty Height (N. H.), 1842.	43 04 56.913 70 46 51.180	1756.3 1157.7	305 57 34.3 61 59 07.5	125 59 11.2 241 54 37.7	Wentworth Height. Stratham.....	3984.0 10130.2	3.598137 4.005619
Newmarket, SW. chimney (N. H.), 1908. ¹	43 04 48.12 70 56 08.09	1484.9 183.0	320 47 57 16 28 47	140 49 47 196 28 34do..... Mark.....	5796.0 1509.8	3.763127 3.178911
Newmarket, large high tank (N. H.), 1908. ¹	43 04 55.71 70 56 05.69	1719.1 128.7	322 37 58 16 00 38	142 39 47 198 00 24	Stratham..... Mark.....	5946.2 1750.0	3.774242 3.243026
Newmarket, NE. chimney (N. H.), 1908. ¹	43 04 52.82 70 56 01.40	1630.0 31.7	322 51 41 20 00 01	142 53 27 199 59 44	Stratham..... Mark.....	5816.5 1695.2	3.764665 3.239226

¹ No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PORTLAND TO PORTSMOUTH—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of distance.
<i>Supplementary points—Continued.</i>							
Newmarket High School, white cupola (N. H.), 1908.	43° 04' 44.037 70° 56' 18.660	1358.9 422.1	232 23 29.5 318 12 20.3 8 08 45.8	52 29 34.6 138 14 18.0 188 08 40.1	Frost..... Stratham..... Mark.....	Meters. 15235.1 6855.5 1335.4	4.182846 3.767565 3.125610
Boathouse, southwest gable (N. H.) 1908. ¹	43° 04' 53.23 70° 51' 53.14	1642.6 1202.1	24 23 11 75 29 56	204 22 07 255 26 49	Stratham..... Mark.....	5105.5 6400.9	3.708037 3.806242
Newington windmill, white square base (N. H.), 1908.	43° 04' 45.802 70° 51' 28.793	1410.0 651.3	31 02 49.6 78 31 33.6 174 10 16.9	211 01 29.4 258 28 10.0 354 09 56.1	Stratham..... Mark..... Went.....	5155.8 6885.4 6788.7	3.712297 3.837932 3.831787
Champernowne Hotel, cupola, 1898-1900.	43° 04' 47.284 70° 42' 46.519	1459.3 1062.5	301 48 12.4 318 35 33.7 0 11 18.6	121 48 54.0 138 36 32.7 180 11 18.2	False..... White Island..... Portsmouth Harbor, SE. base.	1620.5 2956.5 4066.8	3.209638 3.470783 3.609253
Salamander Point (N. H.), 1892. ¹	43° 04' 24.49 70° 42' 59.84	755.7 1353.8	115 03 52 194 32 37	295 03 32 14 32 42	Clark Island 1..... Kittery Point.....	719.0 641.0	2.856775 2.806868
Woodmans Point, (N. H.), 1851.	43° 04' 24.484 70° 51' 35.258	755.5 797.7	33 44 04.1 100 51 56.8 121 15 58.4 175 47 22.3	213 42 48.3 280 38 05.9 301 14 34.1 357 45 06.8	Stratham..... Patuccawa..... Durham..... Wentworth.....	4524.6 27992.8 3270.0 7432.9	3.655584 4.447046 3.514549 3.871157
Point (N. H.), 1908. ¹	43° 04' 17.407 70° 51' 43.262	537.2 978.7	33 20 13.1 85 34 21.9 177 16 45.4	213 19 02.8 265 31 08.1 357 16 34.5	Stratham..... Mark..... Went.....	4242.5 6439.7 7635.1	3.627626 3.808863 3.882812
New Castle windmill, 2 tanks (N. H.), 1900. ¹	43° 04' 20.58 70° 43' 40.38	635.1 913.5	233 43 35 275 11 01	53 44 33 95 11 47	Pepperell..... Portsmouth Harbor L. H.	2347.0 1532.3	3.370517 3.185332
New Castle church spire (N. H.), 1900.	43° 04' 16.644 70° 43' 00.781	513.5 17.7	213 25 16.3 266 54 54.6 271 32 33.7	33 25 46.4 86 55 45.9 91 32 52.7	Pepperell..... False..... Portsmouth Harbor L. H.	1809.2 1702.3 630.2	3.257484 3.231037 2.799567
Portsmouth Harbor L. H., 1878-1900.	43° 04' 16.093 70° 42' 32.931	496.6 745.1	348 18 21.5 10 41 09.5 12 04 19.8	168 18 30.9 190 40 45.3 192 04 10.2	Terrace..... Pulpit Rock..... Terrace.....	1538.1 4319.5 1522.8	3.186978 3.635435 3.182653
Two (N. H.), 1908 ¹ .	43° 04' 13.14 70° 55' 45.99	405.5 1040.5	317 10 29 68 21 12	137 12 04 248 20 44	Stratham..... Mark.....	4652.9 990.0	3.667720 2.999545
Yellow barn cupola (N. H.), 1908. ¹	43° 04' 37.58 70° 55' 00.04	1159.7 0.9	333 00 13 60 18 18	153 01 17 240 17 19	Stratham..... Mark.....	4676.6 2265.6	3.669928 3.355177
Jones, Frank, stand-pipe (N. H.), 1908.	43° 03' 59.512 70° 49' 08.429	1836.5 190.7	62 52 23.0 90 20 33.2 154 43 43.1	242 49 27.0 270 15 33.7 334 41 46.4	Stratham..... Mark..... Went.....	6557.8 9923.9 9045.5	3.816756 3.996684 3.956432
White Point tower, 1908.	43° 03' 58.016 70° 41' 16.188	1790.3 366.3	111 28 00.1 142 10 05.5 178 19 37.2	291 24 37.9 322 05 53.9 358 19 21.9	Paper..... Frost..... Agamemnon 2	7196.1 13562.7 17344.1	3.857096 4.132245 4.239153
Marsh (N. H.), 1908 ¹ .	43° 03' 52.11 70° 54' 44.46	1608.1 1005.9	327 21 39 96 54 19	147 22 32 276 53 09	Stratham..... Mark.....	3282.2 2337.5	3.516160 3.368746
One (N. H.), 1908 ¹ .	43° 03' 46.26 70° 55' 28.11	1427.6 636.0	313 07 29 109 04 39	133 08 52 289 03 59	Stratham..... Mark.....	3779.0 1410.5	3.577377 3.149367
Wentworth Hotel, highest cupola old building (N. H.), 1898.	43° 03' 35.742 70° 43' 35.848	1102.9 811.3	270 10 29.1 312 35 34.7 329 18 49.7	90 12 01.8 132 40 03.8 149 19 23.0	White Island..... Apedore..... Portsmouth Harbor, SE. base.	3071.7 12135.2 2161.7	3.487385 4.084047 3.334791

¹ No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PORTLAND TO PORTSMOUTH—Continued.

Station.	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of dis- tance.
<i>Supplementary points—Continued.</i>							
Whaleback Light- house (new), 1878– 1898.	43 03 31.794 70 41 48.570	981.2 1099.3	22 06 12.5 37 20 09.7	212 05 18.0 217 19 29.7	Pulpit Rock... Portsmouth Harbor, SE. base.	Meters. 3396.8 2184.8	3. 531072 3. 339412
Newmarket (N. H.), 1850.	43 03 24.095 70 56 21.984	743.6 497.5	108 42 55.00 225 56 02.58 227 13 44.32 265 30 53.06	288 32 20.15 46 02 10.20 47 23 52.26 115 32 53.02	Patuocawa... Frost Hill... Agamanticus... Stratham....	22181.97 10616.55 27334.11 4407.52	4. 3460001 4. 2283119 4. 4867050 3. 6441939
Frost Point 2 (N. H.) 1898.	43 03 10.982 70 43 10.873	338.9 246.1	253 14 53.6 333 50 19.0	73 16 09.2 153 50 35.2	White Island... Portsmouth Harbor, SE. base.	2617.7 1220.0	3. 41792 3. 09834
Odiorne's Point, cupola Eastman's house (N. H.), 1898.	43 02 34.14 70 42 48.05	1053.6 1087.6	159 17 46 226 27 38	339 17 24 46 28 38	New Castle 2... White Island..	2079.3 2745.3	3. 317916 3. 438850
Silo (N. H.), 1908 ¹ ...	43 02 33.88 70 55 48.68	1045.5 1101.9	162 09 10 276 11 10	342 08 44 96 12 47	Mark..... Stratham....	2830.8 3242.7	3. 451911 3. 510904
School flagstaff, near Stratham (N. H.), 1908.	43 02 22.758 70 54 02.989	702.3 67.7	17 41 19.9 132 58 45.9 270 28 15.8	197 40 47.3 312 58 07.6 90 28 40.9	Bunker..... Mark..... Stratham....	3560.9 4455.8 831.4	3. 551554 3. 648924 2. 919804
Greenland Orthodox tall church spire (N. H.), 1850–1908.	43 02 12.508 70 50 01.952	386.0 44.2	64 50 02.9 93 50 49.8 221 25 12.8	244 46 45.8 273 48 30.4 41 27 49.7	Bunker..... Stratham.... Paper.....	7226.8 4035.3 7852.1	3. 858947 3. 066076 3. 894986
Greenland Academy dome spire (N. H.), 1850–1908.	43 02 01.817 70 50 02.640	56.1 59.8	67 11 52.7 97 54 57.3 167 25 00.9	247 08 36.1 277 52 38.4 347 23 41.4	Bunker..... Stratham.... Went.....	7078.5 4653.6 12101.8	3. 849939 3. 667790 4. 082850
Newfields Universal- ist Church spire, tall and slender (N. H.), 1908.	43 02 11.610 70 56 28.343	358.3 641.6	180 30 21.3 265 18 24.8 324 03 28.6	0 30 22.2 85 20 29.1 144 04 35.2	Mark..... Stratham.... Bunker.....	3382.0 4135.5 3765.0	3. 529170 3. 616529 3. 575770
Newfields foundry chimney (N. H.), 1908. ¹	43 02 05.91 70 56 19.29	182.4 436.7	262 31 14 325 05 01	82 33 12 145 06 01	Stratham.... Bunker.....	3950.4 3502.9	3. 596639 3. 544422
Newfields M. E. church spire (N. H.), 1908. ¹	43 02 06.41 70 56 40.12	197.8 908.2	263 30 39 319 22 41	83 32 52 139 23 56	Stratham.... Bunker.....	4416.7 3804.2	3. 645094 3. 580868
Stratham square church spire (N. H.), 1908.	43 01 40.359 70 54 40.198	1245.5 910.1	6 32 55.1 150 55 21.8 232 07 32.0	186 32 47.9 330 54 08.9 52 08 22.5	do..... Mark..... Stratham....	2097.9 4973.5 2120.3	3. 321783 3. 696659 3. 326388
Stratham tall church spire (N. H.), 1908.	43 01 05.548 70 55 05.887	171.2 133.3	161 17 25.9 223 30 14.0 341 15 54.9	341 16 30.5 43 31 22.0 161 16 05.2	Mark..... Stratham.... Bunker.....	5723.1 3275.9 1066.5	3. 757633 3. 515331 3. 027945
Willis Sands Life- Saving Station cu- pola (N. H.), 1898.	43 01 20.681 70 43 58.424	638.2 1322.9	220 44 39.7 224 09 21.9 293 10 50.0	40 46 27.7 44 09 56.1 113 15 34.3	White Island... Pulpit Rock... Appledore....	5489.1 1628.6 10274.7	3. 739600 3. 211819 4. 011770
Ocean Wave Hotel cupola (N. H.), 1898.	43 00 50.069 70 44 09.306	1545.2 210.8	213 09 48.1 216 52 44.5 287 44 03.8	33 10 29.7 36 54 39.9 107 48 55.5	Pulpit Rock... White Island... Appledore....	2524.3 6380.1 10175.3	3. 402143 3. 804928 4. 007547
Rye Baptist Church (N. H.), 1850.	43 00 44.518 70 46 23.509	1373.8 532.4	269 09 41.0 322 32 47.1 351 56 40.8	89 11 04.4 142 33 39.5 171 56 58.7	Foss..... Locks Point... Jennis Ledge..	2768.1 2863.1 4247.8	3. 442180 3. 468329 3. 628164

1 No check on this position.

GEOGRAPHIC POSITIONS—Continued.

PORTLAND TO PORTSMOUTH—Continued.

Station,	Latitude and longitude.	Sec- onds in me- ters.	Azimuth.	Back azimuth.	To station.	Dis- tance.	Loga- rithm of dis- tance.
<i>Supplementary points—Continued.</i>							
Rye Orthodox Church spire (N. H.), 1850.	43 00 40.327 70 46 24.559	1244.5 556.2	266 31 07.8 320 32 00.6 351 21 55.1	86 32 31.9 140 32 53.7 171 22 13.8	Foss..... Locks Point..... Jennis Ledge.....	2796.7 2776.6 4123.3	3.446653 3.443512 3.615248
Ryecall church spire (N. H.), 1908.	43 00 40.332 70 46 24.573	1244.6 556.5	108 19 10.7 114 30 00.7 181 49 28.6	288 14 23.0 294 23 09.6 1 49 37.0	Stratham..... Mark..... Paper.....	10055.1 14980.0 8735.0	4.002387 4.175511 3.941262
Duck Island Beacon, 1898.	43 00 17.804 70 36 16.764	549.4 379.7	108 29 12.6 115 42 48.2	288 24 31.8 295 38 21.9	Pulpit Rock..... Portsmouth Harbor, S.E. base..... White Island..	9823.9 9806.6	3.992283 3.991518
Appledore Hotel cupola, 1898. ¹	42 59 20.64 70 38 56.34	636.9 1276.3	120 04 53 142 48 16	300 00 39 322 45 16	Pulpit Rock..... White Island..	9731.6 9873.0	3.988183 3.994449
Appledore flagstaff, 1888. ¹	42 59 14.30 70 38 50.90	441.2 1153.1	120 42 09 142 55 09	300 37 51 322 52 05	Pulpit Rock..... White Island..	9937.1 10103.6	3.997258 4.004474
Appledore windmill 1888. ¹	42 59 07.99 70 38 58.06	264.5 1315.4	122 08 59 144 18 35	302 04 46 324 15 36	Pulpit Rock..... White Island..	9900.0 10163.9	3.985636 4.007062
Exeter standpipe (N. H.), 1908.	42 58 59.732 70 56 15.812	1843.2 358.3	178 01 19.0 211 30 54.9	358 01 14.9 31 32 50.6	A..... Stratham..... Bunker.....	3903.4 7342.3 3458.8	3.561438 3.865833 3.58926
Exeter courthouse (N. H.), 1908.	42 58 51.48 70 56 51.22	1588.6 1160.5	189 07 06 215 27 27	9 07 26 35 29 47	A..... Stratham..... Bunker.....	4200.0 7997.7 4150.3	3.624175 3.802966 3.818083
Exeter First Church spire (N. H.), 1908. ¹	42 58 50.43 70 56 52.55	1556.2 1190.6	189 27 06 215 29 57	9 27 27 35 32 18	A..... Stratham..... Bunker.....	4245.7 8041.6 4194.6	3.627950 3.905342 3.822686
Exeter Academy spire (N. H.), 1908. ¹	42 58 48.62 70 57 05.30	1500.4 120.1	193 04 35 223 27 03	13 05 05 43 28 35	A..... Bunker.....	4357.1 4430.4	3.639199 3.846438
Exeter Seminary ball spire (N. H.), 1908. ¹	42 58 47.87 70 57 19.96	1477.2 452.3	218 36 07 226 12 29	38 38 47 46 14 11	Stratham..... Bunker.....	8479.0 4681.0	3.928345 3.870336
Exeter tall chimney (N. H.), 1908. ¹	42 58 46.90 70 57 39.14	1447.3 886.8	220 41 34 229 23 21	40 44 27 49 25 16	Stratham..... Bunker.....	8770.3 5023.1	3.943461 3.700969
Smutty nose Island.. 1861.	42 58 58.672 70 36 13.103	1810.6 296.9	105 08 49.6 120 40 27.0	284 57 04.8 300 40 01.7	Stratham..... Isles of Shoals..... Agamenticus..	24228.6 979.4 27684.1	4.384329 2.990965 4.442230
Star Island Hotel, flagstaff (N. H.), 1898. ¹	42 58 37.83 70 36 54.76	1167.3 1241.0	126 14 33 146 49 44	306 10 18 326 46 43	Pulpit Rock..... White Island..	10485.4 10974.2	4.020587 4.040374
Star Island church spire (N. H.), 1851. ¹	42 58 35.40 70 36 52.10	1092.4 1180.5	107 23 06 181 56 05	287 11 48 1 56 06	Stratham..... Isles of Shoals..	23581.4 1218.3	4.372570 3.085763
Star Island (N. H.), 1851.	42 58 30.857 70 36 47.699	952.2 1080.9	107 38 14.7 136 46 22.4	287 26 53.6 316 41 54.4	Stratham..... Newcastle..... Agamenticus..	23718.8 12977.6 28325.3	4.375092 4.113196 4.452174

¹ No check on this position.

For the convenience of the draftsmen of this office there are given the following unadjusted positions of stations which are lost or for some reason have no value except for the coordination of the old work:

TABLE OF POSITIONS OF LOST POINTS.

PASSAMAQUODDY BAY AND ST. CROIX RIVER.

Station.	Latitude and longitude.	Seconds in meters.	Station.	Latitude and longitude.	Seconds in meters.
Thornton, flag, 1862.....	44° 37' 35.44" 67° 16' 45.12"	1083.9 994.6	Pole on hill, 1861.....	44° 52' 34.56" 67° 01' 13.50"	1066.8 296.3
Fish house, west gable, 1887.	44° 44' 41.58" 66° 50' 35.25"	1283.5 775.5	Herring Cove, flag, 1860....	44° 52' 37.77" 66° 54' 56.56"	1166.2 1241.5
Bishop (N. B.), 1861.....	44° 47' 56.95" 66° 48' 49.53"	1757.8 1088.6	Clark 2, flag, 1886.....	44° 52' 38.40" 67° 02' 23.86"	1185.3 523.7
Bells Mountain, 1886.....	44° 49' 25.89" 67° 09' 53.54"	799.1 1176.3	Treat, 1860.....	44° 52' 44.32" 66° 50' 25.92"	1368.1 568.9
Owen, 1861.....	44° 49' 51.06" 66° 55' 40.36"	1576.2 886.6	Fall Island, flag, 1886....	44° 52' 55.28" 67° 07' 25.61"	1706.4 562.0
Front flag, Quoddy Range, 1893.	44° 49' 56.14" 66° 59' 27.62"	1732.9 606.7	Lincolns Ledge, flag, 1887.	44° 53' 22.63" 67° 13' 22.63"	698.6 496.6
Liberty Point, flag, 1860....	44° 49' 56.91" 66° 55' 55.71"	1756.8 1223.7	Seward's Neck, tall pine, 1860.	44° 53' 24.31" 67° 02' 59.22"	750.4 1299.5
Back flag, Quoddy Range, 1893.	44° 49' 57.37" 66° 59' 38.06"	1770.9 836.0	Lincoln's summer house, 1887.	44° 53' 32.12" 67° 10' 59.05"	991.5 1285.6
Woodwards Point, 1860....	44° 50' 13.18" 66° 59' 22.88"	406.9 502.5	Shackford, 1861.....	44° 54' 01.72" 67° 01' 00.44"	53.1 9.7
Lubec Narrows Beacon, 1886.	44° 50' 21.74" 66° 58' 31.24"	671.2 686.1	Allan's pine, flag, 1887....	44° 54' 09.50" 67° 15' 47.32"	203.3 1038.1
Tall pine, 1860.....	44° 51' 07.64" 67° 04' 01.94"	235.9 42.6	Gould's house, 1860.....	44° 54' 11.91" 67° 03' 33.70"	367.7 739.3
Bushy top tree, 1860.....	44° 50' 20.70" 67° 04' 00.76"	639.0 16.7	Fort Sullivan flagstaff, 1861.	44° 54' 26.40" 66° 58' 17.76"	815.0 389.6
Mortons Lookout, 1886....	44° 51' 14.89" 67° 01' 02.64"	459.6 58.0	Everett, flag, 1887.....	44° 54' 37.06" 67° 07' 56.22"	1144.0 1233.3
Black flag, 1886.....	44° 51' 33.46" 67° 03' 32.15"	1032.9 705.9	Red Island, flag, 1860....	44° 54' 45.34" 67° 04' 57.52"	1399.6 1261.7
Signal flagstaff, 1860.....	44° 51' 41.10" 66° 59' 18.08"	1288.7 396.9	Marval, 1860.....	44° 55' 14.22" 66° 58' 13.65"	439.0 299.3
Mahais Spruce, flag, 1886..	44° 52' 01.33" 67° 08' 23.16"	41.1 508.5	Prince Regent's Monu- ment, 1893.	44° 55' 16.61" 67° 00' 30.40"	512.7 666.9
Hay Island, flag, 1886....	44° 52' 02.95" 67° 03' 32.14"	91.1 705.6	Moses's house, W. chim- ney, 1861.	44° 55' 24.94" 66° 57' 58.95"	769.8 1292.9
Mark Island, flag, 1861....	44° 52' 05.90" 66° 59' 05.51"	182.1 121.0	Campobello Id. (B), 1861.	44° 54' 09.16" 66° 57' 24.95"	282.8 547.4
Popes Folly Monument, 1893.	44° 52' 08.28" 66° 59' 04.08"	255.5 89.7	Thumbeap Monument, 1893.	44° 55' 26.67" 66° 57' 58.57"	823.3 1284.5
Lizard Signal, 1860.....	44° 52' 20.11" 66° 59' 34.32"	620.8 753.4	Nipps Island, 1887.....	44° 55' 34.485" 67° 03' 10.257"	1064.5 224.9
Herring Cove (White Rock), 1860.	44° 52' 32.04" 66° 54' 50.29"	989.0 1103.9	Coggins Head, flag, 1887....	44° 55' 43.84" 67° 08' 22.99"	1353.3 504.2
Friars Head (N. B.), 1893.	44° 52' 34.54" 66° 58' 20.35"	1066.3 446.8	Fishes, flag, 1887.....	44° 55' 48.24" 67° 10' 12.45"	1489.1 273.0
Friars Head (N. B.), 1860..	44° 52' 34.824" 66° 58' 20.561"	1075.0 451.3	Kendall Head Monument, 1893.	44° 56' 07.97" 67° 01' 16.16"	246.0 354.4

TABLE OF POSITIONS OF LOST POINTS—Continued.
PASSAMAQUODDY BAY AND ST. CROIX RIVER—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Station.	Latitude and longitude.	Seconds in meters.
Fox, flag, 1887.....	44° 56' 09.64 67° 03' 48.82	297.6 1070.5	Perry, fish house, S. ga- ble, 1863.	44° 59' 17.10 67° 03' 23.38	527.8 512.2
Rogers, flag, 1887.....	44° 56' 30.11 67° 06' 56.00	929.5 1229.8	Gardners Pt., flag, 1863.....	44° 59' 17.44 67° 00' 32.44	538.4 710.7
McMahon's Pine, flag, 1887.....	44° 56' 51.23 67° 06' 27.52	1581.4 603.3	Hospital Island, 1860.....	44° 59' 20.58 66° 54' 54.40	635.3 1191.7
Hannabury, tree, 1860....	44° 56' 32.71 66° 55' 10.48	1009.7 229.8	Nubble, 1860.....	44° 59' 35.36 66° 54' 23.96	1001.5 524.9
Carlow Island Monument, 1863.....	44° 56' 39.03 67° 02' 02.73	1204.8 59.9	Mink, flag, 1863.....	44° 59' 28.18 66° 56' 10.44	869.9 228.7
Ox Pasture, flag, 1887....	44° 56' 38.50 67° 05' 06.41	1188.4 140.5	Mowe, flag, 1863.....	44° 59' 38.56 66° 57' 14.52	1128.6 318.0
Johnnie, 1861.....	44° 56' 39.34 66° 55' 44.69	1214.4 979.8	Higgins, flag, 1863.....	44° 59' 53.51 66° 56' 10.28	1651.9 225.1
Popes Folly, 1861.....	44° 56' 41.55 66° 57' 12.45	1282.6 272.9	Simpson, flag, 1863.....	44° 59' 57.01 66° 54' 52.20	1759.8 1143.3
Green Island, 1861.....	44° 56' 57.29 66° 56' 39.74	1768.5 871.2	Barns, flag, 1863.....	45° 00' 10.88 66° 54' 03.23	335.9 70.7
Beech, flag, 1860.....	44° 57' 00.21 66° 59' 02.29	6.5 50.2	Adam, 1863.....	45° 00' 49.79 66° 54' 26.81	1537.1 587.0
Perry Pigeon, 1860.....	44° 57' 06.49 67° 03' 36.59	200.3 802.2	Whitehead (Admiral Owens), 1860.	45° 01' 22.54 66° 51' 53.92	695.8 1180.5
Herring, 1860.....	44° 57' 08.05 66° 54' 58.97	248.5 292.7	West Bliss, flag, 1863.....	45° 01' 28.65 66° 50' 49.42	884.4 1081.9
Casco Island, flag, 1860....	44° 57' 15.79 66° 56' 10.68	487.5 234.1	Perry, white house on point, chimney, 1863.	45° 01' 44.87 67° 05' 15.36	1385.2 336.3
Casco Id., E. end, 1860....	44° 57' 25.44 66° 55' 44.29	785.3 970.8	Parker, flag, 1863.....	45° 01' 51.60 66° 55' 07.84	1592.9 171.6
Owens, flag, 1887.....	44° 57' 16.99 67° 11' 33.59	524.5 736.3	East Bliss, flag, 1863.....	45° 02' 04.28 66° 49' 37.06	132.1 811.1
Pleasant Pt. flagstaff, 1863	44° 57' 27.42 67° 02' 28.12	846.3 616.3	Mascabin, 1863.....	45° 02' 20.11 66° 53' 28.59	620.7 625.8
Pleasant Point, 1893.....	44° 57' 32.36 67° 02' 42.36	998.9 928.4	Pea Point, flag, 1863.....	45° 02' 31.68 66° 48' 14.94	978.0 327.0
Clam Cove, flag, 1860....	44° 57' 58.61 67° 01' 09.12	1809.2 199.9	Deadman Head, flag, 1863.....	45° 02' 31.80 66° 46' 55.57	981.7 1216.3
Oak Head, flag, 1863.....	44° 58' 19.13 67° 01' 15.30	590.5 335.3	Macmaster, flag, 1863.....	45° 02' 42.20 66° 55' 58.63	1302.7 1283.0
Sand Id., house chimney, 1860.....	44° 58' 22.13 66° 54' 51.40	683.1 1126.3	Cailiff flag, 1863.....	45° 02' 55.16 66° 50' 17.22	1702.8 376.8
Spruce Id., S. end, 1860....	44° 58' 11.14 66° 54' 39.32	343.9 861.7	St. Andrews flagstaff.....	45° 04' 50.27 67° 03' 13.53	1551.9 296.0
Spruce Id., N. end, 1860..	44° 58' 30.57 66° 54' 18.55	943.7 406.5	Flag at outer end of wharf (U. S. and C. B. S.), 1909.	45° 04' 56.13 67° 05' 07.16	1732.8 156.7
Gleason's Hotel chimney, 1887.....	44° 58' 26.74 67° 03' 16.09	825.4 352.6	Clarks Point flagstaff, 1863.	45° 05' 23.59 66° 55' 18.09	728.2 395.6
Tinkers Id., flag, 1860....	44° 58' 29.59 66° 55' 26.43	913.4 579.1	Minister Island, barn, west end.	45° 06' 16.02 67° 02' 34.98	494.6 764.7
White Id. Ledge, 1861....	44° 58' 55.41 66° 54' 09.73	1710.5 212.3	Eye, 1866.....	45° 07' 22.12 67° 09' 46.88	682.8 1024.6
Spectacle Id., flag, 1860....	44° 59' 10.29 66° 55' 04.35	317.7 95.3	Devils Head, 1866.....	45° 09' 13.07 67° 09' 44.26	403.6 966.9

TABLE OF POSITIONS OF LOST POINTS—Continued.

PASSAMAQUODDY BAY AND ST. CROIX RIVER—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Station.	Latitude and longitude.	Seconds in meters.
Birch, two-hundred-foot hill, 1866.	45 09 23.44 67 14 33.06	723.6 722.2	Todd (N. B.), 1866.....	45 10 19.92 67 18 53.55	615.0 1169.4
Flag on crib, 1909.....	45 10 05.40 67 17 55.43	166.6 1210.5	Plaster Point, flag, 1866...	45 10 30.41 67 09 45.04	988.8 983.5
Ravens Head, flag, 1866..	45 10 05.50 67 10 40.62	169.8 887.1	Sinclair (N. B.), 1866.....	45 10 58.50 67 14 03.26	1806.2 71.2
Breakwater, flag, 1866....	45 10 09.14 67 12 27.52	282.2 601.0	Smarts Mt., flag, 1866....	45 12 03.44 67 09 18.08	106.2 394.6

EAST OF MOUNT DESERT.

Crane, 1886.....	44 46 30.72 67 10 24.73	948.1 543.7	Head Harbor, flag, 1862...	44 30 40.35 67 33 28.43	1245.5 627.9
Whiting, flagstaff, 1886....	44 47 22.44 67 10 29.44	692.8 647.2	Doyle, flag, 1862.....	44 31 48.66 67 38 51.41	1502.0 1135.2
Bell, 1863.....	44 46 32.92 67 17 03.88	1016.1 85.2	Halls Hill, flagstaff, 1862..	44 35 08.08 67 39 11.20	249.4 247.1
Ellicott, 1885.....	44 35 50.36 67 18 32.43	1554.5 716.8	Cove, flag in tree, 1890....	45 36 33.46 67 39 18.83	1033.1 408.0
Cross, flag, 1862.....	44 36 17.57 67 18 31.69	542.3 688.8	Hardwood, flag, 1862.....	44 30 48.10 67 39 39.35	1484.7 869.2
Sprague, 1882.....	44 39 30.10 67 19 32.83	929.2 723.4	Stevens, flag, 1862.....	44 20 24.79 67 40 04.38	765.2 96.8
Sprague, flag, 1862.....	44 39 29.35 67 19 35.06	905.9 772.5	Outer Sand, flag, 1862....	44 27 45.26 67 40 25.81	1397.0 570.6
Libby Islands, northernmost one, house chimney, 1862.	44 34 58.03 67 21 18.76	1791.2 413.9	Chandler, flag, 1862.....	44 32 22.81 67 40 48.01	704.1 1050.9
Machiasport schoolhouse, 1862.	44 41 50.72 67 23 51.79	1565.6 1140.4	Cape Split Harbor, white house chimney, 1861.	44 32 02.58 67 42 29.76	79.6 657.1
Hoyt's larch, 1885.....	44 43 04.22 67 25 35.81	130.3 788.2	Cape Split, flag, 1861.....	44 29 55.00 67 44 35.50	1697.7 784.3
Red, 1885.....	44 41 41.23 67 25 44.65	1272.6 983.1	Otter Cove, 1881.....	44 30 11.53 67 43 19.78	355.9 436.9
Libbys Head, 1885.....	44 42 48.25 67 25 29.22	1489.3 643.2	Wooster's, Charles, house chimney, 1862.	44 34 44.36 67 45 41.67	1369.3 919.3
The Brothers, 1862.....	44 33 25.12 67 26 11.66	775.4 257.3	Addison Pt., west of, easternmost of 3 trees, 1862.	44 37 02.36 67 45 18.02	72.8 397.3
Meserves Head, 1885.....	44 42 52.51 67 26 13.12	1620.8 288.8	Red, white and black flag, 1891.	45 54 05.00 67 46 07.90	154.4 170.3
Haleys Point, 1890.....	45 36 05.72 67 27 48.07	176.6 1041.8	Cropley's house chimney (N. B.), 1890.	45 48 44.42 67 46 22.55	1371.4 486.9
Shaws Ridge, tree, 1888...	45 35 48.43 67 27 50.25	1495.2 1089.2	Mitchell, flag, 1861.....	44 34 00.14 67 46 59.62	4.3 1315.7
Shoppe, flag, 1862.....	44 37 20.02 67 29 20.74	618.0 457.2	Ripley, flag, 1861.....	44 31 34.53 67 47 56.60	1065.8 1248.8
Gatchell's pine, 1885.....	44 43 35.90 67 29 44.23	1108.1 973.4	Flint, flag, 1861.....	44 28 39.21 67 47 11.96	1210.3 264.3
Great spruce, flag, 1862...	44 33 32.07 67 29 46.41	989.9 1024.3	Bubar, 1890.....	45 48 54.92 67 48 17.27	1695.5 372.9
Lee, flag in tree (N. B.), 1890.	45 38 54.58 67 31 33.21	1685.1 719.1	Harrington Church, 1861..	44 37 12.95 67 48 27.84	399.8 613.8

TABLE OF POSITIONS OF LOST POINTS—Continued.

EAST OF MOUNT DESERT—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Station.	Latitude and longitude.	Seconds in meters.
Clump, flag, 1861.....	44 34 14.74 67 48 33.73	455.0 744.3	Dyer Bay, head of, house chimney, 1861.	44 29 28.11 67 54 46.72	867.7 1032.3
White Horse, 1890.....	45 42 08.31 67 48 57.68	256.6 1247.8	Petit, flag, 1861.....	44 23 43.98 67 54 01.80	1357.5 39.8
Jordan's Delight, flag, 1861.	44 26 35.60 67 49 29.18	1098.9 645.2	Two-story house, ends painted red, chimney, 1861.	44 28 24.76 67 55 36.77	764.3 812.7
Trafton, flag, 1861.....	44 29 22.32 67 49 37.08	688.9 819.4	Spoon, flag, 1861.....	44 26 46.98 67 57 28.12	1450.1 621.8
Pond Island, north end, white house, north chimney, 1861.	44 27 50.76 67 50 20.35	1566.8 449.9	Jordon, pole in spruce, 1860	44 24 57.47 68 07 55.03	1773.8 1217.4
Dismal Hill, tree, 1889.....	45 47 37.30 67 51 28.60	1151.5 617.6	Stave, pole with flag in spruce, 1860.....	44 26 17.69 68 08 27.06	546.1 598.4
Dark brown house, east side of bay, chimney, 1861.	44 27 11.53 67 52 14.17	355.9 313.3	Long, flag in spruce, 1860.....	44 24 06.31 68 10 00.60	194.7 13.3
Pigeon Hill Bay, east side of, 2-story house chimney, 1861.	44 27 59.13 67 52 15.51	1825.2 342.8	Twice, pole in spruce, 1860	44 28 05.13 68 11 22.67	158.2 501.0
Pinkham, flag, 1861.....	44 28 33.12 67 54 22.98	1022.3 507.9	Burnt, pole in tree, 1860....	44 23 58.98 68 11 35.72	1820.6 790.4
Dyer Bay, east side of, un- painted house, chim- ney, 1861.	44 25 13.85 67 54 43.25	427.5 956.7	Little Cranberry Island, flag in tree, 1870.	44 15 41.87 68 13 44.72	1292.5 992.0
			Crabtree, 1865.....	44 28 02.31 68 13 44.76	71.4 989.5

MOUNT DESERT TO PENOBSQUIT BAY.

Little Duck Id., flag in tree, 1870	44 10 30.43 68 14 46.67	939.3 1036.8	Stanley, 1875.....	44 07 54.35 68 25 20.57	1677.5 457.2
Buttons Id., flag on barn, 1870.	44 16 25.01 68 15 56.43	772.0 1251.6	Swan Island, 1861.....	44 09 45.40 68 25 22.20	1401.1 493.1
Bear Island L. H., 1870...	44 17 00.71 68 16 13.84	22.0 306.9	Ship Id. barn, N.E. gable, 1863.	44 14 06.89 68 26 29.27	212.6 649.7
Dog Mtn., small pole, 1870.	44 18 36.42 68 19 24.69	1124.2 547.2	Stewart, 1875.....	44 09 45.17 68 28 19.62	1394.4 436.0
Thomas Id., dead tree, 1865	44 26 08.34 68 20 35.81	257.6 791.9	Pond Island, 1875.....	44 13 15.47 68 28 44.11	477.4 979.2
Black Island, 1875.....	44 10 50.49 68 20 55.63	1558.5 1235.6	Naskeag Point, 1861.....	44 14 06.36 68 32 01.07	196.2 23.8
Long Island, 1875.....	44 06 42.26 68 21 02.03	1304.4 45.1	Bluff (Capt. Cram's signal 1854), 1862.	44 13 21.30 68 32 48.80	657.5 1083.2
Goose Cove, 1865.....	44 26 06.62 68 22 35.44	204.3 783.7	Mark Id., flag in tree, 1868.	44 07 13.64 68 34 21.44	420.9 476.7
Lopau's (Capt.), house chimney, 1863.	44 15 40.16 68 23 11.88	1239.6 263.6	Fogg Island, flag, 1868....	44 06 02.82 68 34 36.10	87.1 803.0
Johns Island, flag in tree, 1875.	44 06 36.12 68 24 17.86	1114.9 397.2	Canary Id., lone tree, 1862.	44 13 53.08 68 34 54.87	1638.4 1217.8

TABLE OF POSITIONS OF LOST POINTS—Continued.

PENOBCOT BAY AND RIVER.

Station.	Latitude and longitude.	Seconds in meters.	Station.	Latitude and longitude.	Seconds in meters.
Matinicu Id., tall scraggy tree, 1813.	43 51 13.23 68 54 12.09	406.3 270.1	Ten, 1905.....	44 04 04.44 69 02 43.36	137.1 964.9
Little Green Island, flag in tree, 1860.	43 54 52.42 69 02 10.29	1618.0 229.7	Barley Hill, flag, 1868.....	44 04 09.32 68 46 58.72	287.6 1306.7
Nortons Island, flag, 1859.	43 58 56.45 69 08 30.76	1742.3 685.5	Calderwood Point, tree, 1910.	44 04 09.88 68 46 56.95	305.0 1287.3
White Head Id., house, E. chimney, 1859.	43 58 58.51 69 07 57.60	1805.8 1283.7	Kimballs Island, flag, 1868	44 04 24.66 68 40 06.79	761.3 151.0
Pleasant Id., flag in tree, 1860.	43 58 59.29 69 05 36.82	1830.0 816.1	Monroe Island, flag in tree, 1859.	44 04 34.57 69 02 13.26	1067.0 295.0
Crockett's (Capt.), house, NE. chimney, 1859.	43 59 22.37 69 04 26.99	690.5 601.4	Stoddarts Island, tree, 1910.	44 04 40.53 68 46 28.35	1250.9 630.8
Hewetts Id., flag in tree, 1860.	43 59 36.04 69 04 09.14	1112.4 203.6	Near Post Hill, flag in tree, 1860.	44 05 15.66 69 04 26.15	483.2 581.9
Rackleys Id., flag in tree, 1860.	44 00 10.53 69 02 58.74	325.0 1308.7	Rockland, Episcopal Church, 1859.	44 06 07.51 69 06 53.91	231.8 1199.1
West Ear Id., flag, 1868....	44 00 14.45 68 39 21.20	446.0 472.4	Merchants Island, flag, 1868.	44 06 12.64 68 38 46.79	390.3 1040.7
Dix Id., unpainted house, tall chimney, 1859.	44 00 37.88 69 04 16.48	1169.2 367.1	Fox Rocks, tree with tuft, near, 1861.	44 06 28.27 68 52 14.17	872.5 315.1
Fogg Hill No. 1, flag in tree, 1860.	44 00 27.97 69 08 14.82	863.3 330.1	Calderwood Neck, tree with tuft, 1861.	44 06 41.41 68 49 54.39	1278.3 1209.6
Fogg Hill No. 2, flag in tree, 1860.	44 00 28.26 69 08 07.54	872.2 168.0	Jameson, 1859.....	44 07 03.16 69 05 05.81	97.6 129.2
Brimstone Island, flag in tree, 1861.	44 00 46.24 68 46 10.23	1427.3 227.8	Iron Point, windmill and tank.	44 07 14.3 68 55 07.2	441.4 160.1
East Head, flag, 1868.....	44 00 52.09 68 36 58.02	1607.0 1292.4	McGlaughrys Island, flag, 1868.	44 07 20.54 68 37 03.72	634.0 82.6
Harrington Hill, flag in tree, 1860.	44 01 41.36 69 08 17.44	1276.7 388.4	Calderwood, 1860.....	44 07 35.37 68 50 30.06	1091.8 668.3
Thorndike Hill, flag in tree, 1860.	44 01 48.71 69 07 01.17	1503.4 22.6	Kents Hill, 1860.....	44 09 00.12 68 50 27.43	3.7 609.7
Lanes Island, pole, 1910....	44 02 04.57 68 50 02.08	140.9 46.3	Thurlow Island, flag, 1868.	44 08 24.58 68 40 13.60	758.9 302.2
Fisherman Island, 1858....	44 02 06.57 69 02 38.30	202.8 852.8	Babbidges Island, flag in tree, 1861.	44 08 33.71 68 47 03.61	1040.5 80.2
Fisherman Island, flag in tree, 1858.	44 02 31.77 69 02 17.39	980.6 387.3	Bank's, Job, house chimney, 1861.	44 09 44.68 68 49 30.92	1379.2 687.0
Sheep Island, flag, 1868....	44 02 20.80 68 47 30.43	642.1 677.4	Beech Hill, lone tree, 1858.	44 10 06.54 69 06 12.75	201.9 283.2
Ash Point, flag in tree, 1860	44 02 49.82 69 04 45.03	1537.8 1015.8	Stinson Point, flag in tree, 1861.	44 10 20.49 68 43 03.79	632.4 84.3
Ash Point Island, flag in tree, 1858.	44 02 26.03 69 04 14.58	803.5 324.5	Mark Island, flag in tree, 1861.	44 10 22.10 68 59 00.01	682.3 0.2
Sands, 1868.....	44 02 54.06 68 50 33.24	1668.6 739.9	North Fox fish pole, 1911.	44 10 52.20 68 49 38.31	1611.2 850.8
Carvers Harbor church spire, 1868.	44 02 54.98 68 49 51.36	1697.0 1143.4	McIntire, flag in tree, 1861.	44 10 53.44 69 03 51.66	1649.5 1147.5
Trial Point, flag, 1868....	44 03 26.24 68 38 59.83	809.9 1331.7	Deer Isle, Whitmore Harbor church spire, 1861.	44 11 10.60 68 37 23.90	327.1 530.7
Sheep Island, flag in tree, 1860.	44 03 49.96 69 03 04.97	1541.9 110.6	Deer Isle, square tower church, 1861.	44 11 42.86 68 39 46.90	1323.1 1041.4

TABLE OF POSITIONS OF LOST POINTS—Continued.

PENOBSCOT BAY AND RIVER—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Station.	Latitude and longitude.	Seconds in meters.
Lasells Island, flag in tree, 1861.	44 11 43.85 68 57 44.33	1353.4 984.3	Smiths Mount, flag in tree, 1872.	44 21 16.59 68 45 32.82	512.2 727.0
Negro Id. L. H., 1861....	44 12 05.30 69 02 57.91	163.6 1285.9	Keg on bowlder, 1911....	44 21 27.31 68 56 58.26	842.9 1290.2
Simpson's J., barn, west gable, 1862.	44 13 19.63 68 43 40.63	605.8 902.0	Knowlton (1), flag in tree, 1871.	44 21 54.51 68 59 26.67	1682.6 590.5
Battle Mountain, flag in tree.	44 13 22.80 69 04 10.60	703.7 235.2	Knowlton (2), flag in tree, 1871.	44 21 54.98 68 59 27.28	1697.1 604.0
Butter Island, dead top tree.	44 14 02.19 68 47 41.24	67.7 915.3	Wassons Hill, 1872.....	44 22 15.19 68 44 59.58	468.9 1319.2
Spruce Head, 1861.....	44 14 22.76 68 49 28.56	702.5 633.8	Fort, 1872.....	44 23 30.36 68 48 21.39	937.0 473.5
Bradbury Island, flag in tree, 1861.	44 14 42.17 68 45 43.71	1301.6 969.8	Emerson, 1872.....	44 24 49.78 68 46 39.32	1536.6 869.9
Little Torry Island, 1862..	44 14 56.17 68 35 04.52	1733.9 100.2	Moose Point, 1862.....	44 25 45.18 68 56 41.40	1394.7 915.6
Johnson's F., house chimney, 1862.	44 15 28.27 68 38 18.51	872.7 410.5	Sears's house, west chimney, 1862.	44 25 56.04 68 52 45.60	1729.8 1008.7
Pickering Island, flag in tree, 1861.	44 15 44.99 68 44 54.09	1388.6 1199.7	Stockton church spire, 1862.	44 29 27.59 68 51 29.56	851.5 653.2
Garey, 1861.....	44 15 46.66 69 01 04.52	1440.4 100.2	Quarry, flag in tree, 1863..	44 30 55.76 68 45 12.23	1721.1 270.0
Billings Mountain, flag in tree, 1862.	44 19 06.81 68 42 41.78	210.4 925.9	Shutes Hill, flag in tree, 1863.	44 32 30.49 68 48 35.58	941.1 785.5
Islesboro, prominent tree, 1911.	44 19 31.61 68 54 01.36	975.7 30.2	Hopkins, flag in tree, 1863.	44 33 52.10 68 46 10.70	1608.2 236.1
Seal Island, flag in tree, 1871.	44 19 40.65 68 55 38.55	1254.7 854.2	Indian Point, flag in tree, 1863.	44 34 48.20 68 48 36.77	1487.8 811.2
South Seal Island, pole, 1871.	44 19 00.83 68 55 59.60	25.6 1322.8	Lone tree, 1863.....	44 37 16.59 68 49 31.41	512.1 692.5
Seal Island, pole, 1911....	44 19 41.37 68 55 38.11	1276.9 844.4	Sandy Head, flag in tree, 1864.	44 41 53.66 68 50 23.20	1656.3 510.7
Quarry, 1872.....	44 19 55.16 68 43 31.03	1702.7 700.8	East Bluff, flag in tree, 1864.	44 42 45.92 68 50 10.56	1417.4 232.5
Flag in tree, 1872.....	44 20 19.78 68 43 50.22	610.5 1112.6	Crosbys Narrows, flag in tree, 1864.	44 45 07.32 68 49 06.23	226.1 137.0
Decker's house, chimney, 1862.	44 20 44.01 68 52 42.97	1358.4 952.0			

PENOBSCOT BAY TO KENNEBEC RIVER.

Island north of Tenants Harbor Lighthouse, flag in tree, 1860.	43 58 17.56 69 11 04.72	541.9 105.3	Mosquito Island, flag in tree, 1860.	43 55 04.63 69 13 14.23	143.1 317.5
Harts Neck, flag in tree, 1860.	43 57 11.24 69 11 51.47	346.9 1147.6	Watts, flag in tree, 1860....	43 59 37.19 69 13 41.19	1147.9 917.8
Recess, flag, 1860.....	44 03 57.90 69 11 53.31	1765.6 1186.5	Russells Hill, flag in tree, 1860.	43 57 36.88 69 14 59.00	1138.3 1315.3
Seaveys Hill, flag in tree, 1860.	43 59 11.25 69 12 08.75	347.4 194.9	Otis, flag in tree, 1860.....	43 58 58.82 69 15 05.04	1815.4 112.3
Smalleyes Hill, flag in tree, 1860.	43 59 17.75 69 13 04.33	547.8 96.6	McGee, flag in tree, 1859....	43 54 48.35 69 18 51.39	1492.3 1146.7

TABLE OF POSITIONS OF LOST POINTS—Continued.

PENOBSKOT BAY TO KENNEBEC RIVER—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Station.	Latitude and longitude.	Seconds in meters.
Hornbine Hill, flag, 1866.	43 58 40.72 69 18 00.68	1256.8 15.2	Damiscove, wooded end, white flag, 1859.	43 46 34.15 69 36 35.07	1054.0 784.3
Hornbine Hill, flag in tree, 1863.	43 58 40.66 69 18 00.75	1254.9 16.7	Edgecombe, tall pine, flag, 1857.	43 57 37.42 69 37 21.86	1154.9 487.4
Friendship, flag in tree, 1863.	43 59 53.86 69 18 12.46	1662.3 277.6	Squirrel Id., flag, 1857.....	43 48 21.61 69 37 48.73	667.0 1089.3
Carvers Id., flag in tree, 1866.	43 56 57.42 69 19 32.99	1772.1 735.7	Spruce Pt., flag, 1857.....	43 49 48.22 69 37 20.04	1488.2 447.7
Long Id., flag, 1866.....	43 57 07.16 69 20 48.74	221.0 1086.7	Stone pile, flag, 1857.....	43 59 19.16 69 38 05.38	591.4 119.9
Burns, flag in tree, 1866....	44 01 37.73 69 21 24.10	1164.5 536.7	Breakheart Hill, flag, 1857.	43 57 36.42 69 38 35.55	1124.0 792.6
Delnos Hill, flag in tree, 1866.	44 00 17.05 69 21 10.73	526.2 239.0	Mathews Hill, flag, 1857....	43 56 58.89 69 38 08.38	1817.6 186.9
Martins Pt., flag, 1866.....	43 57 59.14 69 22 02.64	1825.3 58.9	Lewis Hill, flag, 1857.....	43 54 23.22 69 38 50.69	716.7 1131.2
Lobster, flag in tree, 1859....	43 54 42.15 69 22 28.42	1300.9 634.2	Hunting Id., Cape New- ages, flag, 1857.	43 47 04.02 69 39 35.98	124.1 804.5
Upper Long Id., flag in tree, 1866.	44 00 01.22 69 23 10.30	37.7 229.5	Allen's flag, 1857.....	43 56 59.62 69 39 46.47	1840.1 1036.3
Lower Long Id., flag in tree, 1866.	43 59 16.04 69 23 29.87	495.0 665.6	Lower Mark Id., Sheepscut, flag, 1857.	43 47 35.71 69 40 34.54	1102.1 772.2
Cow, flag in tree, 1859....	43 57 41.94 69 23 33.02	1204.4 736.2	Parsons Hill, flag, 1857....	43 56 13.27 69 40 41.88	409.6 934.1
Long Id., flag in tree, 1859.	43 59 08.12 69 23 25.98	250.6 578.9	Thirty-acre Id., flag, 1857..	43 51 23.67 69 40 48.13	730.5 1075.0
Oar, flag in tree, 1859.....	43 59 09.76 69 24 32.17	301.2 716.9	Townsend Gut, flag, 1857..	43 50 51.02 69 40 08.09	1574.6 180.7
Pine, flag in tree, 1859....	44 00 40.88 69 24 03.27	1261.7 72.8	Greenleafs Hill, flag, 1857..	43 55 25.95 69 41 24.27	800.9 541.4
Carter Id., tree, 1859.....	43 53 48.00 69 26 09.82	1481.4 219.2	Westport, near school- house, flag, 1857.	43 54 26.68 69 42 22.57	820.4 503.6
Browns Head, flag in tree, 1866.	43 54 12.43 69 27 37.69	383.6 841.1	Westport, tall hemlock, flag, 1857.	43 53 30.15 69 42 38.05	980.5 849.3
Hillwest of Browns Head, flag, 1866.	43 54 13.78 69 27 59.02	425.3 1317.1	Westport, flag, 1857.....	43 51 33.87 69 43 05.85	1029.9 130.6
Little Id., flag, 1866.....	43 52 14.30 69 28 02.56	441.4 57.2	Davis Hill, flag, 1857.....	43 52 24.95 69 43 03.96	770.1 88.4
Johns Id., flag, 1859.....	43 51 58.87 69 32 04.82	1817.0 107.6	The Sisters Beacon, 1904..	43 44 27.31 69 43 18.18	842.9 406.9
Thrumcap, flag in tree, 1859.	43 49 18.08 69 32 59.03	558.0 1319.1	Store, flagstaff, 1870.....	44 06 27.24 69 43 30.1	840.7 673.9
Rutherford's Id., flag, 1859.	43 51 17.43 69 33 23.76	538.0 530.6	Methodist Church chim- ney, 1870.	44 06 46.75 69 43 53.64	1442.9 1192.8
Bristol, red flag, 1859.....	43 52 03.20 69 33 35.95	98.8 802.8	McMahans Island, flag, 1857.	43 50 37.27 69 42 38.02	1150.3 849.3
Sprout, flag, 1859.....	43 54 36.81 69 33 38.34	1136.1 855.5	Sharp Top, 1870.....	44 06 34.02 69 44 09.82	1050.0 218.5
Linekin Neck, flag, 1857....	43 50 57.01 69 35 00.37	1759.5 8.3	Houdlette house, red chimney, 1870.	44 06 08.87 69 44 03.48	273.7 77.4
Outer Heron Id., flag, 1857	43 46 34.41 69 35 06.06	1062.0 135.5	Campbells Ledge, flag, 1857.	43 51 38.52 69 44 25.51	1188.9 569.7

TABLE OF POSITIONS OF LOST POINTS—Continued:

PENOOSCOT BAY TO KENNEBEC RIVER—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Station.	Latitude and longitude.	Seconds in meters.
Salters Island, tree, 1856..	43° 44' 40.13 69° 45' 27.47	1238.5 614.7	Arroweag, white flag, 1856	43° 52' 39.63 69° 46' 34.31	1223.1 766.0
Parkers Island, highest part, flag, 1856.	43° 51' 01.76 69° 45' 15.93	54.3 355.8	Rotunda Hill, flag, 1856...	43° 48' 01.87 69° 46' 44.74	57.7 1000.2
Bodge, 1868.....	44° 09' 32.36 69° 45' 18.35	998.8 407.8	Wilson, 1868.....	44° 06' 33.97 69° 46' 57.64	1048.5 1281.9
Laytons Hill, 1868.....	44° 10' 22.88 69° 45' 50.14	706.3 1113.9	Parkers Head, flag, 1856...	43° 47' 26.48 69° 47' 38.39	817.3 858.3
Hunt, 1868.....	44° 15' 45.88 69° 46' 05.82	1416.1 129.0	Arroweag, red and black flag, 1856.	43° 53' 50.04 69° 47' 39.93	1544.4 891.2
Parkers Island, flag, 1856..	43° 46' 00.93 69° 46' 09.38	28.7 209.8	Heron Island, tree, 1856...	43° 43' 21.92 69° 48' 20.56	676.5 460.2

CASCO BAY AND PORTLAND.

Flag above Bay, 1866.....	43° 52' 43.60 69° 50' 26.44	1345.6 590.3	Fosters Point, flag, 1866..	43° 51' 30.11 69° 53' 04.00	929.3 89.3
Lowell, flag, 1854.....	43° 44' 35.07 69° 50' 39.12	1082.3 875.4	Horsey's house chimney, 1866.	43° 51' 10.16 69° 53' 22.55	313.6 503.7
Richs Mountain, flag No. 2, 1866.	43° 52' 12.85 69° 51' 32.14	396.6 717.7	Square yellow house, chimney, 1866.	43° 49' 46.33 69° 53' 33.77	1429.9 754.6
Bush Island, flag, 1866....	43° 49' 13.55 69° 51' 32.88	418.2 734.8	Flag Island, flag, 1854.....	43° 44' 54.27 69° 53' 34.77	1674.9 777.9
Great Hill, flag, 1866.....	43° 53' 13.98 69° 51' 38.74	431.5 864.6	Large unpainted house, west chimney, 1866.	43° 53' 03.69 69° 53' 47.89	113.9 1089.1
Jennys Nubble, 1866.....	43° 49' 31.47 69° 52' 03.14	971.3 70.2	Northeast fish house, east of, unpainted house west chimney, 1866.	43° 49' 14.28 69° 53' 48.08	440.7 1074.4
Butler, red house chimney, near, 1866.	43° 47' 48.33 69° 52' 10.14	1491.6 226.7	Rogue Island, flag, 1854...	43° 46' 22.14 69° 53' 50.01	683.3 1118.4
Wood Island, flag, 1854...	43° 43' 50.45 69° 52' 08.79	1834.8 196.7	Great Island, flag, 1866....	43° 50' 19.18 69° 53' 52.16	592.0 1165.3
McKinneys Hill, flag, 1866.	43° 50' 32.78 69° 52' 12.84	1011.7 286.8	Mark Island, flag, 1854....	43° 43' 16.87 69° 53' 56.18	520.7 1257.6
Long Island, center flag, 1866.	43° 50' 00.21 69° 52' 46.31	6.5 1034.7	Brunswick, tall tree, 1860.	43° 55' 08.74 69° 53' 56.55	269.7 1261.7
Long Island, northwest point, flag, 1866.	43° 50' 16.64 69° 52' 57.38	513.6 1281.9	Richs Cove, head of, 1866.	43° 49' 42.66 69° 54' 06.52	1316.6 145.7
Birch Point, flag, 1866....	43° 49' 34.59 69° 52' 14.50	1067.6 324.0	Mill Cove, 1866.....	43° 49' 36.44 69° 54' 47.33	1124.6 1057.6
Horse Island 2, flag, 1854..	43° 46' 10.72 69° 52' 16.55	330.8 370.2	Woodward's house, cu- pola, 1866.	43° 52' 32.56 69° 54' 10.51	1004.9 234.7
Bull Road bridge, south- east end post, 1866.	43° 54' 24.67 69° 52' 17.36	761.4 387.4	Woodward's barn, ven- tilator, 1866.	43° 52' 31.35 69° 54' 11.22	967.6 250.5
Richs Mt., flag, 1866.....	43° 51' 55.12 69° 52' 17.38	1701.2 388.1	Pine, flag, 1854.....	43° 50' 23.34 69° 54' 20.83	720.3 465.3
Hardings Hill, flag, 1866..	43° 55' 00.23 69° 52' 29.40	7.1 655.9	Brick kiln cove, flag, 1866.	43° 49' 50.07 69° 54' 22.54	1545.3 503.7
Bear Island, flag, 1854....	43° 46' 47.45 69° 52' 54.79	1464.4 1225.5	Orrs Cove, head of, flag, 1866.	43° 50' 10.27 69° 54' 50.93	317.0 1137.8
Sheep Island, flag, 1866...	43° 48' 08.73 69° 52' 59.44	269.4 1328.7	Jennys Island, flag, 1854...	43° 45' 54.87 69° 54' 32.67	1693.4 730.7

TABLE OF POSITIONS OF LOST POINTS—Continued.

CASCO BAY AND PORTLAND—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Station.	Latitude and longitude.	Seconds in meters.
Long Ledge, flag, 1854....	43 45 31.81 69 54 00.03	981.7 0.7	Scrag Island, flag, 1854....	43 50 15.99 69 58 58.65	493.5 1310.3
Orr's house, center chimney, 1866.	43 51 09.67 69 54 49.54	298.4 1106.5	Jack, flag, 1854.....	43 45 00.98 69 59 12.71	30.8 284.3
New Meadow, spire, 1866..	43 53 05.17 69 54 59.50	159.6 1328.3	Starwood, flag, 1854.....	43 51 18.79 69 59 28.70	579.9 641.0
Totman, flag, 1866.....	43 49 40.23 69 55 09.93	1241.6 221.9	Allens, flag, 1854.....	43 48 03.48 69 59 41.58	107.4 929.5
Tree, 1866.....	43 49 07.26 69 55 08.34	224.1 180.4	Woodside, flag, 1854.....	43 52 13.67 69 59 44.39	421.9 991.1
Ridge, flag in tree, 1866....	43 49 18.76 69 55 36.72	579.1 820.7	Birch Island, flag, 1854....	43 49 14.07 70 00 06.60	434.2 147.5
House with red trimming, chimney, 1866.	43 48 54.51 69 55 17.39	1682.3 388.7	Balleys Island, flag, 1854....	43 43 12.20 70 00 14.05	376.5 314.5
Davis Cove, south entrance, 1866.	43 49 10.81 69 55 08.62	333.6 192.6	Evans, flag, 1854.....	43 52 36.01 70 00 45.34	1111.4 1012.2
West Cove wharf, south-east corner, 1866.	43 49 16.29 69 55 11.29	502.8 262.3	Shelter Island, flag, 1854..	43 47 57.12 70 00 56.56	1762.8 1284.4
Doughty, David, house chimney, 1866.	43 50 26.47 69 55 28.99	816.9 647.6	Horse Island, flag, 1854...	43 44 00.89 70 02 43.35	27.5 970.2
Pole Island, flag, 1854....	43 47 52.95 69 55 22.69	1634.1 507.3	Upper Flag Island, flag, 1854.	43 43 27.22 70 02 46.05	840.1 1030.7
Flag in tree.....	43 51 37.51 69 55 37.35	1157.7 834.1	Gosling Island, flag, 1854.	43 47 03.26 70 02 47.36	100.6 1050.0
Princes Bluff, flag, 1866....	43 50 48.12 69 55 48.19	1485.1 1076.4	Great Whale Boat Island, flag, 1854.	43 45 29.79 70 02 55.00	919.4 1230.4
South Long Reach, flag, 1866.	43 48 47.64 69 56 06.20	1470.3 138.6	Williams Island, flag, 1854..	43 48 46.00 70 02 59.03	1419.7 1319.3
Princes Point, flag, 1866..	43 50 36.38 69 56 15.36	1122.8 343.1	Eagle Island, flag, 1854....	43 42 37.57 70 03 13.68	1159.5 306.3
Jebaskadiggin, flag, 1854..	43 48 40.33 69 56 12.40	1244.7 277.1	Little Whale Boat Island, flag, 1854.	43 46 01.33 70 03 25.53	41.1 571.0
Spread-eagle tree, 1871....	43 58 37.53 69 56 13.58	1158.2 302.7	Flying Point, flag, 1854...	43 49 02.44 70 03 36.79	75.3 822.2
Doughty Point, southwest of, flag, 1866.	43 49 57.48 69 56 27.59	1774.0 616.4	Bibbers Island, flag, 1854..	43 48 00.55 70 04 09.67	17.0 216.2
Byles Point, flag, 1854....	43 47 20.64 69 56 57.91	637.0 1294.8	French Island, flag, 1854..	43 46 54.81 70 04 20.93	1601.5 468.0
Oak Island, flag, 1854.....	43 45 48.11 69 56 58.30	1484.7 1304.0	Ministerial Island, flag, 1854.	43 43 07.19 70 04 25.11	221.9 562.1
Elm, flag, 1854.....	43 45 22.44 69 56 03.97	692.5 88.8	Sylvesters Hill, flag, 1854..	43 53 41.45 70 04 30.65	1279.3 684.1
Vane on tree, 1866.....	43 51 10.80 69 57 05.90	333.3 131.8	Roduck, flag, 1854.....	43 50 56.52 70 04 51.38	1744.3 1147.7
Ewins Narrows, flag, 1866..	43 48 57.44 69 57 08.52	1772.8 190.4	Stockmans Island, flag, 1854.	43 44 06.21 70 04 54.41	191.7 1217.7
Ram Island, flag, 1854....	43 44 51.18 69 57 54.12	1579.5 1210.9	Freeport River, flag, 1854.	43 49 32.17 70 05 15.69	992.8 350.6
Givens, flag, 1854.....	43 51 18.45 69 58 07.48	569.4 167.1	Jewells Island, flag, 1854..	43 41 20.99 70 05 31.56	647.8 706.8
Merryman, flag, 1854.....	43 47 39.84 69 58 50.58	1229.5 1130.8	Stave Island, flag, 1854....	43 42 56.22 70 05 12.09	1735.1 270.7

TABLE OF POSITIONS OF LOST POINTS—Continued.

CASCO BAY AND PORTLAND—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Station.	Latitude and longitude.	Seconds in meters.
Little Bangs Island, flag, 1854.	43 43 26.16 70 05 39.41	807.4 882.1	Ferry, 1868.....	43 39 05.15 70 14 28.33	158.9 634.9
Crab Island, flag, 1854....	43 47 45.28 70 05 44.63	1397.4 997.8	Green, 1869.....	43 42 24.37 70 14 45.26	752.0 1013.5
Jewells Island, flag, 1852..	43 40 39.75 70 05 54.77	1226.8 1226.8	Munjoy, 1868.....	43 40 01.07 70 14 36.53	33.0 818.5
Crotch Island, east point, flag, 1854.	43 41 39.11 70 05 37.41	1207.0 837.8	Presumpscot, 1869.....	43 41 55.76 70 14 46.91	1720.9 1050.5
Crotch Island, flag, 1852..	43 41 21.78 70 06 48.43	672.2 1084.6	Spindle, 1869.....	43 40 33.77 70 14 50.81	1042.2 1138.2
Little Crow Island, flag, 1854.	43 43 45.08 70 06 14.75	1391.3 330.1	Fish Point, 1869.....	43 39 58.76 70 14 20.70	1818.4 463.8
Staples Point, flag, 1854..	43 48 08.57 70 06 47.61	264.5 1064.3	Shattuck, 1869.....	43 40 55.87 70 15 10.83	1724.4 242.5
Hope Island, flag, 1854....	43 42 15.94 70 07 10.33	492.0 231.3	Bluff, 1869.....	43 40 10.34 70 15 12.30	319.1 275.4
Lanes Island, flag, 1854....	43 47 32.93 70 07 26.37	1016.3 589.6	Barbour, 1869.....	43 42 38.98 70 15 12.48	1203.0 279.4
Cleves, flag, 1854.....	43 46 29.07 70 07 45.61	897.2 1020.0	Knightsville, 1869.....	43 38 28.58 70 15 15.05	882.1 337.3
Drinkwater Hill, flag, 1854	43 48 34.52 70 08 47.31	1065.4 1057.4	Cathedral spire, 1869.....	43 39 42.84 70 15 19.02	1322.1 426.1
Little Jebeig Island, flag, 1854.	43 42 50.16 70 08 59.35	1548.0 1328.7	Ridge, 1869.....	43 40 18.24 70 15 19.04	562.9 426.5
Upper Basket Island Ledge Beacon(U.S.E.), 1909.	43 44 24.95 70 09 34.12	770.0 763.5	Portland Bridge, 1869....	43 38 27.22 70 15 22.70	840.1 508.9
Little John, flag, 1852....	43 40 40.75 70 09 58.34	1257.6 1306.8	Barrack, 1869.....	43 40 03.81 70 15 23.11	117.6 517.8
Basket, flag, 1854.....	43 44 08.02 70 09 59.79	247.5 1338.1	First Point, 1869.....	43 38 11.72 70 15 34.89	361.8 782.2
Ram Island, flag, 1852....	43 38 15.51 70 11 12.70	478.7 284.7	Stoneyard, 1869.....	43 39 52.33 70 15 39.12	1615.2 876.5
Cushing, flag, 1854.....	43 41 04.43 70 11 15.01	136.7 336.2	Warehouse, 1869.....	43 39 43.59 70 15 41.52	1345.3 930.3
Clapboard Island, flag, 1854.	43 42 55.22 70 11 40.11	1704.2 897.9	Bank, 1869.....	43 40 44.04 70 15 41.53	1359.1 930.2
Great Hog Island, flag, 1852.	43 40 58.58 70 11 53.71	1807.9 1203.0	State Street, 1869.....	43 39 17.32 70 16 03.79	534.5 85.0
Walnut Hill, flag, 1854....	43 45 28.42 70 12 23.33	815.4 521.9	Arsenal, 1869.....	43 39 11.87 70 16 37.88	366.3 848.8
Little Hog Island, flag, 1852.	43 39 58.87 70 12 40.06	1748.9 897.5	Gristmill, 1869.....	43 39 38.98 70 16 08.52	1203.0 190.9
Bug Light, 1869.....	43 39 19.70 70 14 09.36	607.9 209.8	Turners Island, 1869.....	43 38 18.55 70 16 11.19	572.5 250.8
Fort Scammel, 1909.....	43 39 00.54 70 12 47.64	16.8 1067.7	East Bramhall, 1869.....	43 38 38.25 70 16 19.78	1180.6 443.4
Mackays Island, flag, 1852.	43 41 15.64 70 14 01.77	482.7 39.6	Deering pasture, 1869....	43 39 17.08 70 16 21.32	527.1 477.7
Fore Street, 1868.....	43 39 50.98 70 14 37.24	1573.4 834.3	County road, 1869.....	43 39 40.33 70 16 38.48	1244.7 862.2

TABLE OF POSITIONS OF LOST POINTS—Continued.

CASCO BAY AND PORTLAND—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Station.	Latitude and longitude.	Seconds in meters.
Creek, 1869.....	43° 40' 45.00 70° 16' 22.94	1388.8 513.9	Bush, 1869.....	43° 40' 00.21 70° 16' 46.63	6.5 1044.7
Jordan, 1869.....	43° 40' 39.00 70° 16' 31.67	1203.6 709.4	Tannery, 1869.....	43° 39' 09.49 70° 16' 49.73	292.9 1114.4
West Bank, 1869.....	43° 40' 44.59 70° 16' 03.38	1376.1 75.7	Farm, 1869.....	43° 39' 31.33 70° 16' 49.94	966.8 1119.1
Grove Street, 1869.....	43° 39' 18.08 70° 16' 26.67	557.9 597.7	Canal, 1869.....	43° 38' 52.98 70° 16' 58.25	1635.1 1305.4
Oak, 1869.....	43° 39' 29.34 70° 16' 28.16	905.5 631.0	Kennebec, 1869.....	43° 39' 46.26 70° 17' 02.40	1427.6 53.7
Orchard, 1869.....	43° 39' 33.70 70° 16' 41.02	1040.0 919.1	Dam, 1869.....	43° 39' 06.17 70° 17' 10.23	190.4 229.2
Railroad, 1869.....	43° 39' 44.68 70° 16' 22.42	1378.9 502.3	Portland, 1869.....	43° 40' 00.22 70° 17' 12.79	6.9 286.6
Coyle, 1869.....	43° 40' 07.56 70° 16' 33.58	233.3 752.3	Highfield, 1869.....	43° 39' 56.80 70° 17' 25.05	1753.0 561.2
Field, 1869.....	43° 39' 39.38 70° 16' 58.76	1215.3 1271.8	West Highfield, 1869.....	43° 39' 52.36 70° 17' 33.48	1615.9 750.1
Meridian, 1869.....	43° 39' 05.10 70° 16' 36.21	157.5 811.4	Westbrook spire, 1869.....	43° 40' 58.57 70° 17' 41.02	1807.6 918.7
Back Cove, 1869.....	43° 40' 17.73 70° 16' 41.70	547.2 934.2	Stroudwater, 1869.....	43° 39' 10.74 70° 17' 59.57	381.4 1334.9
Rochester, 1869.....	43° 39' 52.47 70° 16' 42.28	1619.3 947.3	Aaron, 1869.....	43° 39' 27.01 70° 18' 40.00	833.6 897.6

PORTLAND TO PORTSMOUTH.

Bushy top pine, 1852.....	43° 36' 34.89 70° 16' 19.65	1076.8 438.4	Little River, 1868.....	43° 23' 40.12 70° 22' 53.32	1238.1 1200.0
Jordans, flag, 1852.....	43° 35' 37.07 70° 16' 05.58	1144.0 125.2	Crow Hill, 1851.....	43° 22' 16.73 70° 26' 41.36	516.3 931.1
Thornton Hill, flag, 1852..	43° 35' 16.26 70° 20' 03.20	501.8 71.8	Schoolhouse Hill, 1868....	43° 22' 16.68 70° 26' 41.32	514.7 930.4
Blue Point Hill tree, flag, 1850.	43° 33' 08.20 70° 21' 40.43	253.1 907.5	Summit (Smiths Hill), 1851.	43° 21' 46.11 70° 27' 30.69	1423.1 691.0
Ram Island, flag, 1850....	43° 33' 00.39 70° 15' 37.75	12.0 847.4	Kennebunk Port, 1850....	43° 20' 31.00 70° 28' 00.49	956.7 11.0
Eagle Island, flag, 1854....	43° 28' 47.57 70° 21' 34.25	1468.1 769.8	Wentworth (N. H.), 1851.	43° 08' 24.70 70° 51' 59.41	762.1 1342.6
Ram Island, flag, 1854....	43° 28' 01.90 70° 21' 26.22	58.6 589.4	House, 1900.....	43° 07' 24.21 70° 48' 57.09	747.3 1290.6
Eagle Island, tree, 1868....	43° 28' 47.25 70° 21' 35.01	1458.3 787.0	Bluff, 1900.....	43° 07' 11.32 70° 48' 16.07	349.2 363.3
Stage Island Monument, 1850.	43° 27' 24.50 70° 21' 07.10	756.2 159.6	Lower Birch (N. H.), 1900.	43° 06' 57.66 70° 48' 44.62	1779.3 1008.8
Fletchers Neck, 1851.....	43° 26' 52.58 70° 20' 33.22	1622.6 746.9	Leachs Hill, 1842.....	43° 06' 48.12 70° 49' 21.83	1485.0 492.2
Wards, 1851.....	43° 24' 17.26 70° 24' 10.25	532.8 230.6	Grassy Mound, 1842.....	43° 06' 40.98 70° 44' 03.50	1264.6 70.1
Timber Island, 1851.....	43° 23' 40.28 70° 23' 53.08	1243.0 1194.6	Parkers Hill, 1842.....	43° 06' 25.26 70° 43' 19.06	779.5 431.0

TABLE OF POSITIONS OF LOST POINTS—Continued.

PORTLAND TO PORTSMOUTH—Continued.

Station.	Latitude and longitude.	Seconds in meters.	Station.	Latitude and longitude.	Seconds in meters.
Ultima Thule, 1842.....	43° 06' 13.67 70° 38' 58.82	421.8 1330.1	Badgers Island, 1842.....	43° 04' 55.53 70° 45' 16.44	1713.6 371.9
Ravine, 1842.....	43° 06' 00.12 70° 40' 25.48	3.7 576.2	Gibraltar, 1842.....	43° 04' 45.08 70° 45' 21.23	1391.1 480.3
Sturgeon Hill, 1842.....	43° 05' 54.50 70° 45' 31.02	1681.8 701.5	Windmill Rock (N. H.), 1842.....	43° 04' 47.72 70° 45' 42.30	1472.5 956.9
Whipples Hill, 1842.....	43° 05' 33.74 70° 44' 08.60	1041.2 194.5	Abrahams Height, 1842....	43° 04' 49.22 70° 43' 28.62	1518.9 647.4
Sea Hill, 1842.....	43° 05' 32.55 70° 39' 29.54	1004.5 668.1	Fernalds Point, 1842.....	43° 04' 56.20 70° 43' 21.95	1734.3 496.5
Nut Hill, 1842.....	43° 05' 34.49 70° 39' 58.66	1064.3 1326.7	Jam (Topl. sig.), 1900.....	43° 04' 48.55 70° 43' 24.93	1498.3 563.9
Adams, flag in tree (N. H.), 1908.	43° 05' 32.05 70° 52' 13.70	989.0 309.9	Lollys Hill, 1842.....	43° 04' 47.24 70° 41' 36.86	1457.8 833.8
Freeman (N. H.), 1900.....	43° 05' 25.77 70° 45' 57.99	795.2 1311.6	Lowery Point, 1842.....	43° 04' 46.34 70° 42' 47.20	1430.0 1067.7
Bartlett (N. H.), 1851.....	43° 05' 25.73 70° 46' 49.98	794.0 1130.5	North Fishing Id., 1842....	43° 04' 38.15 70° 42' 12.49	1177.3 282.6
Telegraph Hill, 1842.....	43° 05' 21.36 70° 42' 19.27	659.1 435.9	Kittery Point, 1842.....	43° 04' 44.80 70° 42' 52.72	1376.3 1192.6
Wilsons Hill, 1842.....	43° 05' 12.88 70° 42' 49.92	397.5 1129.1	Gooseberry Island, 1842...	43° 04' 43.94 70° 41' 56.68	1356.0 1282.2
Nut Grove, 1842.....	43° 05' 19.91 70° 40' 12.10	614.4 273.7	Fishing Island, 1842.....	43° 04' 38.15 70° 42' 12.50	1177.3 282.8
Mill Hill, 1842.....	43° 05' 17.18 70° 40' 30.48	530.2 689.4	Depot (N. H.), 1842.....	43° 04' 37.00 70° 45' 52.32	1141.8 1183.6
Hutchings Hill, 1842.....	43° 05' 15.90 70° 43' 00.55	490.7 12.4	Clark Island 1, 1842.....	43° 04' 34.36 70° 43' 28.63	1060.3 647.7
Sea Point, 1842.....	43° 05' 08.82 70° 39' 38.19	272.2 863.8	Clark Island 2, 1842.....	43° 04' 37.30 70° 43' 28.50	1151.0 644.7
Glacis (N. H.), 1842.....	43° 05' 08.32 70° 46' 11.72	256.7 265.1	Fort Sullivan (N. H.), 1842.....	43° 04' 32.64 70° 44' 00.94	1007.3 21.3
Freemans Hill (N. H.), 1842.	43° 05' 28.32 70° 46' 08.04	873.9 181.8	Fort Washington, 1842....	43° 04' 26.21 70° 44' 27.57	808.8 623.7
Boat House Cove, 1842....	43° 05' 07.90 70° 40' 38.41	243.8 868.8	Trial Hill, 1842.....	43° 04' 20.88 70° 41' 44.88	644.3 1015.3
Horse Pasture, 1842.....	43° 05' 03.83 70° 40' 15.38	118.2 347.9	Fort Constitution, flag- staff, 1850.	43° 04' 18.06 70° 42' 34.67	557.3 784.4
Marine Point, 1842.....	43° 05' 00.62 70° 44' 05.20	19.1 117.6	Point Esperance, 1842....	43° 04' 16.70 70° 43' 39.36	515.4 890.5
Red Hill, 1842.....	43° 05' 00.19 70° 41' 17.18	5.9 388.6	Tower (N. H.), 1842.....	43° 04' 13.70 70° 42' 45.68	422.8 1033.5
Pine Hill, 1842.....	43° 05' 12.28 70° 41' 20.23	379.0 457.6	Seawards Hill, 1842.....	43° 04' 11.20 70° 40' 44.75	345.6 1012.4
School Hill, 1842.....	43° 05' 20.50 70° 40' 58.82	632.6 1330.4	Seward, 1851.....	43° 04' 11.19 70° 40' 44.91	345.2 1016.1
Whaleback L. H., 1851 (old).	43° 03' 31.69 70° 41' 49.05	978.0 1110.1	Seward's summerhouse, center, 1878-1898.	43° 04' 11.11 70° 40' 44.73	342.9 1011.9
Fort McCleary, 1842.....	43° 04' 56.78 70° 42' 33.16	1752.2 750.1	C, flag in tree (N. H.), 1908.	43° 04' 08.60 70° 50' 47.10	265.4 1065.6

TABLE OF POSITIONS OF LOST POINTS—Continued.

PORTLAND TO PORTSMOUTH—Continued.

Station.	Latitude. and longitude.	Seconds in meters.	Station.	Latitude and longitude.	Seconds in meters.
East Sister, 1842.....	43 04 06.48 70 40 01.04	200.0 23.5	Whales Back, 1842	43 03 31.59 70 41 49.26	974.8 1114.7
Sisters Point, 1842.....	43 04 32.20 70 40 09.35	993.7 211.5	Jerrys Fort, (N. H.), 1842.	43 03 26.92 70 42 45.66	880.7 1033.3
Billings Hill, 1842.....	43 04 08.14 70 41 30.66	96.9 693.7	Carroll Hill (N. H.), 1842..	43 03 19.58 70 45 45.46	604.2 1028.8
Billings Point, 1842.....	43 04 02.49 70 41 39.44	76.8 892.4	Frost Point (N. H.), 1842..	43 03 11.01 70 43 10.86	339.8 245.8
Boatswains Hill (N. H.), 1842.	43 03 57.17 70 43 26.43	1764.3 598.0	Blunts Island (N. H.), 1842	43 03 25.95 70 43 53.46	800.8 1209.8
Salter's Island (N. H.), 1842.	43 03 57.00 70 44 49.78	1758.9 1126.7	Beck (N. H.), 1842.....	43 03 04.59 70 45 27.70	141.6 626.9
Powder house (N. H.), 1842.	43 03 56.26 70 46 45.34	1736.1 1025.9	Greenleaf (N. H.), 1842... 70 45 04.58	43 03 23.79 70 45 04.58	734.1 103.6
Gretna Green (N. H.), 1842.	43 03 48.97 70 45 44.66	1511.2 1010.5	Eliwyn (N. H.), 1842.....	43 02 52.87 70 46 10.99	1631.5 248.7
West Sister, 1842.....	43 03 42.98 70 40 21.62	1326.3 489.2	Foss, (N. H.), 1850.....	43 00 45.81 70 44 21.29	1413.7 482.1
Wentworth Height(N.H.), 1842.	43 03 41.46 70 44 20.38	1279.4 664.8	Breakfast Hill, (N. H.), 1851.	43 00 25.51 70 48 32.32	787.3 732.0
Frosts Hill (N. H.) 1842..	43 03 35.25 70 43 36.27	1087.7 820.8	Locks Point (N. H.), 1850.	42 59 30.86 70 45 06.65	962.2 150.7
Plains (N. H.), 1842.....	43 03 32.95 70 46 50.47	1016.8 1142.1	I leg of Shoals L. H. (N. H.), 1847-1850.	42 58 02.22 70 37 25.85	68.5 585.8

DESCRIPTION OF STATIONS.

This list may be conveniently consulted by reference to the illustrations at the end of this publication or to the index. All azimuths given in the descriptions are reckoned continuously from true south around by west to 360° , south being 0° , west 90° , north 180° , and east 270° . Where magnetic azimuths are given they are indicated as such.

In general, except where the contrary is specifically stated, the surface and underground mark are not in contact, so that a disturbance of the surface mark will not necessarily affect the underground mark. The underground mark should be resorted to only in cases where there is evidence that the surface mark has been disturbed.

The initials and dates given in each description immediately after the county refer to the date of the establishment of the station, the man by whom it was established, and the date when the station was last recovered.

Any person who finds that one of the stations herein described has been disturbed, or that the description no longer fits the facts,

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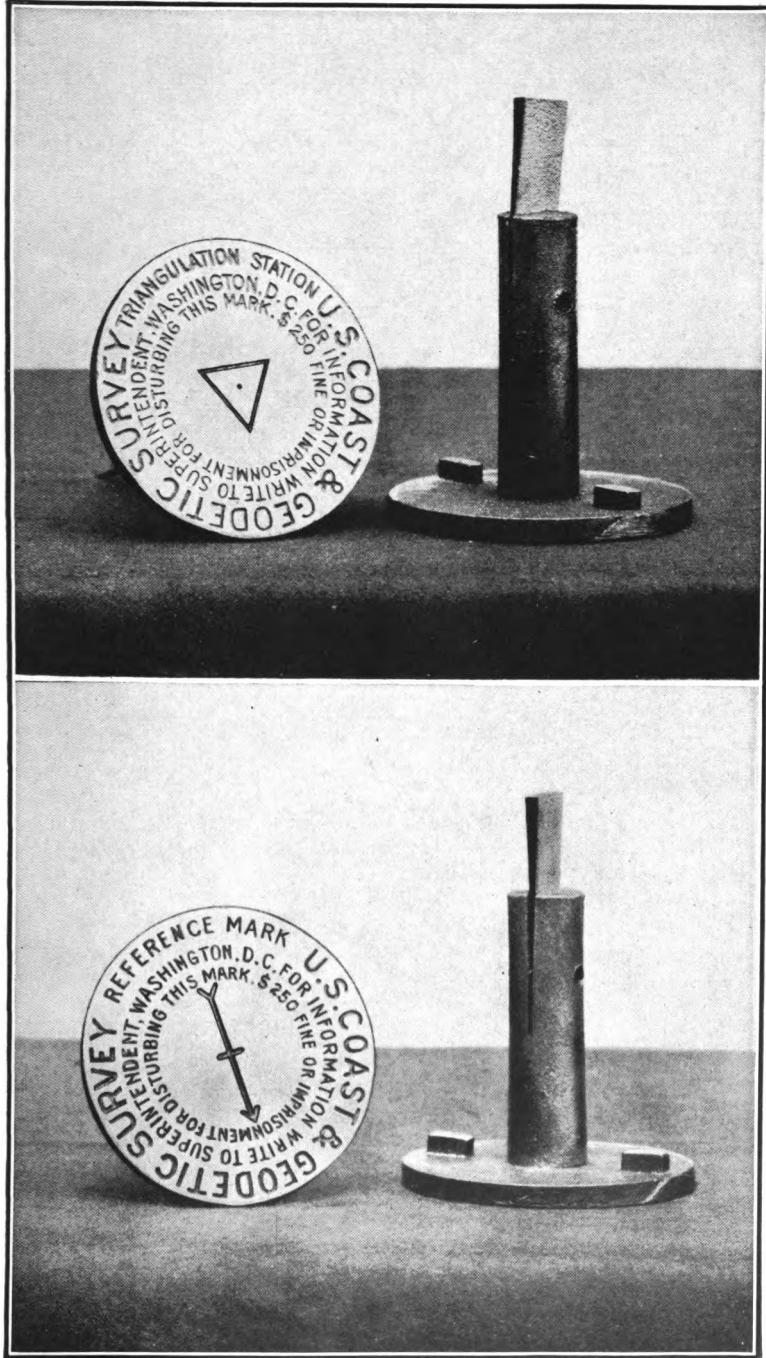


FIG. 1.—STANDARD TRIANGULATION STATION AND REFERENCE MARKS.

is requested to send such information to the Superintendent, Coast and Geodetic Survey, Washington, D. C.

MARKING OF STATIONS.

The standard disk station and reference marks referred to in the following descriptions and notes consist of a disk and shank of brass cast in one piece, as shown in figure No. 1. The disk of the station mark is 90 mm. in diameter, with a hole at the center surrounded by a 20 mm. equilateral triangle, and has the following inscribed legend: "U. S. Coast and Geodetic Survey Triangulation Station. For information write to the Superintendent, Washington, D. C. \$250 fine or imprisonment for disturbing this mark." The shank is 25 mm. in diameter and 80 mm. long, with a slit at the lower end into which a wedge is inserted so that when it is driven into a drill hole in the rock it will bulge at the bottom and hold the mark firmly in place.

The standard disk reference mark, shown in figure No. 1, is the same size and shape as the station mark, with an arrow on the top in place of the triangle, which, when properly set, points to the station. The legend is the same, except the words "reference mark" take the place of the words "triangulation station."

The following notes on the marking of stations are made as general as possible in order that it may not be necessary in the field to describe small and unimportant variations:

STANDARD NOTES ON MARKING OF STATIONS.

SURFACE STATION MARKS.—*Note 1.*—A standard disk station mark set in the top of (a) a square block or post of concrete, (b) a concrete cylinder, (c) an irregular mass of concrete.

Note 2.—A standard disk station mark wedged in a drill hole in outcropping bedrock, (a) and surrounded by a triangle chiseled in the rock, (b) and surrounded by a circle chiseled in the rock, (c) at the intersection of two lines chiseled in the rock.

Note 3.—A standard disk station mark set in concrete in a depression in outcropping bedrock.

Note 4.—A standard disk station mark wedged in a drill hole in a boulder.

Note 5.—A standard disk station mark set in concrete in a depression in a boulder.

Note 6.—A standard disk station mark set in concrete at the center of the top of a tile (a) which is embedded in the ground, (b) which is surrounded by a mass of concrete, (c) which is fastened by means of concrete to the upper end of a long wooden pile driven into the marsh, (d) which is set in a block of concrete and projects from 12 to 20 inches above the block.

UNDERGROUND STATION MARKS.—*Note 7.*—A block of concrete 3 feet below the ground containing at the center of its upper surface (a) a standard disk station mark, (b) a copper bolt projecting slightly above the concrete, (c) an iron nail with the point projecting above the concrete, (d) a glass bottle with the neck projecting a little above the concrete, (e) an earthenware jug with the mouth projecting a little above the concrete.

Note 8.—In bedrock, (a) a standard disk station mark wedged in a drill hole, (b) a standard disk station mark set in concrete in a depression, (c) a copper bolt set in cement in a drill hole or depression, (d) an iron spike set point up in cement in a drill hole or depression.

Note 9.—In a boulder 3 feet below the ground, (a) a standard disk station mark wedged in a drill hole, (b) a standard disk station mark set in concrete in a depression, (c) a copper bolt set with cement in a drill hole or depression, (d) an iron spike set with cement in a drill hole or depression.

Note 10.—Embedded in earth 3 feet below the surface of the ground, (a) a bottle in an upright position, (b) an earthenware jug in an upright position, (c) a brick in a horizontal position with a drill hole in its upper surface.

REFERENCE MARKS.—*Note 11.*—A standard disk reference mark with the arrow pointing toward the station set at the center of the top of, (a) a square block or post of concrete, (b) a concrete cylinder, (c) an irregular mass of concrete.

Note 12.—A standard disk reference mark with the arrow pointing toward the station, (a) wedged in a drill hole in outcropping bedrock, (b) set in concrete in a depression in outcropping bedrock, (c) wedged in a drill hole in a boulder, (d) set in concrete in a depression in a boulder.

Note 13.—A standard disk reference mark with the arrow pointing toward the station set in concrete at the center of the top of a tile, (a) which is embedded in the ground, (b) which is surrounded by a mass of concrete, (c) which is fastened by means of concrete to the upper end of a long wooden pile driven into the marsh, (d) which is set in a block of concrete and projects from 12 to 20 inches above the block.

WITNESS MARKS.—*Note 14.*—A conical mound of earth surrounded by a circular trench.

Note 15.—A tree marked with, (a) a triangular blaze with a nail at the center and each apex of the triangle, (b) a square blaze with a nail at the center and each corner of the square, (c) a blaze with a standard disk reference mark set at its center into the tree.

ADDITIONAL NOTES.

Note 16.—A drill hole surrounded by a triangle cut in the rock, (a) and covered by a cairn.

Note 17.—A hole drilled in the rock, (a) and covered by a cairn, (b) and surrounded by a circle chiseled in the rock, (c) and surrounded by a square cut in the rock.

Note 18.—A copper bolt set in a hole in the rock, (a) and surrounded by a triangle cut in the rock, (b) and covered by a cairn, (c) and surrounded by a circle.

Note 19.—A United States and Canada boundary survey brass station mark set in a hole drilled in the rock, (a) and surrounded by a triangle cut in the rock.

Note 20.—An iron bolt set in a hole drilled in the rock.

Note 21.—A stone post with a drilled hole in the center of the top.

Note 22.—A brass bolt set in a concrete post with the letters U. S. C. & G. S. on its top.

Note 23.—A three-fourths inch drilled hole filled with lead.

Note 24.—A drill hole in a brick buried below the surface with a rod projecting above the ground.

Note 25.—An iron spike in the top of a 4 by 4 inch pine post set 3 feet in the ground.

Note 26.—A cross cut in the rock, (a) and covered by a pile of stones.

Note 27.—A cross within a 4-inch triangle cut in the rock.

Note 28.—The surface mark is a standard brass disk set in the top of a 24 by 6 by 6 inch granite post centered over the underground mark. The underground mark is a nail inserted in the top surface of a cylinder of cement contained in a 12-inch length of 3-inch drainpipe and sunk about 2 feet below the surface of the ground.

PASSAMAQUODDY BAY AND ST. CROIX RIVER.

PRINCIPAL POINTS.

Moose (Washington County, O. H. T., 1883; 1913).—On the highest hill near the shore between Moose Creek and Haycock Harbor. The hill is bare of timber near the summit, and an uninterrupted view can be obtained in all directions. A wood road leads from the main road to the east side of the hill. The station is on a prominent part of the ledge and about 11 paces northwest of the highest part of the hill and is marked according to note 17a.¹

Grand Manan (New Brunswick, Canada, C. O. B., 1861; 1913).—On a high hill on the northwest side of Grand Manan Island, about $\frac{3}{8}$ mile east of the shore of Dark Harbor. The hill is covered with a dense growth of timber and brush, and the station is not easily found except by means of the following directions: Ascend the Sinclair Hill on the southeast side of Dark Harbor by the road which leads to the old field where the cellar of Sinclair's house can still be found; then follow the path northerly along the edge of the bluff for $\frac{1}{4}$ mile to a small clearing, where another old cellar will be found; then proceed east-northeast (magnetic) about 100 paces to the station which is on the northwest part of a small plateau. The ledge on which the station is placed is not at all prominent and is lower than a number of more conspicuous ledges to the eastward. The station is marked by a $\frac{3}{4}$ -inch drill hole in the center of a triangle which has a drill hole at each apex. A signal at least 50 feet in height would be required at this point in order to avoid heavy cutting of timber.

Trescott Rock (Washington County, C. O. B., 1861; 1913).—On a very prominent bare, rocky hill about 4 miles southeast of Whiting and about 1 mile west of the head of Haycock Harbor. The shore road from Quebec to Cutler lies about $\frac{1}{2}$ mile to the south, and a road leading to Whiting is about the same distance to the east. These two roads meet at a point about 100 yards west of the creek flowing into the head of Haycock Harbor. The station is on the highest point of the hill, a fairly smooth rock ledge about 5 meters in diameter, and is marked according to note 18a.¹

Godfrey (Washington County, O. H. T., 1883; 1913).—On a high, bare ledge about $\frac{1}{2}$ mile east of the head of Baileys Mistake, commanding an unobstructed view in all directions. The station is about 300 meters north of the road leading to Quoddy Head, and an open grass field lies between the road and the hill. A house on the south side of the road and a barn on the north side bear about south-southwest from the station, and about 200 feet southeast from the station there are a few graves at the foot of the hill. The station is near the highest part of the ledge and is marked according to note 16.¹

Kennison (Washington County, C. H. B., 1886; 1913).—On the summit of the prominent hill about 1 mile west of Whiting and just south of the road from Whiting to Machias. The station is on the southwest end of a small ledge, about 5 meters in diameter, near the east end of the high part of the hill. The western edge of the ledge is a fairly straight line and is about 5 feet from the station; the south end of a prominent crack in the ledge is 4 feet 8 inches east of the station. There are other smaller cracks in the ledge, one being 1.7 feet west and another 0.8 foot north of the station. Another and similar ledge is about 25 meters north of the station. The station is marked according to note 18.¹

Lawrence (Washington County, O. H. T., 1883; 1913).—On the highest knob at Lawrence Point, which is on the east side of the entrance to Hamiltons Cove and about 3 miles southwest of Quoddy Head. The hill is free from timber, and the view is unobstructed in all directions. The station is marked according to note 16a.¹

Leighton (Washington County, C. H. B., 1886; 1913).—On a hill on the farm of W. H. Leighton, about $1\frac{1}{2}$ miles east of Whiting and $\frac{3}{8}$ mile north-northwest of the Whiting-

¹ See pp. 163 and 164.

Lubec Road. The station is on a bare ledge in Leighton's pasture and about 10 meters from the summit. It is about $\frac{1}{4}$ mile southwest of Weir Cove, of South Branch of Cobscook River, and $\frac{1}{8}$ mile east of the Leighton neighborhood road and Leighton's house. The station is marked according to note 18.¹ A prominent pile of stones is near it.

Dyer (Washington County, C. H. B., 1886; 1913).—On the top of Dyer Hill, about $\frac{3}{4}$ mile west of West Lubec post office and 300 meters north of the Whiting-Lubec Road. The station is on the highest and most northerly of the flat ledges on the summit, and is 62 meters east of a fence marking the eastern line of Trescott Township. The land is now owned by Charles Tyler. The station is marked according to note 18.¹

Quoddy (Washington County, C. O. B., 1860; 1913).—On the southernmost of the two summits of the hill near the center of the peninsula of West Quoddy Head, about $\frac{5}{8}$ mile west of the lighthouse, and 200 meters south of the road. The lookout of the Life-Saving Service is on the other summit, about 100 meters to the northward. The station is on a fairly flat part of a bare ledge about $2\frac{1}{2}$ meters west of the highest point, and from it, with very little cutting, an unobstructed view can be obtained. It is easily reached by following the trail toward the Life-Saving Service lookout to the steep part of the hill and then turning to the southward along the old trail which leads to the station summit. The station is marked according to note 4;¹ a reference mark, note 12c,¹ is at the highest point, at a distance of 2.66 meters from the station.

Porcupine (Washington County, C. O. B., 1860; 1913).—On a high, commanding hill, known as Porcupine Hill, about 3 miles southwest of Lubec, $3\frac{1}{2}$ miles west-northwest of Quoddy Head Lighthouse, and $\frac{1}{8}$ mile south-southeast of the road from Lubec to Whiting. The station is about 10 meters south of the highest point and is marked according to note 4.¹

McCurdy (Washington County, C. H. B., 1886; 1913).—On the highest point of a ridge in the southern end of Crows Neck and on the west side of the head of Boynton or Lily Lake. It is also about 1 mile southwest of the head of Straight Bay. The station is on a bare ledge, but trees have grown up around it so that the view is cut off in most directions. It is marked according to note 18b.¹

Baptist (Washington County, C. H. B., 1886; 1913).—On a hill about 4 miles west of Lubec, $1\frac{1}{4}$ miles east of West Lubec post office, and about 150 meters north of the road between those towns. It is also about $\frac{1}{4}$ mile east of the head of South Bay. The station is on the western end of a rocky knoll, which has steep sides except to the south and east. It is on the farm of David Boyd and is marked by a copper bolt set in the ledge and by a monument of stone, made in 1913.

Indian Point (New Brunswick, Canada, C. O. B., 1861; 1913).—On the small rocky islet about $\frac{1}{8}$ mile south of Campobello Island. At low water it is connected with and forms part of Duck Point. It is about 1 mile northwest of Liberty Point and $1\frac{1}{4}$ miles north of Quoddy Head Lighthouse. The station is on the highest point of the rocky ledge and is marked according to note 19.¹

Mine Hill (Washington County, C. H. B., 1886; 1913).—On a prominent hill about $1\frac{1}{2}$ miles north of West Lubec and about $\frac{1}{2}$ mile west of Red Point, which is near the head of South Bay. The hill is covered with dense brush and timber on its east side and to some extent on the other side, but lines can without serious difficulty be opened to south, southwest, and southeast. The station is on the highest point, but 15 feet to the southward there is another summit nearly as high. There is a pile of rocks about 2 meters north of the station. The station is marked according to note 18.¹

Small (Washington County, C. H. B., 1886; 1913).—On a prominent hill in the southwestern part of Seward Neck (South Bay of Cobscook Bay), known as Bennetts Hill. It is about 3 miles west of Lubec, $\frac{3}{4}$ mile north of the Lubec-Whiting Road, and 300 meters northeast from the shore of South Bay, at the landing abreast of the south

¹See pp. 163 and 164.

end of Scrub Island. The approach from the landing is not difficult. To approach from Lubec take the Lubec-Whiting Road to its intersection with the Seward Neck or North Lubec Road, follow the latter about $\frac{1}{2}$ mile to the old Elisha Small farm and then proceed westerly about $\frac{3}{4}$ mile to the hill. The station is on the south side of a rocky ledge on the western summit. The eastern summit is 8 or 10 meters away and grass covered. Some cutting will be required to open lines in any direction, but it will not be heavy to the southeast, south, or southwest. The station is marked by a copper bolt set in a shelly rock, its top being about an inch below the surface.

Little 2 (Washington County, C. H. B., 1886; 1913).—On the west side of the south branch of Cobscook River, about $\frac{5}{8}$ mile from the shore and on a prominent wooded hill. The hill has two summits and the station is on the easternmost one, which is also the highest. It is about $\frac{5}{8}$ mile east of the main road from Whiting to Dennysville. A branch road between the same points passes about 200 meters south of the station and makes an abrupt turn northward, again passing the station at a distance of about $\frac{1}{4}$ mile. The house of George Little, the owner of the land, stands in the angle of the road and is slightly more than $\frac{1}{4}$ mile southeast by east from the station. The station is marked according to note 18.¹ A pile of rocks was placed near it in 1913.

Cox (Washington County, C. H. B., 1887; 1913).—On the summit of Hollowell Mountain, which is about 3 miles north-northeast of Whiting, about $\frac{3}{4}$ mile north of Bells Mountain, $\frac{1}{2}$ mile west of the shore of Burnt Cove (South Branch of Cobscook River) and about 70 meters west of the Whiting-Dennysville Road. The station is on the highest part of an irregular-shaped ledge, about a meter in diameter, and is marked according to note 18a.¹

Mowea Mountain (Washington County, C. H. B., 1886; 1913).—On the summit of the highest hill in the north part of Crows Neck, which lies between Straight Bay and South Branch and is bounded on the north by Cobscook River. The station is on a flat-topped ledge and is about 200 meters east of the Crows Neck Road, $\frac{1}{2}$ mile south of the shore of Cobscook River, and about 200 meters northwest of a cove of Straight Bay. It is marked according to note 18a.¹

Bradley (Washington County, C. H. B., 1886; 1913).—On the eastern side of Denbows Neck, in the town of Lubec, on the farm of John McCurdy, on the east side of the road leading down the neck and 400 meters from the south bay, on the summit of the wooded hill and 300 meters south of his dwelling. In 1886 the station was marked by four drill holes, two of which were 13 inches apart, south of west from the center, and the other two 30 inches apart, and the nearer one 32 inches from the center of the station. In 1913 it was assumed that the intersection of the lines of the holes was the center, and a niche was cut in the edge of the rock at which the center came. A standard reference mark centered in stovepipe filled with cement is 22.89 meters from the station.

Friars Head 3 (New Brunswick, Canada, W. M. S., 1910; 1913).—On the prominent head of that name on the west side of Campobello Island, about 1 mile northeast of Lubec, Me. The station is 5.13 meters from the southwest corner of the Friar Head pavilion and 5.65 meters from the northwest corner, and is marked according to note 16.¹ Two reference marks are (1) the center of a rude 4-inch cross cut on a ledge 16.61 meters southeast of the station; (2) the point of a 4-inch letter V cut on a small sloping face of rock 15.06 meters south of the station.

Treat 2 (U. S. and C. B. S.) (Washington County, T. C. M., 1893; 1913).—On Treat Island, which lies about $\frac{5}{8}$ mile south of Moose Island and about 1 mile north of Lubec. The station is on the highest point of the island, about 50 meters north of a white gravestone and 25 feet east by south from an old iron cannon. It is marked by a brass bolt set in the rock and projecting $1\frac{1}{2}$ inches above the surface.

¹ See pp. 163 and 164.

Case (Washington County, C. H. B., 1886; 1913).—On the highest part of a bare ledge on Denbows Neck, about 1 mile south of Denbows Point, which is the northern extremity of the neck, and about 150 meters east of the road along the neck. The station is on the farm of Solomon Case, whose house is on the west side of the road and about 150 meters southwest of the station. In 1913 several drill holes were found, but the one marking the station was not identified.

Denboe (Washington County, C. O. B., 1861).—At the end of the road leading down Denbos Neck, on a high rocky knoll 150 meters back of Mark Leighton's house and near its northern extremity. The station is marked by a bolt in the rock.

Buckman (Washington County, W. M. S., 1910; 1913).—On the west side of Friar Roads on Buckman Head, which is the southeast corner of Moose Island, and about $\frac{1}{4}$ mile south of the southern extremity of Eastport. The station is on a small ledge and 2.3 meters east of the western edge. It is also about 45 meters northeast of James Davis's house and 4 meters from his fence. The station is marked according to note 4.¹ A reference mark, note 11c,¹ is 31.63 meters from the station and in range with the tall black stack of Seacoast factory No. 4, and the chimney of L. L. Clark's factory. It is 1.5 feet north of Davis's fence and 75 feet east of the center of the walk on High street.

Gove (Washington County, C. H. B., 1886; 1913).—On the summit of a hill about 600 meters from the north end of Seward Neck, Cobscook Bay, on the farm of Appleton Gove and about 154 meters west of his house. The station is on the highest ledge on the summit and is about 120 meters west of the Neck Road. The station is marked according to note 4,¹ and a reference mark centered in a stovepipe filled with concrete was set at a distance of 19.17 meters in an open field to the southward with its top projecting 6 inches above the ground. A heavy growth of trees cuts off the view to the northward but the southerly view is unobstructed.

Campobello (U. S. and C. B. S.) (New Brunswick, Canada, T. C. M., 1893; 1913).—On the west side of Campobello Island about 200 meters from the Friar Roads shore and about $\frac{1}{2}$ mile north of Welchpool, and opposite to Eastport, Me. The station is on a large bare rock on the edge of the crest of the bluff back of the road and Mr. Mitchell's house. Four meters to the eastward stands the upper stone monument of "Campobello range line," and the lower monument is about 6 meters from the shore bluff and on the line to Pleasant Point. In the prolongation of this line two sections of drainpipe are planted, 4 meters and 20.5 meters, respectively, to the eastward of the center of the upper monument. The station is marked by a brass bolt set in lead in a hole drilled in the rock. A reference mark (standard disk) is set 4.42 meters west-southwest of the station.

Arcus (Washington County, C. O. B., 1860; 1913).—On the hill known as Mount Dorcas, on the peninsula commonly known as Harley Point, between the north branch of the Cobscook River and Duck Bay, and about 2 miles east of Dennysville. The top of the hill is bare. The station is marked according to note 16.¹ A pile of stones about the station will aid in finding it as they are the only large stones on the top of the hill. The road from Dennysville is about $\frac{1}{2}$ mile southwest from the station.

King (Washington County, C. H. B., 1887; 1913).—On the summit of King David's Ledge, an isolated rocky hill about $\frac{1}{2}$ mile north-northwest of Dennysville. The station is marked according to note 16.¹

Raccoon Hill (New Brunswick, Canada, C. O. B., 1860; 1913).—On the highest point of the high rocky hill, known as Raccoon in the northern part of the peninsula on the west side of Campobello Island formed by Friar Roads and Harbor De Loubec. The hill is free from timber and brush and a good trail runs from Raccoon Beach to the summit. The station is about $\frac{3}{8}$ mile southwest of Man of War Head, $\frac{1}{4}$ mile from the north shore of the peninsula, and 2 miles east of Eastport, Me., and $1\frac{3}{4}$ miles northeast of Welchpool. It is marked by United States and Canada boundary disk

¹ See pp. 163 and 164.

set in a drill hole in the ledge. Two reference marks in the magnetic meridian are, respectively, 11.315 feet north and 4.18 feet south of the station, the first marked by a cross within a 5-inch triangle cut in the rock and the second by a cross only.

Page (Washington County, C. H. B., 1887; 1913).—On a hill locally known as Page Mountain about a mile northeast of Dennysville and near the center of the peninsula formed by the forks of the north branch of Cobscook River. The forks are known as Dennys River and Wilson Stream, and the extremity of the peninsula is called Hinckley Point. The station is on the northern summit of the hill on a prominent bare ledge and commands an unobstructed view in all directions. The land is owned by Harvey F. Sprague who keeps a livery stable in Dennysville. The station is marked according to note 2a.¹ A drill hole 4.425 meters northwest of the station was made as a reference mark. The station is also about 200 meters east of the old Dennysville-Pembroke Road.

Prince Regents Redoubt (Washington County, F. P. W., 1861; 1913).—Lost.

Hersey (Washington County, C. H. B., 1887; 1913).—On the summit of a hill near the southeast end of Garnetts or Herseys Neck, which lies between the Pennamaquan River and East Bay of Cobscook Bay, and about 3 miles southeast of Pembroke. It is about $\frac{1}{2}$ mile northwest of Garnetts Point and about 250 meters from the north shore of the river. The road from Pembroke to Garnetts Point is less than 100 meters southwest of the station, which is marked according to note 16.¹ A standard disk reference mark set in a tin pipe filled with concrete and placed on a bare rock, is 12.77 meters from the station, in azimuth 175°.

Kendall 2 (U. S. and C. B. S.) (Washington County, T. C. M., 1893; 1913).—On the southern edge of the highest ledge on Kendall Head, Moose Island. The subsurface mark is a cross on the head of a bolt set in lead in a drilled hole in the rock 18 inches below the surface of the ground. The surface mark is a standard disk set in cement and centered over the bolt, but separated therefrom by a thin layer of soil. The pipe of cement is somewhat insecure owing to the lack of good soil to pack around it. A standard disk reference mark in a 4-inch length of pipe filled with concrete is set on the highest point of the ledge.

Wolf (New Brunswick, Canada, C. O. B., 1861; 1913).—On the highest point of a hill in the extreme south end of the Southwest Wolf Island, about 8 miles east of Campobello Island and the same distance south of the mainland. The station is about 50 meters southwest of the lighthouse and is marked by a small drill hole in the ledge which appears like a rounded boulder in the turf.

Hannabury (New Brunswick, Canada, C. O. B., 1860; 1913).—On a hill in the center of the northern part of Campobello Island, called Hannabury or Head Harbor Hill. The station is on an outcropping ledge between the two high ledges on the south side of the summit and is marked according to note 18.¹ A pile of rocks is placed near it. It is most readily reached by the road from Wilsons Landing to the east side of the hill.

Oak (Washington County, C. H. B., 1887; 1913).—On the summit of Oak Hill, a high and prominent hill about $1\frac{1}{4}$ miles west of the western end of Pembroke, $\frac{1}{2}$ mile south of the Pembroke-Dennysville Road, and about 250 meters east of a branch road running along the west side of the hill. The station is on the highest ledge of the summit and is marked according to note 16a.¹

Cannon (Washington County, C. H. B., 1887; 1913).—On a hill about $1\frac{1}{2}$ miles northwest by west of the bridge connecting Moose Island with the mainland and about 135 meters north of the road from Eastport to Pembroke. The road down to Birch Point (Cobscook Bay) forms a junction with the first-mentioned road about 250 meters farther east. The station is on the highest point of the ledge and is 21.5 feet west of a small boulder. It is marked according to note 16.¹

¹ See pp. 163 and 164.

Cumming (U. S. and C. B. S.) (Deer Island, New Brunswick, Canada, T. C. M., 1893; 1913).—On a bare knob rising quite abruptly from the west shore of Deer Island, and about $\frac{5}{8}$ mile north of Cummings Cove. It is marked by a brass bolt set in the rock and with lead poured around it, and over this a standard disk station mark centered on a 1-foot length of pipe was set in 1913. A standard reference mark also centered in a short length of pipe in cement was set on the highest part of the ledge at a distance of 10.53 meters to the north-northeast from the station.

Campbell (Washington County, C. H. B., 1887; 1913).—On a hill in the eastern part of Pembroke, 0.2 mile southeast of the bridge over Pennamaquan River, and in the angle of the road leading to Perry. The station is on a bare ledge near the brow of the hill and is marked according to note 17b.¹

Trott (Washington County, C. B. H., 1887; 1913).—On Pigeon Hill about 300 meters west of Frosts Cove of the western passage to Passamaquoddy Bay and St. Croix River. It is about a mile north of the bridge to Moose Island and the same distance northwest of Carlow Island; about 100 meters east of the Eastport-Calais Road and $\frac{3}{4}$ mile north of the junction of that road with the Pembroke Road. The station is on the highest outcrop of ledge on the southwest part of the summit of the hill and is marked by a drill hole within a rough 6-inch square cut in the rock. The drill hole is filled with lead, the original copper bolt having been removed. A standard disk reference mark set in concrete in an 8-inch length of stove pipe is placed on a ledge in the middle of the east side of the hill at a distance of 17.41 meters from the station. The owner of the land, Judson H. Trott, lives on the east side of the road about 200 meters south of the station.

Smart (Washington County, C. H. B., 1887; 1913).—On a high hill known as Porcupine Mountain, about 2 miles east of Pembroke, $\frac{3}{4}$ mile east-southeast of the road to Eastport, and about a mile northwest of the head of East Bay. The station, which is very difficult of access, is on the summit of a ledge, which is about 200 meters south-southeast of the highest point of the hills. It is marked according to note 16.¹ A prominent pile of large stones is placed about 6 feet to the eastward of the station.

Hannah (New Brunswick, Canada, F. P. W., 1860; 1913).—Lost.

White Horse (New Brunswick, Canada, C. O. B., 1863; 1913).—On the highest point of island of same name lying about 4 miles east of Deer Island; about $2\frac{3}{4}$ miles northeast of Head Harbor Light; and about 2 miles southwest of Bliss Island Light. The station was marked by a copper tack in the head of a wooded stub and two drill holes in the rock. A drill hole was about southwest from the station 9 feet 5 inches and the other about southeast 14 feet 3 inches. In 1913 only the drill holes were found, the central mark having disappeared.

North Head (New Brunswick, Canada, C. O. B., 1861; 1913).—Near the summit of the hill near the north end of Deer Island about $\frac{1}{4}$ mile from the north shore. The station is about 27 feet southwest of the highest point of the hill. The station is marked according to note 17b.¹ A cairn is placed near the station mark.

Anley (New Brunswick, Canada, F. P. W., 1863; 1913).—On a high hill between Letile Harbor and Letile Passage; about $\frac{1}{2}$ mile west of the former, about $\frac{1}{3}$ mile north of the shore of Back Bay, and about a mile east-northeast of Macabbin Point Lighthouse. The station is a bare knob of the second ledge to the westward and is marked according to note 17.¹ There is a pile of large rocks about it. The view is unobstructed in all directions.

Navy Island (New Brunswick, Canada, F. P. W., 1863; 1913).—On the north end of Navy Island which lies on the east side of the mouth of St. Croix River about $1\frac{1}{4}$ miles south of St. Andrews. The station is about 100 meters from the extreme south point of the island and about 18 meters from the edge of the bluff on the west side. About 66 meters to the north there is a row of stones, evidently the remains of an old

¹ See pp. 163 and 164.

fence across the island. The station is marked according to note 4,¹ the bowlders projecting about 6 inches above the surface. A reference mark, note 12c,¹ is 3.586 meters northeast of the station.

Shortland (Washington County, F. P. W., 1863; 1909).—On the high hill known as Trimble Hill, which is about $1\frac{1}{2}$ miles from the west shore of St. Croix River and about 2 miles northwest from Robbinston Congregational Church. The hill is no longer bare but is covered with beechy birch and spruce trees and some cutting will be necessary when the station is again occupied. The land belongs to Ernest Trimble whose house is about $\frac{1}{6}$ mile to the eastward. The station is marked according to note 4.¹ Two reference marks, note 27,¹ are placed at distances of 6.303 meters and 5.597 meters from the center, the latter being in a northeast by east direction, and the other west by north.

Farrar (Washington County, C. H. B., 1887; 1908).—On the summit of the hill or mountain of that name, located about 4 miles to the westward of Baring, about $2\frac{1}{2}$ miles south by west of Woodland, and on the north side of the Baring-Alexander Road. The ledge on which the station is placed is bare and of a reddish color. The land belongs to Leo Malloy, whose house is on the north side of the road and about $\frac{1}{2}$ mile south-southeast from the station.

Rye (Washington County, C. H. B., 1867; 1908).—On the hill or mountain of that name located about $5\frac{1}{2}$ miles west by north from Baring, about $2\frac{1}{2}$ miles southwest from Woodland, and about $\frac{1}{2}$ mile from the Alexander Road. The station is on the eastern part of the summit and the ground to the westward of it is slightly higher. The station is marked according to note 18,¹ and is about 180 feet from a wooden fence and 280 feet from a stone wall fence with one wooden top rail. The land belongs to Fred A. Perkins, whose house is about $\frac{1}{6}$ mile to the southward of the station. Originally four drilled holes filled with sulphur were placed as reference marks, viz, to the north, west, and south at 18 inches distance, to the east at 6 inches distance from the station. These marks, although not mentioned in the 1908 report, probably still exist.

Baring school cupola (Washington County, C. H. B., 1887).—In the town of Baring on Church Street and 4 miles southwest from Calais. The station is the finial over the cupola of the schoolhouse.

Chamcook 2 (New Brunswick, Canada, C. H. B., 1866; 1908).—A drill hole 19 inches northwest of Chamcook station.

Chamcook (New Brunswick, Canada, A. D. B., 1857; 1908).—On Chamcook Mountain which is in Charlotte County about $3\frac{1}{2}$ miles north of St. Andrews. The station is a little south of the summit which is bare, and in a slight depression in the rocky ledge. It is marked by a copper bolt set in the rock, and four drill holes, each 3 feet from the station, form a square, the diagonals of which intersect at the station point. The heliotrope range to the station on Cooper Mountain is marked by two holes drilled in the rock at distances, respectively, of 35 feet $7\frac{1}{4}$ inches and 72 feet $5\frac{1}{4}$ inches from the station. The nearer drill hole is within a 9-inch triangle cut in the rock.

Mohannas (Charlotte County, New Brunswick, Canada, C. H. B., 1887; 1909).—On the summit of the hill in St. Stephens Parish, formerly known as Thompsons Hill, but which is now owned by William Libbey. It is located on the east side of St. Croix River, about a mile therefrom, and about 3 miles west of Milltown, New Brunswick, about 2 miles northwest by north of Upper Mills and on the north side of the main road from St. Stephens and Milltown. The western part of Libbey's land, excepting a small circular area about the summit, is now covered with a thick growth of spruce and pine all the way to the road, and to the northward lies a densely wooded area known as the Shannon Woods Lots. To the westward, however, of this west line fence there is a large tract of clear pasture land, now (1909) under cultivation, belonging to Mrs. Libbey,

¹ See pp. 163 and 164.

a widow. Mrs. Libbey's house is southeasterly from the summit on the south side of the main road and a short distance west of a schoolhouse on the north side of the road. The station is on the bare ledge in the small clear area above mentioned and is the highest point of the hill. It is marked according to note 17b.¹ It is about 50 feet from the north fence and about 120 feet from the west line fence. Two reference marks, note 27,¹ are placed as follows: No. 1, 13.795 meters south from the station and 40.6 meters from the west fence; No. 2, 4 inches above the ground, 7.174 meters to the eastward of the station and 14.5 meters from the north fence.

Maguerrewoc (Washington County, C. H. B., 1887; 1909).—On the southwest summit of Maguerrewoc Mountain located about $\frac{3}{4}$ mile southeasterly from the southern part of Milltown, and about $\frac{3}{4}$ mile east of St. Croix River and $\frac{1}{4}$ mile east of the road from Calais and Milltown to Baring. The station is on land belonging to G. W. Trynor, on a ledge that was formerly bare but is now surrounded by a thick growth of trees. It is 19.7 meters north of a fence crossing the mountain which forms the dividing line between Mr. Trynor's land and that of his neighbor, John Wood. The station is marked according to note 16.¹ When the signal was erected in 1908 three drill holes were made, each 7 feet from the center, for bolts to which the wire guys were fastened. In 1909, when a taller signal pole was required, the guy bolts were set in other holes at a greater distance. The holes thus vacated will not be mistaken for the station mark, as the latter is inclosed by the deep cut triangle already mentioned. Two references were also established, the first being a standard disk marker set in a drilled hole in the top of a small rocky knub 7.5 meters to the northeastward of the station; the second reference mark is a cross within a 5-inch equilateral triangle cut on the flat surface of an exposed ledge, at a distance of 5.634 meters south by east from the station and about a foot north of the line fence.

Lane (Washington County, C. H. B., 1866; 1908).—On the summit of a hill which is variously known as Elliotts Mountain, or Whidden Mountain, and is located about $3\frac{1}{2}$ miles below Calais, $\frac{3}{4}$ mile southwest of Mark Point, and about $\frac{1}{6}$ mile from the south shore of the St. Croix River. The main road from Calais to Eastport is about $\frac{1}{4}$ mile north by west of the station, and another road forms a junction with the main road at a distance of about $\frac{1}{2}$ mile to the northeast. The land belongs to Addison Elliott, who will indicate the exact location of the station. The station is marked according to note 18.¹

Table Top (U. S. and C. B. S.) (Charlotte County, New Brunswick, Canada, C. H. B., 1866; 1908).—On the hill of that name sometimes called Table Mountain, on the east side of St. Croix River, just below the mouth of Oak Bay. It is about $2\frac{1}{4}$ miles north-northeast of Dochet Island Lighthouse, $1\frac{1}{2}$ miles east-southeast of Oak Point, and about $\frac{1}{2}$ mile from the shore. The station is in a slight depression on the topmost ledge of the mountain and is about 4 feet south of the edge of a very abrupt decline to the northward, and about 7 feet eastward of a perpendicular fall of 4 feet to the first shelf on the river side. The mark is the easternmost of two drilled holes within a 4-inch square cut in the rock. The additional drill hole was probably made by the parties who removed the original copper bolt. The section of the mountain in the vicinity of the station belongs to David McLaughlin, who lives at its base, on the river side of the main road from St. Stephen to St. Andrews.

Sinclair 2 (U. S. and C. B. S.) (Charlotte County, New Brunswick, Canada, J. E. McG., 1908).—On the summit of a round topped hill on the Canadian side of the St. Croix River, about $2\frac{1}{4}$ miles below St. Stephen, $1\frac{1}{2}$ miles above the settlement called the Ledge. The station is about 250 meters northeast of the road between the places mentioned and is marked by an iron bolt set in a hole drilled in the rock and projecting 2 inches. Three ring bolts similarly set around the station were used to secure the guys of signal pole and now serve as reference marks. They are distant, respectively,

¹ See pp. 163 and 164.

7.2 feet, 7.12 feet, and 7.39 feet from the center. The land belongs to Daniel McLaughlin, a son-in-law of Thomas Sinclair, the former owner.

Middlemiss (Charlotte County, New Brunswick, Canada, C. H. B., 1887; 1908).—On the highest part of Little Ridge Road about 6 miles west-northwest from St. Stephen, about $3\frac{1}{2}$ miles north of Woodland, Me., and $\frac{1}{2}$ mile south-southwest from Little Ridge Church. On the farm formerly belonging to William Middlemiss but now owned by Mr. McKeenan, who also owns the adjoining farm to the northward. The farm to the southward is owned by Mr. Mulvaney. About $\frac{1}{4}$ mile in the rear of the Middlemiss house a stone fence crosses the old farm and on this fence, at a distance of about 23 meters from the Mulvaney corner, the station is located. It is marked by a drill hole within a triangle cut on a large flat stone, which is surrounded by a number of other stones laid so as to form a sort of platform. A young growth of beech, birch, etc., now completely surrounds the station.

Calais Observatory (Washington County, C. H. B., 1866).—A flagstaff on the roof of the observatory over the center of the transit instrument. The station is marked by a lead bolt driven firmly in the rock, coinciding with the center of the transit instrument, which is 7.6 inches north and 62.75 inches west of the zenith telescope.

Cookson Island (Charlotte County, New Brunswick, Canada, C. H. B., 1866; 1908).—On the summit of the high hill of the island of that name, located near the head of Oak Bay, an arm of St. Croix River and about 5 miles east of St. Stephen. At low tide one can drive from Benson Corners to the island. By ascending the south side of the hill until a cleared space is reached, a trail leading to the summit will be found. The station is on a flat ledge on the western side of the summit and is marked according to note 18.¹

Collins (Charlotte County, New Brunswick, Canada, C. H. B., 1887; 1908).—On the highest part of St. David Ridge on the eastern side of the Ridge Road and about 5 miles north-northeast from St. Stephen. The station is on the land of David Collins and is 37 feet east of the road, 48.1 feet from the northwest corner of Mr. Collins's house, 79.7 feet from the southwest corner of the house, and 61.6 feet from the north post of the road gate. The mark is a drill hole in the top of a large boulder whose exposed surface is slightly above the ground level.

Oak (Charlotte County, New Brunswick, Canada, C. H. B., 1887; 1908).—On the flat summit of Oak Hill, which is about 10 miles northerly from St. Stephens and on the east side of the old Ridge Road, also known as Oak Hill Road. The station is on an open glade about 55 by 25 feet in dimensions, which is surrounded by a heavy growth of spruce and cedar trees. The land belongs to Harry Grimmer, whose house is on the west side of the road and about $\frac{1}{4}$ mile northwesterly from the station. The station is marked according to note 16.¹ To reach it enter the gate in front of Mr. Grimmer's house and pass over farmed land up to a cleared space on the hillside, and from the right-hand side of this clearing a trail leads directly to the summit.

St. David (Charlotte County, New Brunswick, Canada, C. H. B., 1867).—Lost in 1887.

Neal (Washington County, C. H. B., 1887; 1908).—On the highest point of the summit ledge of Neals Hill, a high rocky topped hill on the east side of the Princeton-Forest City Road and about 8 miles from Princeton. The land belongs to Joseph Neal, whose house is on the west side of the road and about $\frac{1}{4}$ mile west of the station. The first building to the northward of Mr. Neal's house and on the same side of the road is a schoolhouse, and beyond that is a Congregational Church. The station ledge is in pasture land and is marked according to note 16.¹

Tomah Mountain (Washington County, C. H. B., 1888; 1908).—This high mountain is in the western part of Codyville Township about 14 miles west by south from Vanceboro and about 4 miles northeast of Topsfield, which is on the Princeton-Forest City Road. To reach the station proceed northward on this road a short distance

¹ See pp. 163 and 164.

to the Vanceboro Road and follow that until John Landers's place, on the north side of the road, is reached. As Mr. Landers hauled the lumber, etc., for the construction of the signal, he will readily indicate the best route to the summit on which the station is located. The station is on the summit which appears the highest as viewed from Landers's house, and is on a bare ledge in a cleared area. It is marked by an iron bolt set in a drilled hole within a triangle cut in the rock.

Elbow Rip (Washington County, C. H. B., 1888; 1908).—On a large granite block, in the orchard of the Holbrook farm, which lies on the west side of St. Croix River about $3\frac{1}{4}$ miles below Vanceboro and $1\frac{5}{8}$ miles below the Elbow Rips. This boulder is about 66 feet north of a low stone fence separating the orchard from the pasture land, and 108 feet west of a road leading to the main road from Little Falls to Vanceboro. Mr. Holbrook's house is about 260 meters to the north-northwest. The station is marked according to note 16.¹

Brandy Hill (York County, New Brunswick, Canada, C. H. B., 1888; 1908).—On a high hill about $4\frac{1}{2}$ miles southeast by east from Vanceboro, about $3\frac{1}{4}$ miles southwest of McAdam Junction of the Canadian Pacific Railroad, and $1\frac{1}{4}$ miles east of the St. Stephens-Woodstock Road. The nearest house is on the east side of the road and is occupied by Mr. Sheldon, and about a mile farther north, on the same side of the road, is the house of A. Mitchell. The station is at the summit which is bare and fairly level, and is marked according to note 16.¹ The land now belongs to Irving Todd.

Vance Mountain (Washington County, C. H. B., 1888; 1908).—On the summit of the mountain of that name located about 4 miles west of Vanceboro, $\frac{3}{4}$ mile south of the head of Walker Cove of Lake Chiputneticook, and a mile north of the road from Vanceboro to Lambert Lake. The station is readily reached by taking the above mentioned road to the house and farm formerly occupied by John McNutt, now occupied by Stephen Gallison; then cross the orchard to the upper fence and for $\frac{1}{4}$ mile follow the old road leading to Walkers Landing on Lake Chiputneticook; a blazed trail will then be found leading nearly to the summit of the mountain. The station is on a bare ledge and is marked according to note 16.¹

Rocky Point (Washington County, J. H., 1890).—On the prominent rocky point on the south side of Lake Chiputneticook forming the west point of the entrance to Muncy Cove. It is also about $\frac{1}{4}$ mile southwest of Sandy Point. The station is on a large granite rock at the extreme northern part of the point and is marked according to note 16.¹

Birch Point (Washington County, J. H., 1890).—On a small island near the south shore of Chiputneticook Lake and in the mouth of Walker Cove. The station is on a large flat granite rock on the north shore of the island and is marked according to note 16.¹

Spruce Mountain (Washington County, C. H. B., 1888).—On the summit of the mountain of that name located about $\frac{5}{8}$ mile west by south from the head of Spruce Mountain Cove of Lake Chiputneticook, and $1\frac{1}{2}$ miles southeast by south from the head of south arm of Grand Lake. The station is marked according to note 16.¹

Indian Island (York County, New Brunswick, Canada, C. H. B., 1888).—On a boulder in the center of the southern end of the island of that name, which is located in Lake Chiputneticook about 3 miles above Vanceboro, 1 mile below "The Narrows," and $\frac{1}{2}$ mile north of Haleys Point. The boulder is the largest of several in the vicinity and at low water is on a sand beach. At high water it becomes a small islet. The station is marked according to note 16.¹

McAllister (York County, New Brunswick, Canada, J. H., 1890).—On the west side of the lower end of a small island lying in Chiputneticook Lake, at the west side of the mouth of McAllister Cove. The station is about $\frac{3}{4}$ mile from Hinckley Point and

¹ See pp. 163 and 164.

$\frac{3}{8}$ mile from the upper end of Birch Island. It is on a granite rock on the shore and is marked according to note 16.¹

Mount Henry (York County, New Brunswick, Canada, C. H. B., 1888; 1908).—On the mountain of that name located about $4\frac{1}{2}$ miles north-northeast of Vanceboro, $1\frac{1}{4}$ miles east of the head of Lake Palfrey of Lake Chiputneticook, and $1\frac{3}{4}$ miles east-northeast of the mouth of Diggity Brook of Lake Chiputneticook. The station is on a bare ledge 25 meters southwest from and 2 feet lower than the highest point, and is marked according to note 16.¹ To reach the station follow the Woodstock road from Vanceboro and St. Croix to the well-known farm belonging to the Maloney family, and then take the old blazed trail to the summit. Charles Keefe, of Vanceboro, now living with the Maloney family, owns the ground on which the station stands. On a large boulder 74 feet northeast of the station an arrow was placed in 1888 as a reference mark. This mark, although not mentioned in the 1908 report, may still exist.

Table Rock (York County, New Brunswick, Canada, J. H., 1890).—On a prominent flat topped rock on the east shore of Chiputneticook Lake; about 1 mile above Hinckley Point, and the same distance below Current Island, and about $\frac{3}{8}$ mile from the west shore of McAllister Cove. The station is marked according to note 16.¹

Walls Hill (Washington County, C. H. B., 1888).—On the highest part of the large hill of that name which is about $\frac{3}{8}$ mile from the eastern shore of the south arm of Grand Lake and about $1\frac{1}{4}$ miles south of Forest City. The station is on a boulder whose top projects about a foot above the ground, and is marked according to note 16.¹ The land belongs to Francis Wall, whose house is about $\frac{1}{2}$ mile to the eastward of the station and on the west side of the road leading from Forest City to Forest Station of the Maine Central Railroad.

Walls Hill North (Washington County, J. H., 1890).—On Walls Hill, $\frac{3}{4}$ mile from the eastern shore of the south arm of Grand Lake and about $1\frac{1}{2}$ miles from Forest City. This station is about $\frac{1}{2}$ mile east of the one described above as "Walls Hill," and is marked according to note 16.¹

Pemberton Ridge (York County, New Brunswick, Canada, C. H. B., 1889; 1911).—On the ridge of that name located about $\frac{3}{4}$ mile east of the shore of the head of Big English Cove of Grand Lake, and about $\frac{3}{4}$ mile north of Forest City. The station is about 45 meters south of the highest point of the ridge, on pasture land belonging to Hansford Guild, whose house is about 150 meters to the east-southeast on the west side of the road from Forest City to North Lake. A small grove of oak trees stands between the station and the public highway, the two largest trees being within 4 meters of the station. The station is marked according to note 4.¹ A reference mark, a cross within a triangle, cut on a smooth exposed part of the ridge, is 8.12 meters from the station.

Peekaboo Mountain (Aroostook County, C. H. B., 1889; 1911).—On the large sharp topped hill of that name, which rises abruptly to an elevation of 400 feet above Grand Lake and is located in Weston Township. Its summit is about $\frac{1}{4}$ mile west of the Houlton Road and a mile south of the road leading to the forks of the Mattawaukeag. The villages of Weston and Orient lie, respectively, a mile to the southward and $5\frac{1}{2}$ miles to the northeast. The station is on a granite ledge on the southeastern and highest part of the summit and 20 meters from the beginning of the slope toward the lake, and is marked according to note 19a.¹ The west side of the triangle is formed by a natural fissure in the ledge.

Green Mountain (York County, New Brunswick, Canada, C. H. B., 1888; 1911).—On the highest point of a bare granite ledge on the summit of the mountain of that name which is located about 9 miles north by east of Forest City; $1\frac{1}{2}$ miles south-southwest of the southernmost point of North Lake; $1\frac{1}{4}$ miles southeast of the head of North Bay of

¹ See pp. 163 and 164.

Grand Lake, and $\frac{1}{2}$ mile east of the road from Thoroughfare bridge to Forest City. The land belongs to Wallace Cosman, whose house is on the east side of the road and southwest of the station. The station is marked according to note 19a.¹ The reference mark, a cross within a $4\frac{1}{2}$ -inch triangle, is on a point of the same ledge and 5.415 meters northwest of the station.

McInelly (York County, New Brunswick, Canada, C. H. B., 1889; 1911).—On the hill or mountain in North Lake Parish, formerly owned by Abraham McInelly and now by Leonard Gould. On account of the densely wooded condition of the summit the station was placed about 250 meters to the westward just clear of the timber. It is about 600 meters southeast of the road from Canterbury to "The Thorofare," the latter being the water connection between North Lake and Grand Lake. The Grahamville schoolhouse, on the south side of the road, is about $\frac{1}{4}$ mile northeast of the station. The station is marked according to note 19a.¹

Spring Hill (Aroostook County, C. H. B., 1889; 1912).—On the large flat-topped hill of that name located a little south of the center of the township of Amity and west of the Houlton-Baring Road. The station is about 100 meters south of the highest part of the hill on open ground belonging to Fred Tracy, whose house is on the west side of the road at an estimated distance of 600 meters. The station is marked according to note 19,¹ on the top of a pear-shaped boulder which was buried for the purpose with its top slightly above the surface of the ground. A rough triangle cut in the rock surrounds the mark. A pile of stones heaped up in the course of clearing the land for cultivation is 7 meters from the station.

Kennedy (York County, New Brunswick, Canada, C. H. B., 1889; 1913).—On the summit of a hill on the farm of John Kennedy, in parish of North Lake, and about 3 miles east of the initial monument of the international boundary line. The station is on a large granite block or boulder, $2\frac{1}{2}$ by 3 feet, its highest part projecting about 6 inches above the ground. It is marked according to note 4.¹ John Kennedy's house, store, etc., are about $\frac{1}{3}$ mile southeast of the station, on a road leading to Decec railroad station.

Transit (Aroostook County, C. H. B., 1889; 1913).—On or very near the boundary line at a point 1,400 meters north of Initial Monument and 209.05 meters south from Iron Monument No. 2. It is on the eastern flank of Pole Hill, northeast from Pole Hill station, and on the highest ground. The boundary line crosses between Initial Monument and Monument No. 2. This is also the only position (in line) from which Initial Monument No. 1 and Monument No. 2 can be seen. A drill hole in a small boulder marks the station. The boulder is 2.4 feet north and south and 2 feet east and west and 1.5 feet deep.

Pole Hill (Aroostook County, C. H. B., 1889; 1913).—On the hill of that name in the northeast part of Amity Township about 100 meters west of the international boundary line and 0.8 mile north of the initial monument of that line. The station is on the highest part of the hill, on a boulder of gray sandstone, the visible part of which is 6 by 3 feet and 2 feet above the ground. The land belongs to the heirs of John Friel, whose house is about 350 meters to the southward. The station is marked according to note 19a.¹

Initial Monument (U. S. and C. B. S.) (Aroostook County and York County, New Brunswick, Canada, C. H. B., 1889; 1913).—On swampy ground at the source of the St. Croix River and on the United States and Canada boundary. The monument is of cast iron, in three sections, securely fastened to a boulder, and with a concrete base around it. The concrete base bears the following inscriptions: On the north side, "Treaty of 1842"; on the south side, "Renewed in 1908"; on the east side, "W. F. King, H. B. M., Commr.—G. C. Rainboth, H. B. M., Engr."; and on the west side, "O. H. Tittman, U. S. Commr.—J. B. Baylor, U. S. Engr., 1908." The monument itself bears the following inscriptions: On the north face, "Treaty of Washington"; on the

¹ See pp. 163 and 164.

south face, "Boundary, Aug. 9, 1842"; on the east face, "Lt. Col. I. B. B. Estcourt, H. B. M. Commr."; and on the west face, "Albert Smith, U.S. Commr." The monument in 1913 leaned slightly to the southward.

SUPPLEMENTARY POINTS.

Cliff (Washington County, O. H. T., 1883; 1913).—On a rocky cliff about 100 feet high on the coast about $\frac{1}{2}$ mile south of the mouth of Moose Cove. The station is less than 100 yards south of a small stream and to the northwest there is a small clump of trees near the top of the hill. Wooded hills to the south, west, and northwest limit the view somewhat in those directions, but in all other directions the view is unobstructed. The station is on the highest point of the ledge and is marked according to note 16a.¹

Heath (Washington County, O. H. T., 1883; 1913).—On the eastern of two summits near the south shore of Moose River near its mouth, and about $1\frac{1}{2}$ miles due south of Trescott Rock. The western summit is slightly the higher of the two, and about 400 meters farther east a third summit exists, which is lower than either. The station is on the highest point of a ledge and is marked according to note 16a.¹ There is very little brush or trees near either summit.

Haycock (Washington County, O. H. T., 1883; 1913).—On the head on the east side of the entrance to Haycock Harbor on the highest point outside of the trees near the water. According to the 1883 description, the station was marked by a drill hole in a triangle cut in the rock, but in 1913 a triangle without a drill hole was found about 6 inches below the surface of the ground. There is some doubt, therefore, as to the recovery of the station.

Morrison (Washington County, O. H. T., 1883; 1913).—On the highest point of a prominent hill on the north side of Haycock Harbor about $\frac{1}{3}$ way from its head to its entrance. The hill is almost bare of trees except on its south side. A road leading to Balchs Head is just north of the hill and there is a house about 150 meters northwest of the station. The station is marked according to note 16a.¹

James Head (Washington County, 1883; 1913).—On the highest part of Jims Head, the bold headline at the eastern side of the entrance to Baileys Mistake. The hill is fairly clear of trees and brush but the adjacent hills are densely wooded, so that the view is cut off except to the southwest and seaward. A trail along the east side of Baileys Mistake runs almost to the station. There is a small spruce tree about a meter west of the station and a smaller one (about 2 feet high) about 2 feet north of the station. The station is marked by a $\frac{3}{4}$ -inch drill hole in the solid rock, which is $2\frac{1}{2}$ feet below the surface of the ground. The old signal pole was set over the mark and supported by a pile of rocks. These are the only rocks on the hill.

Boot Head (Washington County, O. H. T., 1883; 1913).—On the highest part of Boot Head, south side of Boot Cove. The hill is covered with a dense growth of spruce and fir trees. A prominent trail from the head of Boot Cove crosses the ridge about 50 meters west of the station. The station is marked according to note 16,¹ the rock being slightly below the surface of the ground. Considerable cutting would be required to open lines in any direction.

Squaw Cap (Washington County, O. H. T., 1883; 1913).—On the high peak locally known as Squaw Cap, about a mile north of Boot Head, and about 500 meters northwest of the road from Quoddy Head towards Baileys Mistake. The station is on the highest point and has an open view in all directions. It is marked according to note 16.¹

Wallace (Washington County, O. H. T., 1883; 1913).—On a prominent little hill or knoll on the west side of the entrance to Wallaces Cove, the first cove to the

¹ See pp. 163 and 164.

westward of the Carrying Place Cove at West Quoddy Head. The hill is covered with brush and small trees, but little cutting would be required to open lines. There is a cultivated field just east of the hill and one can drive to within 100 meters of the station, which is on the highest point of the rocky knoll and is marked according to note 17.¹

Kimball (Washington County, O. H. T., 1883; 1913).—On a rocky hill about 1½ miles west of Carrying Place Cove and about 50 meters south of the road from Quoddy Head to Baileys Mistake. The station is about 3 meters east of the highest point of the highest ledge in the vicinity and commands an open view in nearly all directions. It is marked according to note 16.¹

Waddle (Washington County, C. H. B., 1886; 1913).—On a high bare mass of rock, known as Waddle Mountain, about a mile southwest by south from West Lubec post office and about 125 meters west of the road leading to Baileys Mistake. The station is 6 feet north of the extreme summit and 1 foot lower, and a few inches to the southward of it is a fault in the rock resembling a small star. The station is marked according to note 18.¹

Sail Rock (U. S. and C. B. S.) (Washington County, J. E. McG., 1913).—On the islet of that name, which is a mass of rocks lying about ¼ mile south-southeast from West Quoddy Head Light. Two points only, about 25 or 30 meters apart, are bare at high water, and the westernmost one, although the lower, was used and marked as the station. The higher one was too narrow and pointed to be available either for setting up the instrument or erecting a signal. The station is marked according to note 19.¹

Larrabee (U. S. and C. B. S.) (Washington County, J. E. McG., 1913).—On a point of the north shore of West Quoddy Head forming the western limit of Larrabee Cove. About 10 feet below the top of the bluff the gray granite protrudes beyond the soil and about 8 feet outside of the toe of the earthen part of the bank the station is located. It is marked according to note 19.¹ The station is about ½ mile northwest of West Quoddy Head Light; a little over a mile southwest ¾ south from Indian Point, and 1¾ miles south ½ east from Lubec Channel Light.

Round Rock (U. S. and C. B. S.) (New Brunswick, Canada, J. E. McG., 1913).—On a fairly level topped rock, locally known as Black Rock, in the mouth of Passamaquoddy Bay and about ¼ mile from the shore of the southeast part of Campobello Island. It is also about 1¼ miles northeast by east of West Quoddy Head Light, and about ⅔ mile southeast of Indian Point. The summit of this rock is only reached by the highest tides and has an area of about 40 by 45 feet. The station is about 15 feet from the edge in line with the bell buoy, and is marked according to note 19.¹

Liberty Point (U. S. and C. B. S.) (New Brunswick, Canada, J. E. McG., 1913).—On a bare granite rock just off the southeast part of Liberty Point, Campobello Island. The station is marked according to note 19.¹

Ramsdell's house chimney (Washington County, C. H. B., 1886; 1913).—The single chimney on the house of Elisha Ramsdell, in Lubec, 1½ miles east of West Lubec post office, on the road to Lubec Village, on the north side of the road, well back.

Bello (U. S. and C. B. S.) (New Brunswick, Canada, J. E. McG., 1913).—On an outer point about 300 meters to the westward of Liberty Point, which is the southeast corner of Campobello Island. The station is on the fairly flat top of the granite ledge and is about 1½ miles east-northeast of West Quoddy Head Light and a little over a mile southeast by east of Indian Point. The station is marked according to note 19.¹

Mam (U. S. and C. B. S.) (Washington County, J. E. McG., 1913).—On the western shore of Passamaquoddy Bay about ¼ mile below Woodward Point and 1¾ miles below Lubec. The station is on a black ledge of igneous rock which projects about 20 feet from the adjoining bank. Rollo Joy's house is about 450 feet above the station

¹ See pp. 163 and 164.

and at the mouth of Crows Neck Creek, and Frank M. Small's fish house and wharf are 417 feet in opposite direction. The station is also about a mile west-southwest from Lubec Channel Light, and is marked according to note 19.¹

May (Washington County, C. H. B., 1886; 1913).—On a hill on the eastern side of South Branch of Cobscook River, on the south point of Carrying Place Cove, which is $\frac{3}{4}$ mile north of Timber Cove. The station is on the west side of the summit of a ledge forming the north end of the hill. The south part of the hill is covered with scrub growth, but from the station there is a clear view to the east, north, and west. The station is marked according to note 17.¹ A pile of stones is near it.

Pond (U. S. and C. B. S.) (New Brunswick, Canada, J. E. McG., 1913).—On the top of an irregular mass of igneous rock on the south coast of Campobello Island, about $\frac{1}{2}$ mile to the eastward of Duck Point, and about $\frac{1}{2}$ mile east-northeast of Indian Point. The station is 5 meters outside of the vegetation line and 9.35 meters from a white granite boulder whose exposed part is 1 meter long, 0.75 meter wide, and 0.60 meter high. About 17 meters to the eastward of the station and the white boulder mentioned is a gray granite boulder 1.5 by 1.0 by 0.8 meter. The station mark is a brass bolt set in a hole drilled in the rock. Three other drilled holes on which ring bolts were placed for the attachment of the signal guys are distant respectively 1.99 meters, 1.66 meters, and 2.14 meters.

Duck (U. S. and C. B. S.) (New Brunswick, Canada, J. E. McG., 1913).—On the innermost and largest of the Duck Islands, lying off southwest coast of Campobello Island abreast of the mouth of Little Duck Pond and about $\frac{3}{4}$ mile to the eastward of Lubec Channel Light. The station is nearly in the center of the face of the island directed toward the American shore on a large granite ledge a few feet above high water and 3.73 meters outside of the line of vegetation. The station was marked according to note 19,¹ but subsequently a triangular pyramid of stone and mortar was built over it to serve as back range for Boundary Point No. 12.

Gunner (U. S. and C. B. S.) (New Brunswick, Canada, J. E. McG., 1913).—On top of the southeast corner of Cranberry Point, southwest coast of Campobello Island. The station is about 6 feet inside of the vertical rock face of the point and close by a "blind" used by gunners in duck shooting, and is $\frac{2}{5}$ mile east by north from Lubec Channel Light. The mark is a nail in the center of top surface of a cylinder of cement contained in a 1-foot length of 3-inch drainpipe set in the ground in a mass of concrete mortar. Subsequently a cairn of stone and cement was erected over the station mark, to serve as front range for a line intersecting station No. 11 of the international boundary line through Passamaquoddy Bay.

Cranberry Point (U. S. and C. B. S.) (New Brunswick, Canada, J. E. McG., 1913).—On the point of that name on the southwest coast of Campobello Island, and about $\frac{1}{2}$ mile NE. by E. $\frac{1}{2}$ E. from the Lubec Channel Light. The station is on a knoll and is marked according to note 19.¹ Between the station and the Lubec Channel there is an outer line of fairly high granite ledge, which, however, is covered at high water.

Alder (U. S. and C. B. S.) (New Brunswick, Canada, J. E. McG., 1913).—On the top of the bank of the southwest coast of Campobello Island, about 250 meters above Cranberry Point, and about a mile south of Mulholland Point Light. There is a dense growth of alders interspersed with evergreens along the top of the bank. The station was marked by a nail inserted in the top surface of a cylinder of cement contained in a 1-foot length of 3-inch drainpipe and set flush with the ground. Later it was covered by a 6-foot triangular pyramid of stone and mortar, which serves as the front range of station No. 10 of the boundary line.

Telegraph (U. S. and C. B. S.) (Washington County, J. E. McG., 1913).—About $\frac{3}{8}$ mile south of Lubec and nearly in line with the great row of telegraph poles leading to

¹ See pp. 163 and 164.

that point and beyond. The station is between poles Nos. 256/1148 and 256/1149, and 6.83 feet from the center of the former. The pole numbers increase toward Lubec. The station is marked by a nail inserted in the center of the top surface of a cylinder of cement contained in a piece of 3-inch drainpipe, set in the ground in cement.

Charley (U. S. and C. B. S.) (New Brunswick, Canada, J. E. McG., 1913).—On Charley Point, on the west coast of Campobello Island and about 300 meters to the southward of Mulholland Point Light. The station is about 2 meters inside of the fence line of Henry Mulholland's field and 3.6 meters back from the edge of the bluff. It was marked by a nail inserted in a cylinder of cement contained in a 1-foot length of 3-inch drainpipe set in the ground, but later a pyramid of stone and cement was set over it to serve as the back range mark for station No. 9 of the international boundary line. The cairn or pyramid is 6.5 feet high.

Lubec church spire (Washington County, C. O. B., 1861; 1913).—The most prominent white spire in the town of Lubec.

Breakwater (U. S. and C. B. S.) (Washington County, J. E. McG., 1913).—On the Lubec breakwater, near the center of the top surface of the fifth granite block from its outer end. The station is marked according to note 19.¹ and is 3.25 meters from the outer edge of the top course of granite blocks. A reference mark—a cross cut in one of the granite blocks near the inner end of the breakwater—is 70.060 meters distant from the station.

Chambers (U. S. and C. B. S.) (New Brunswick, Canada, J. E. McG., 1913).—On the west coast of Campobello Island, on a point about $\frac{1}{4}$ mile north by east of Mulholland Point Light and about $\frac{1}{8}$ mile northeast of Lubec, Me. The station is on a bare ledge which exposes a length of about 32 feet and a width of about $4\frac{1}{2}$ feet, and is marked according to note 19.¹ Subsequently a pyramidal cairn (three-sided) of rocks and cement was erected over this station to serve as the back range for station No. 8 of the international boundary line. The slant height of this pyramid is 5 feet 8 inches, and the side facing toward No. 8 is painted with white cement paint.

Pope (U. S. and C. B. S.) (New Brunswick, Canada, J. E. McG., 1913).—On a rocky ledge near the north end of Popes Folly Island, which lies off the west coast of Campobello Island and about $\frac{3}{8}$ mile north of Lubec, Me. The station is not on the highest point of the north end, but is just outside of the tree line. It is marked according to note 19.¹

Sculpin (U. S. and C. B. S.) (Washington County, J. E. McG., 1913).—On a high flat ledge near the south end of Treat Island, and 1.8 meters from the precipitous face of 6 feet height showing toward the southwest. At the station a line tangent to the right corner of large gray hotel on Campobello Island will strike the north corner of Friars Head Rock, and a line to Lubec Church spire will pass about 15 feet to the right of the outer end of the grassy east point of Dudley Island. The station is marked according to note 19.¹ Three small drilled holes about the station were used for the eyebolts to which the guys supporting the signal were attached.

Folly (U. S. and C. B. S.) (New Brunswick, Canada, J. E. McG., 1913).—Near the southeast end of Popes Folly Island, which lies off the west coast of Campobello Island and about $\frac{3}{8}$ mile north of Lubec, Me. The station is 6.55 meters from the precipitous rock face of the end of the island and on the line to Lubec Church spire. The station mark is the head of a nail set in cement mortar contained in a 1-foot length of 3-inch drainpipe and set in a mass of the same material. The top of the pipe is flush with the surrounding ground.

Grassy Point (U. S. and C. B. S.) (New Brunswick, Canada, J. E. McG., 1913).—On the outer grassy knob of what is locally known as De Wades Point, the first point below Friars Head, west side of Campobello Island. The station is 11.3 meters from the shore and on an exposed surface of rock, and is marked according to note 19.¹

¹ See pp. 163 and 164.

Morong (Washington County, C. H. B., 1887; 1913).—On the eastern summit of a hill on the west side of the northern branch of Cobscook River, about 3 miles southeast of Dennysville and 200 meters southeast of the fork in the Dennysville-Whiting Road. The western summit is covered with timber, but the one on which the station is located is fairly open except toward the west. East-northeast of the station there are two houses in range and distant $\frac{1}{8}$ and $\frac{1}{4}$ mile, respectively. The station is marked according to note 4.¹ A drill hole 1 inch in diameter and 5.67 meters northward of the station was made to serve as a reference mark. It is about 1 foot lower than the station and about 3 feet east of the high part of the ledge.

Smith (Washington County, C. H. B., 1887; 1913).—On the highest ledge of Bitch Island, which lies in the western side of the South Branch of Cobscook River near its junction with the North Branch. The station is within 3 meters of the southwest edge of the ledge and is marked according to note 17b.¹ A prominent pile of stones is placed near it.

Sturges house (Washington County, D. B. W., 1893).—On Campobello Island, a little more than $1\frac{1}{2}$ miles southeast of the Welchpool Landing Wharf.

Dram (Washington County, C. H. B., 1887; 1913).—On the summit ledge of Big Dram Island, which lies in the middle of North Branch of Cobscook River just above its junction with the South Branch. Little Dram Island lies about $\frac{1}{4}$ mile to the north-northwest. The station is marked according to note 17b,¹ and is 17 meters and 12 meters, respectively, from southerly and northerly ends of the ledge.

Richardson (Washington County, C. H. B., 1887; 1913).—On a prominent hill on the west side of the North Branch of Cobscook River, about 300 meters from the shore and $2\frac{1}{2}$ miles southeast of Dennysville. It is on the center of a small peninsula and is about the same distance (300 meters) from the shore in three directions, viz, from the east, south, and north, the latter being the Little Falls River. The station is on the south side of the highest ledge, a slightly lower one being about 50 meters to the south-east, and is about $\frac{1}{2}$ mile east of the Dennysville-Whiting Road. The station is marked according to note 4.¹ A reference mark, note 12c,¹ is 5.39 meters to the north from the station.

Point Leighton (Washington County, C. H. B., 1887; 1913).—Near the south end of Leighton Point, which is on the north side of Cobscook River and near its mouth. The station is on the summit of a small rocky knoll near the terminus of the road from Pembroke and is marked according to note 17b.¹ A standard disk reference mark set in a short length of stovepipe filled with cement is placed 14.37 meters south of east from the station.

Head (U. S. and C. B. S.) (Washington County, J. E. McG., 1913).—On Buckman Head, Eastport, about 3 meters from the rocky point of the top, from which the descent to the beach is almost vertical. It is also about 120 meters to the eastward of Beale & Garnett's wharf, which is near the foot of High Street. The station is marked according to note 19.¹ A range mark which is on the extension of the line from boundary point 8 to boundary point 9 is 16.39 meters west by north from the station. This range mark is a triangular pyramid of rock and cement mortar 8.5 feet high and with base sides each 4.5 feet in length.

Razor Island (Washington County, C. H. B., 1886; 1913).—On a small island of that name lying in Cobscook Bay, about $\frac{1}{2}$ mile west-southwest from the northwest point of Seward Neck and about 1 mile east of Youngs Point of Denbow Neck. The station was originally marked by a pine post 12 feet long and 10 inches in diameter and a drill hole in a projecting stone 6 inches from the center of the post and on its west side. In 1913 only a drill hole was found, and according to the observer the only way a post could have been placed and be 6 inches from the drill hole is to the southward. So a standard disk station mark, centered in a drain tile filled with cement, was placed 6 inches

¹ See pp. 163 and 164.

from the drill hole, and projects about 6 inches from the ground. A standard disk reference mark was placed in a drain tile filled with cement 11.18 meters east of the station. A hole 1.5 feet in diameter, 4 feet deep, is about 10 feet northwest from the station; another hole 3 feet in diameter is 8 feet from the reference mark and in range with it and the station; a third hole, 5 feet square and 2 feet deep, is 2 feet south of the station.

Wilbur (Washington County, C. H. B., 1887; 1913).—On the summit of the highest ledge on Wilbur Neck, the long narrow peninsula between the east side of the North Branch of Cobscook River and Youngs Cove. The station is on the southern part of the neck, about 100 meters from the shore of Youngs Cove, and is marked according to note 17b.¹ A tree 10 feet south of the station is blazed on its south side, and a bronze wedge and nails were inserted in the blazed area.

Cable cross monument (U. S. and C. B. S.) (Washington County, T. C. M., 1893; 1913).—The shore mark of the cable crossing range line and a stone monument set within 14 meters of the shore of an indentation below Buckman Point and in the southern outskirts of Eastport. To the westward of the monument and on the range line two sections of drainpipe are set at distances of 2.4 meters and 9.5 meters, respectively, from its center.

Cable cross house (U. S. and C. B. S.) (Washington County, T. C. M., 1893).—The rear mark of the cable crossing range line and the northernmost window on the east face of the first building north of the schoolhouse in the southerly outskirts of Eastport.

Eastport Catholic Church spire (Washington County, W. M. S., 1910; 1913).—The most northwestern of the three prominent spires in Eastport. On the north side of the street which connects the post office with the railroad station, and west of High Street. The spire is dark in color and on the east end of the building.

Eastport Congregational Church spire (Washington County, W. M. S., 1910; 1913).—A tall, slender spire, similar in shape to the Catholic spire, and on the west side of the street near the middle of the block, about a block west of the post office and a block and a half south. The spire and church are painted white. A clock is at the base of the spire.

Eastport Unitarian Church spire (Washington County, W. M. S., 1910; 1913).—A tall, irregular-shaped spire capped by a small dome and vane, a block and a half south and a half block west of the Congregational Church. The church is on the south side of the street and the tower on the north end. The church and spire are painted white, the dome or the top of the spire being yellow.

Eastport Monument (U. S. and C. B. S.) (Washington County, T. C. M., 1893; 1913).—This range monument stands on the heights in the northwestern outskirts of Eastport, on a small saddle 140 meters northwest of the highest knob and about 30 feet lower in elevation. On the range line two drainpipes are placed, one 9.5 meters north and the other 8.7 meters south of the center of the monument. The drill hole marking the triangulation station is 5.4 meters from the center of the monument and is slightly to the westward of the range line.

Dunn (Washington County, C. H. B., 1887; 1913).—On a prominent hill on the east side of North Branch of Cobscook River, about 2 miles east by north from Dennysville and 2½ miles south by west from Pembroke. It is on a peninsula formed by the river and Ox Cove, and about 150 meters from the shore of the former. The entire hill is densely wooded except a small clearing to the north of the station, with an old barn and the ruins of a house on it. The station is on the highest point, near the southern end of narrow ledge about 5 meters long and 1 meter wide, and is marked according to note 4.¹

¹ See pp. 163 and 164.

Mitchell (Washington County, C. H. B., 1887; 1913).—The western gable of a large barn in South Pembroke, about $\frac{1}{2}$ mile north of Youngs Cove, and the same distance from a prominent hill with several other buildings. In 1913 there were two barns located in this region, and it is not certain whether either is the original barn.

Red Island (Washington County, C. H. B., 1886; 1913).—On Red Island, a small island in Cobscook Bay about $\frac{3}{4}$ mile south of Lincoln Point. It is remarkably red in appearance and is about 20 feet above high water. The top on the southwest side is denuded soil and the station is on the ledge thus exposed and is marked according to note 16.¹ A standard reference mark set in a drainpipe projects 6 inches above the ground at a distance of 8.67 meters from the station in an easterly direction.

Birch (Washington County, C. H. B., 1887; 1913).—In the southern part of Birch Point, Cobscook Bay, on the farm of Herbert Lincoln, who lives 300 meters to the north-northwest at the end of the road down the point. The station is on a rocky knoll in an open field. The rock is shale but an outcrop of ledge on the western side of the knoll is somewhat harder and was used for the station point which is marked according to note 17b.¹ A reference mark, note 13,¹ is 10.54 meters south of the station. There is also a small house about 80 meters east of the station.

Dog Island range monument (U. S. and C. B. S.) (Washington County, T. C. M., 1893; 1913).—On the northeast side of Dog Island above Eastport, on the edge of a low rocky cliff rising directly from the water line. The center of monument is 1 meter west of edge of cliff. To the westward of monument and on the backward prolongation of the line to Thumbcap monument are three range marks, viz, a cross cut in rock and two drainpipes, at distances, respectively, from center of monument 5.82 meters, 10.15 meters, and 15.7 meters.

Loring's barn ventilator (Washington County, C. H. B., 1887; 1913).—The top of the finial of the ventilator of the barn of E. S. Loring, whose farm is on the Loring road in South Perry, a few hundred meters south of Fox. The ventilator was in good condition in 1913.

Cherry Island bell tower (New Brunswick, Canada, W. M. S., 1910; 1913).—On the southwest point of Cherry Island, about $\frac{1}{4}$ mile south of the southeast point of Indian Island; about 1 mile southeast of the southern extremity of Deer Island; and about a mile east of Eastport, Me. The point of the tower determined was the bell on top of the small red box or house that surmounts the whole structure.

Cherry Island range monument (U. S. and C. B. S.) (New Brunswick, Canada, T. C. M., 1893).—This monument is in the southern part of Cherry Island, which lies in Friar Roads about a mile northeast of Eastport and about 300 meters south of Indian Island. The Thumbcap monument, Cherry Island monument, and lighthouse are in range, and two drainpipes are planted on the same line, 6.2 meters and 9.7 meters, respectively, to the northward of the Cherry Island monument.

William L. (Washington County, C. H. B., 1887; 1913).—On a hill near the center of the peninsula lying between East Bay and Lincoln Cove (Cobscook Bay), about $1\frac{1}{2}$ miles north of Birch Point, and about $\frac{3}{8}$ mile southwest of the Eastport-Pembroke Road, about $\frac{1}{2}$ mile west of the road down Birch Point, and about $\frac{3}{8}$ mile east of the shore of East Bay. It is on the farm of William N. Lincoln. The station is on a bare ledge and marked according to note 17b.¹

Leach (Washington County, C. H. B., 1887; 1913).—In the southern part of Perry and south of the telegraph road to Eastport, on the east side of East Bay, on the farm of Mrs. J. H. Leach, at the end of the road branching to the southward from the telegraph road, about 700 meters east from the head of East Bay, and running southward to her farm and to that of Mr. Lincoln. The station was a 5-foot pole nailed on the east gable end of the barn behind Mrs. Leach's house. The ridgepole of the barn was 2 feet west. In 1913 the pole was gone but station could be recovered by measuring from the ridgepole.

¹ See pp. 163 and 164.

Carlow Island chimney (Washington County, D. B. W., 1893; 1913).—The very large brick chimney on Mrs. Black's house on the eastern side of Carlow Island, and used as the back mark of the Carlow Island range. Owing to outcropping ledges the draintile marking the range had to be placed to the eastward of the barn. In 1913 the chimney was found in good condition but the tile was not found.

Pleasant Point windmill (Washington County, O. B. F., 1913).—The center of the top of the large windmill near the top of the hill in the settlement of Pleasant Point, and just west of a house on the west side of the road and near the south side of the top of the hill.

Pleasant Point church spire (Washington County, O. B. F., 1913).—The spire of the only church at Pleasant Point, and located near the extreme end of the point and near the shore of the Western Passage; at the east end of the road and just west of the railroad. The spire is a low one and at the southwest corner of the building. In 1913 the church and spire were both painted green.

Antoine's chimney (Washington County, C. H. B., 1887; 1913).—In the northwest part of Pembroke, on the west side of the direct road from Dennysville to the Little Falls of the Pennamaquan River (old road to Robbinston on St. Croix River), and near the summit of a high hill on which the road passes. It is the only chimney on the main house of John Antoine. In 1913 the house was in a dilapidated condition, but was still a prominent landmark.

Kehoe (Washington County, C. H. B., 1887; 1913).—On the summit of a rocky hill about $\frac{1}{4}$ mile northeast of the head of Sipps Bay and about $1\frac{1}{2}$ miles east of Pembroke. It is about 260 meters northeast of the Pembroke-Eastport Road and about $\frac{1}{4}$ mile north of the house of Michael Kehoe, the owner of the farm. A wood road leads from Kehoe's house to the base of the ledge on the summit of which the station is located. The station is marked according to note 17b.¹

Taylor (Washington County, C. H. B., 1887; 1913).—On a hill on the west side of Pennamaquan River about 300 meters from the shore and 150 meters west of the road from Pembroke. It is about $1\frac{1}{2}$ miles northwest of Pembroke and $\frac{1}{2}$ mile south of Little Falls bridge. The station is on the summit on land belonging to John H. Taylor and is 145 meters west of his house. It is marked according to note 17b.¹

Perry, white church spire (Washington County, O. B. F., 1913).—The top of the tall slender white spire of the only prominent church in the village of Perry.

St. Helena (New Brunswick, Canada, F. P. W., 1863; 1913).—On the southern end of St. Helena Island, which lies about $\frac{1}{8}$ mile off the east coast of Deer Island and just north of the entrance to Northwest Harbor, and about 6 miles north-northeast of Eastport, Me. The station is on a bare ledge a few feet southwest of the highest part of the hill and about a foot lower. It is marked according to note 4.¹ A reference mark note 12c¹ is in the most prominent ledge toward the southwest and 9.75 meters from the station.

Iron Works Mountain (Washington County, C. H. B., 1887; 1913).—On the summit of the high rocky hill known as "Pembroke Iron Works Mountain" and formerly the property of that company, but now belonging to Haddon Sprague. It is about 2 miles north of the east end of Pembroke village, about 1 mile east of Pennamaquan River, and about the same distance southwest of the road from Eastport and Perry. The summit is bare of trees and the station is on top of a 3-foot boulder of granite seamed with quartz, and is marked according to note 17.¹

Mowatt (New Brunswick, Canada, F. P. W., 1863; 1913).—On a high rocky hill on Mowatt Island, which is the middle island of a group of three and is about 2 miles east of Deer Island, $\frac{1}{8}$ mile east of Bean Island. The station is marked according to note 16a.¹

¹ See pp. 163 and 164

Davidson's Head (New Brunswick, Canada, F. P. W., 1863; 1913).—On the highest part of the head of that name on the west side of Deer Island about $1\frac{3}{4}$ miles west-southwest of the south end of Pendleton Island and the same distance northwest of North Harbor. The station is marked by a drill hole in the ledge and a pile of large rocks. A round turn in an old rail fence is 100 feet northeast of the station.

Fish (New Brunswick, Canada, F. P. W., 1863; 1913).—On a small hill of Fish Island, which lies about $\frac{3}{4}$ mile off the coast of Deer Island and between Harwood and Bean Islands. The station is marked according to note 17.¹

Perry, yellow house, southeast gable (Washington County, F. P. W., 1863; 1913).—The southeast gable of a house located on the summit of a prominent hill $2\frac{1}{2}$ miles north of west from the village of Perry and nearly half a mile west of the shore of Passamaquoddy Bay.

Hardwood (New Brunswick, Canada, F. P. W., 1863; 1913).—On the highest part of Hardwood Island about $\frac{1}{2}$ mile east of Deer Island and $\frac{3}{4}$ mile to the northward of Bean Island. The station is marked according to note 17.¹

Graveyard (New Brunswick, Canada, F. P. W., 1863; 1913).—On the highest part of Steward Island (formerly known as Graveyard Island), a small island about 150 meters east of Deer Island and twice that distance northwest of Howard Island. The station is marked according to note 17.¹

Butler (New Brunswick, Canada, F. P. W., 1863; 1913).—On a high rocky hill called "Big Hill," on the northeast part of Deer Island and about 300 meters from its eastern shore. The station is marked according to note 17.¹

Pendleton (New Brunswick, Canada, 1863; 1913).—On a high bare hill in the northwestern part of Pendleton Island, which lies in the southern part of Passamaquoddy Bay just north of Deer Island. The station is marked according to note 17¹ and has a pile of stones placed near it.

Hog (New Brunswick, Canada, F. P. W., 1863; 1913).—On the highest part of Jameson Island (formerly Hog Island), a small island which lies $\frac{5}{6}$ mile east-northeast of the north point of Deer Island, 175 meters south of Macmaster Island, and $1\frac{1}{4}$ miles west by north from Macabin Point Lighthouse. The station is marked according to note 17.¹

Mathews (New Brunswick, Canada, F. P. W., 1863; 1913).—On the highest part of a high rocky hill on the east side of Passamaquoddy Bay at the northern entrance to Little Passage and about 200 meters from shore. It is about $\frac{3}{4}$ mile south-southeast from upper Green Point and about 2 miles north by west from Macabin Point Lighthouse, and is marked according to note 17.¹

Robbinston (*U. S. and C. B. S.*) (Washington County, J. E. McG., 1909).—On the west shore of St. Croix River, about $\frac{3}{4}$ mile above Liberty Point, $\frac{3}{8}$ mile above Smalls Cove, 90 meters north of the old Robbinston Wharf, and $\frac{1}{8}$ mile east of the Calais-Eastport Road. The station is on the highest bare part of a red ledge about 35 feet long by 16 feet wide, and is about 125 feet above an old sardine factory belonging to the East Coast Packing Co. It is marked according to note 17.¹ Reference mark No. 1, note 27,¹ is 9.54 meters south-southeast from the station. A heavy 1-inch eyebolt, to which is attached a wire guy from the top of the factory chimney, is set in the rock 2 feet below and 4 feet outside of this reference mark. Reference mark No. 2, note 27,¹ is 9.667 meters west by north from the station. Also the letters "U. S. R. M.", each 2 inches high, are cut between the station and the river on a line parallel with the direction of the bare ledge.

Initial (*U. S. and C. B. S.*) (Washington County, J. E. McG., 1909).—On a point at the upper end of a small cove, locally known as Smalls Cove, located on the west shore of St. Croix River about $\frac{3}{4}$ mile below Robbinston, $3/10$ mile below the old Robbinston Wharf, $\frac{3}{8}$ mile above Liberty Point, and 100 meters east of the Calais-East-

¹ See pp. 163 and 164.

port Road. The land belongs to Mrs. George C. Vose. The station is marked according to note 4¹ and is near the inner end of the southernmost of three projecting points of bare red rock. The letters "U. S. R. M." are also cut in the rock. Two reference marks, note 27,¹ are, respectively, 8.83 meters southeast by east and 6.301 meters west of the station.

Algonquin Hotel tower (Charlotte County, New Brunswick, O. B. F., 1913).—The prominent tower on the east end of the largest building in the town of St. Andrews, New Brunswick. The building has a red roof and stands out very prominently when seen from the south.

Lambs Bluff (U. S. and C. B. S.) (Washington County, J. E. McG., 1909).—On the high bluff of that name on the west side of St. Croix River about 2½ miles below Docket Island Light, 1¼ miles below Little Docket Island, and 1 mile above Robbinston. The point on which the bluff is located is a prominent one and forms the upper boundary of Brooks Cove. The station is on the top of the bluff, about 18 feet from the edge, on meadow land belonging to James Lamb. The station is marked by a standard brass disk set in a drilled hole in the top of a granite post, 27 inches in length by 6 inches square in cross section, set with its top flush with the surface of the ground. A subsurface mark, not to be used except in case of destruction or removal of the surface mark, is a pint bottle filled with ashes, and buried with its top 28 inches below the surface of the ground. Two reference marks are, respectively, 32.137 meters west-northwest and 19.596 meters north by west from the station; the first is a cross within a triangle cut in a small boulder set slightly below the ground level 5 feet from the dividing fence between Lamb's and Harvel's lands and the other is a similar mark blazed on a double-trunked birch tree. A nail is driven in each angle of the triangle and in the center of the cross.

Pike (U. S. and C. B. S.) (Washington County, J. E. McG., 1909).—On a bluff point on the west side of St. Croix River about ¼ mile a little east of north from the Robbinston church, and just above the small cove in front of the old "Sheppard Pike mansion." In the center of the entrance to this cove there is at high water a small island of red rock, which at low water appears as the end of a small peninsula. The station is about 160 meters north of this island, on a rocky bluff, and about 6 feet inside the edge of its precipitous descent of about 16 feet toward the river. Farther back the bluff rises abruptly some 15 or 20 feet higher, but the summit was too densely wooded to be available. Two reference marks, note 26,¹ are, respectively, 3.797 meters northwest and 5.087 meters southeast of the station. Their elevations are, respectively, 1.14 meters and 1.35 meters lower than the station point.

Little Dochet (U. S. and C. B. S.) (Washington County, J. E. McG., 1909).—On the small island of that name located in St. Croix River within ¼ mile of the American shore and about a mile below Doret Island. The station is about 15 feet southeast of the highest point of the bluff on the southeast point of the island and in a clear, open space. It is marked according to note 4.¹ Reference mark No. 1, 10.718 meters east-northeast of the station, is a nail in the center of a cross on the top surface of a cylinder of sand and cement contained in a piece of 3-inch vitrified drain tile and sunk to the level of the ground. Reference marks Nos. 2 and 3, located, respectively, 2.77 meters east-southeast and 2.30 meters southwest of the station, are ring bolts, to which the wire guys of the signals were attached.

Rock (U. S. and C. B. S.) (Washington County, J. E. McG., 1909).—On the summit of a high rocky knoll about ½ mile to the southward of Doten Point of the south shore of St. Croix River, and between the Calais-Princeton and the Calais-Middybemps Roads at a distance of about 275 meters southwest of their junction. The station is on the land of A. P. Doten, and is marked according to note 4.¹ Two reference marks,

¹ See pp. 163 and 164.

note 27¹ are, respectively, 5.828 meters south-southeast and 3.973 meters north-north-east from the station.

Pratt (*U. S. and C. B. S.*) (Washington County, J. E. McG., 1909).—On the prominent point of that name on the south shore of St. Croix River, about $\frac{1}{2}$ mile above the Baring-Upper Mills bridge. The station is in the pasture belonging to William Pratt, about 260 feet from the shore, and on a boulder whose exposed dimensions are 30 by 24 inches. The station is marked according to note 4.¹ Two reference marks, note 27,¹ are, respectively, 7.829 meters northeast and 11.627 meters west-southwest from the station. The first is on the sloping side of an irregular shaped boulder; the other is on a ledge of rock whose exposed section extends inland about 80 feet from the edge of the water line. This ledge projects farther into the river than any other part of Pratts Point.

Wilson (*U. S. and C. B. S.*) (Washington County, J. E. McG., 1909).—On a point of the west shore of St. Croix River about $\frac{1}{2}$ mile west of Dochet Island. The point is a peninsula at low water but its extreme end is an island at high water of about 150 feet in length. It is a grassy knoll and the station is at its north end and 4 feet south of the outer grass line, and marked according to note 4.¹ The letters "U. S. R. M." are cut in the rock near by. Two reference marks, note 27,¹ are, respectively, 3.085 meters south and 8.562 meters west-northwest of the station. The land in the vicinity belongs to George Wilson.

Dochet Island (*U. S. and C. B. S.*) (Washington County, J. E. McG., 1909).—On the island of the same name which is located in St. Croix River, about $\frac{3}{4}$ mile from the Canadian shore and $\frac{1}{2}$ mile from the American shore at Wilson Point. The station is near the summit of a rocky knoll south of the lighthouse and the keeper's dwelling. The old fog-signal tripod and bell occupy the actual summit of the knoll. The station is marked according to note 4.¹ and the letters U. S. R. M., each 2 inches high, are cut in the sloping side of the knoll about 2 feet from the station mark. Reference mark No. 1, note 27¹, is 2.340 meters east by north from the station and 3 feet lower in elevation. Reference mark No. 2, note 27,¹ is 3.867 meters northwest by west from the station, and about a foot westerly from a long and deep seam in the ledge. A smaller seam is nearer to the station.

Lowe Point (*U. S. and C. B. S.*) (Washington County, J. E. McG., 1909).—On the prominent point of that name located on the west side of St. Croix River about $\frac{3}{4}$ mile below Dochet Island and $\frac{1}{2}$ mile below Red Beach village. The point is covered by a grove of birch trees and is in frequent use by picnic parties. The station is on an exposed ledge, about 7 feet outside of the limit of grass growth, and is marked according to note 4.¹ About 130 feet below the station there is a wharf which is used when the water is too low to permit steamers landing at the Red Beach wharf. Two reference marks, note 27,¹ are, respectively, 3.315 meters northeast and 4.893 meters west of the station.

Poppelmill (*U. S. and C. B. S.*) (Washington County, J. E. McG., 1909).—On the east side of St. Croix River, about 300 meters above the Baring-Upper Mills bridge, and about 90 meters above the railroad bridge. The station is about 275 feet northeast of Frank Todd's sawmill, and on the slope of a hill which a short distance farther south runs about 50 feet higher. Between the station and the hill top a large pit has been excavated to furnish gravel and earth for the grading of the near railroad track. The station is marked according to note 28.¹ Reference mark No. 1 is a blaze on a large oak which stands between the station and the railroad. The blaze is 3 feet above the ground and has three nails driven to form a triangle. It is 11.435 meters north by west from the station. Reference mark No. 2 is similar to the station subsurface mark but set flush with the surface of the ground. It is 5.497 meters east by north from the station mark.

¹ See pp. 163 and 164.

Smith (U. S. and C. B. S.) (Washington County, J. E. McG., 1909).—On the west side of the St. Croix River, about $2\frac{1}{2}$ miles below Woodland, and about 350 meters from the shore. The station is on the dairy farm of Gorham Smith, and in the rear of his house and barn. The gateway of the farm is abreast of the east end of a crossroad which connects the Calais-Woodland Road with the old "Air Line Road." This crossroad is the first one south of Wapsaconhagen Creek which intersects the Calais-Woodland Road. The station is on a rock flush with the surface of the ground, the exposed surface being 20 by 12 inches, and is marked by a drilled hole filled with lead. The reference mark, 21.750 meters east by north from the station, is a drilled hole filled with lead, placed near the top of a large irregular shaped boulder of granite. On the side of the boulder facing the station, and 11 inches from the reference mark, a $5\frac{1}{2}$ inch equilateral triangle is also cut. The visible dimensions of the granite boulder are length 5 feet, width 4 feet, height $3\frac{1}{2}$ feet.

Bailey (U. S. and C. B. S.) (Washington County, J. E. McG., 1909).—On the west side of St. Croix River about $2\frac{1}{4}$ miles below Woodland, 3 miles above the Baring-Upper Mills bridge. The station is about 92 feet back from the river, on the top of a large boulder which has the general shape of a truncated four-sided pyramid and whose visible dimensions are about 6 by 5 by 4 feet. The station is marked according to note 4.¹ The land on which the station is located was purchased from Gorham Smith by parties who propose to construct a dam near by to furnish power for the Calais-St. Stephens Railway Co. and for manufacturing demands of Calais, Middletown, and St. Stephens. A short distance below the station the Water Power Co. has erected a building for the use of its engineers. A reference mark, note 27,¹ is 2.373 meters south by east of the station, on another large boulder having dimensions of 5.7 by 5.7 by 4 feet. The two boulders were apparently once united. Midrip station is 113.3 meters southeast by east from Bailey.

Scrip (U. S. and C. B. S.) (Washington County, J. E. McG., 1909).—On the west shore of St. Croix River, about $2\frac{1}{8}$ miles below Woodland, near the upper end of Baileys Rips and just below a small island lying in the American side of the river. The land formerly belonged to Gorham Smith, but is now the property of the Bailey Rip Dam Co. The station is on a flat point and is marked by hole drilled in a small stone and filled with lead. It is 6.05 meters from the edge of the river bank. Two reference marks, note 27,¹ are, respectively, 7.817 meters southwest and 19.813 meters northwest from the station. The first is cut on the flat top of a reddish colored stone, which projects about 14 inches above the ground; the other is cut on a coarse-grained slanting stone about $9\frac{1}{2}$ meters from the water's edge.

Midrip (U. S. and C. B. S.) (Washington County, J. E. McG., 1909).—On the west side of St. Croix River about $2\frac{1}{4}$ miles below Woodland, 3 miles above the Baring-Upper Mills bridge, and near the American end of the gauge line used by the engineers of the Bailey Rip Dam Co. in measuring the discharge at this section. The station is on a large boulder whose top is flush with the top line of the river bank, and whose visible dimensions are 50 by 27 by 17 inches. The mark is a drilled hole filled with lead. A reference mark, note 27,¹ is 7.662 meters west-northwest from the station and 7 feet back from the river bank. This station will be submerged when the dam is built.

Anderson (Washington County, C. H. B., 1887; 1908).—On the summit of Bailey Hill, which is about $3\frac{1}{2}$ miles west-northwest of Baring, $1\frac{1}{2}$ miles south by east of Woodland, and on the west side of the Baring-Princeton Road. The station is on a granite block or boulder which forms part of the base of a stone fence which is the dividing line between the land of Miss Martha Anderson and Charles Roberts. The Anderson farm is now covered by a thick growth of young trees and bushes. Mr. Roberts's property is clear pasture land from the road to the summit of the hill, but

¹ See pp. 163 and 164.

beyond is thickly wooded. Considerable cutting will be required if this station is again utilized. The station is marked by a drilled hole in the top of the granite block or bowlder and on the south face of the bowlder a triangle is cut.

Rideout (U. S. and C. B. S.) (Washington County, J. E. McG., 1909).—On the south side of St. Croix River, about $\frac{3}{4}$ mile above St. Croix junction, $\frac{3}{4}$ mile east of Baring, 150 meters north of the Calais-Baring Road, and 110 meters from the shore. The station is in a large open meadow belonging to William Rideout, whose house is about 300 meters to the eastward on the north side of the road. The station is marked according to note 28.¹ A reference mark similar to the subsurface mark but set flush with the ground, is 31.275 meters west by south from the station, and the edge of a hedge separating Rideout's land from Strout's. An additional reference mark is a granite post set near the river bank, 108.6 meters north by west from the station. This post is a determined point of the triangulation, under the name of "Monument."

Russell (U. S. and C. B. S.) (Washington County, J. E. McG., 1909).—On the prominent point of that name on the south side of St. Croix River about a mile above the St. Croix junction, $\frac{1}{2}$ mile northeast of Baring, 200 meters above McKusick Island. The point originally selected for the station and marked according to note 4¹ had to be abandoned in consequence of a great freshet having deposited over it a great mass of logs. The new point selected is marked in the same manner, and hence when the logs are eventually removed two marks will be visible. The true one can be identified by means of the distances and directions of the reference marks. The two reference marks, note 27,¹ are, respectively, 15.360 meters southeast by south and 16.822 meters east by south from the true station. The first is on a bowlder which emerges in a slanting direction from the ground and has visible dimensions of 4 by 2 by 1 foot; the other is on a large granite bowlder which emerges from the water on the east side of Russell Point.

Eaton (U. S. and C. B. S.) (Washington County, J. E. McG., 1909).—On the west side of St. Croix River, about $\frac{1}{6}$ mile below the point where the river turns sharply from an easterly to a southerly course, about $\frac{1}{2}$ mile below the conspicuous elevation called Devils Head, and about $1\frac{1}{2}$ miles above Dochet Island. The station is about 4 feet inside of the river edge of a bluff of coarse red stone, on the land of W. H. Eaton and almost directly in front of his house. It is marked according to note 4,¹ and the letters "U. S. R. M." are cut in the rock near by, the letter "M" being about 10 inches nearer the river than is the station. Two reference marks, note 27,¹ are, respectively, 5.040 meters west by south and 5.330 meters northwest by north of the station. The first is on the exposed top of a flat ledge and about 5 feet higher than the station mark; the other is on the nearly vertical face of an exposed stratum of rock of triangular cross section, and is about 4 feet higher than the station mark.

Stonyfield (U. S. and C. B. S.) (Washington County, J. E. McG., 1909).—On the east side of St. Croix River about $\frac{1}{4}$ mile south by west from the railroad junction, $1\frac{1}{2}$ miles east of Baring, and $\frac{1}{8}$ mile to the southward of the Milltown-Baring Road. The nearest point of the river shore is about $\frac{3}{8}$ mile to the north-northwest. The station is on a rocky ledge in a pasture belonging to William Rideout and is about 50 or 60 feet higher than the road. The station is marked according to note 4.¹ To reach the station from Milltown follow the main highway until about 800 feet beyond the railroad crossing, where a group of four great pines will be found; leave the road at this point, cross the pasture fence, and proceed for about 700 feet in a direction at right angles to that of the road. At the station point the brown spire of the Congregational Church of Milltown, New Brunswick, appears almost exactly in line with the left tangent on the high brick chimney of the pumping station plant at Milltown, Me. Two reference

¹ See pp. 163 and 164.

marks, note 27,¹ are placed, respectively, 8.032 meters south by east and 12.832 meters north of the station.

Junction (U. S. and C. B. S.) (Washington County, J. E. McG., 1909).—On the east side of the St. Croix River about $\frac{1}{3}$ mile above the mouth of Maguerrewoc Stream and nearly midway between Milltown and Baring. The station is located between the platforms and west of the registering booth of the Washington County Railroad at St. Croix Junction. The station is marked according to note 28.¹ Reference mark No. 1 is similar to the subsurface mark of the station but is set with its top 1 inch below the ground surface; and near the east end of the Maine Railroad platform. It is about 4 feet from the lowest step, and is 41.651 meters northeast by north from the station mark. It is also 1.493 meters from the nearest rail of the Princeton Branch line and 2.119 meters from the nearest rail of the main line. Reference mark No. 2, a nail in the center of a triangle made of 6 nails driven 12 inches from the top, in one of the posts of the River Boom Co., is about 5 feet from the river shore and 11.202 meters west-northwest of the station mark.

Murchie (U. S. and C. B. S.) (Charlotte County, New Brunswick, J. E. McG., 1908).—On a ridge on the east side of St. Croix River about $\frac{1}{3}$ mile from the shore, about $1\frac{1}{2}$ miles east-southeast from Woodland, $2\frac{1}{2}$ miles northwest of Upper Mills, and $3\frac{1}{2}$ miles west of Milltown, and on the north side of the road leading from St. Stephens via Milltown and Upper Mills to Woodland. To reach the station from the eastward follow this road to the first hill westward from Mrs. Libbey's house, and before reaching its crest a farm building belonging to a Mr. Donald will be seen on the south side of the road and about 100 yards farther on two large elms and a large pine or spruce, close to the foundations of several buildings which have been destroyed by fire, will appear on the north side of the road. These trees and ruins as well as the station itself are on land belonging to William Murchie, of Calais. The station is marked by a hole drilled in a flat stone, 15 inches by average width of 12 inches, set 58.63 feet north-northeast of the north corner of the westernmost ruin. This corner serves as a reference mark, having a cross cut on the upper surface of one of its large stones.

Campbell (U. S. and C. B. S.) (Washington County, J. E. McG., 1909).—On the east side of St. Croix River about a mile above the upper bridge of Milltown, Me., 72 meters west of the railroad, 275 meters north of the railroad bridge across Maguerrewoc Stream, and 150 meters from the shore. The station is in an open field belonging to Daniel Clark, jr., of Milltown, and on a boulder (whose visible dimensions are 36 by 18 by 9 inches) in a pile of stones collected from various clearings of the field in the course of cultivation. The station is marked according to note 4¹ and is 27 feet north of a winding fence which separates the field from the swampy ground about the mouth of Maguerrewoc Stream. Two reference marks, note 27,¹ are, respectively, 8.020 meters northeast by north and 9.755 meters west-northwest from the station. The first is cut on an exposed ledge and the other on a boulder projecting 2 feet.

Pineo (U. S. and C. B. S.) (Washington County, J. E. McG., 1909).—On the east side of St. Croix River about $\frac{1}{8}$ mile above upper bridge of Milltown and 60 meters from shore. The station is in an open field belonging to Silas Pines, a custom officer of Milltown, and on the northeast corner of an embankment once used as a level platform for a house which has long since disappeared, nothing of it now remaining but the ruined stone walls of its cellar. The northeast corner of the cellar is 3 feet from the station. The station is marked according to note 28,¹ the projecting part of the post, about 4 inches, has the letters "U. S. R. M." cut on its vertical face, i. e., one letter on each face. Two reference marks are placed, respectively, 23.557 meters southwest by west and 6.127 meters north-northwest from the station. The first is a cross within an equilateral triangle cut in a boulder projecting from the slope of the embankment; the other is a mark similar to the subsurface mark except that it is set nearly flush with the ground and covered over with grass and sod.

¹ See pp. 163 and 164.

De Monts (U. S. and C. B. S.) (Washington County, J. E. McG., 1909).—On the south side of St. Croix River, 275 meters above the point of that name, where the river turns sharply from an easterly to a southerly course. The station is on a smooth rocky ledge, 2.63 meters outside of the line of vegetation and is directly opposite Oak Point, the western part of the mouth of Oak Bay. From the station, which is on the property of Hanson & Rounds, of Calais, looking downstream, about 10 feet of the outer end of the ruined steamboat wharf of the old De Mont Hotel can be seen. This hotel no longer exists, having been destroyed by fire. The station is marked according to note 4,¹ and just below it the letters "U. S. R. M." are also cut in the ledge. The letters "R. H. T.," well cut by some unknown party, are also in the immediate vicinity, the R being 2.76 meters from the station mark. Two reference marks, note 27,¹ are placed, respectively, 5.197 meters south-southeast and 5.067 meters west-northwest of the station.

Woodland (U. S. and C. B. S.) (Washington County, J. E. McG., 1909).—On the concrete dam at Woodland, belonging to the St. Croix Paper Co. between the two easternmost gate chambers which admit the water from the artificial lake created by the dam to the grinding and other machinery of the great paper mill. The signal pole was nailed to a large electric wire pole; and the outline of its base was indicated on the concrete by cutting around three sides with a stonecutter's drill. The intersection of the diagonals of the square thus outlined marks the station. It is 16.13 feet east of the second concrete gate house.

Suburb (U. S. and C. B. S.) (Washington County, J. E. McG., 1909).—On the west side of St. Croix River nearly $\frac{1}{2}$ mile above the Woodland dam and the same distance below the railroad bridge between the American and Canadian shores. The station is 110 feet northward of the nearest house of the suburbs of Woodland, and 20 feet west of the railroad track running to Woodland. The station is on a triangular shaped boulder of white granite whose sides are 42, 42, and 52 inches, and height above the ground 14 inches. The station is marked according to note 4.¹ Two reference marks, note 27,¹ are, respectively, 13.946 meters south by west and 12.073 meters west by south from the station. The first is cut on the vertical face of a large pyramidal rock projecting 3 feet above the ground; and the other is cut on an argillaceous stone which is inside of the outer line of the adjoining woodland.

Telline (U. S. and C. B. S.) (Washington County, J. E. McG., 1909).—On the west side of St. Croix River about $\frac{5}{8}$ mile north of Woodland and a little over $\frac{1}{4}$ mile west by south from the American end of the railroad bridge. The station is on a little bank or elevation on the west side of the railroad running to Woodland, and just to the northward of a bay of the west shore of the great dam pond. It is on a granite boulder whose exposed dimensions are 36 by 15 by 9 inches, and is marked according to note 4.¹ Reference mark No. 1, 30.899 feet southwest of the station, note 27,¹ the stone's exposed surface being about a square foot. Reference mark No. 2, 38.91 feet northwest by west from the station, note 27,¹ the stone's exposed dimensions being 36 by 30 by 6 inches. This stone is inside of the outer limit of tree growth and appears to be argillaceous by striated with thin seams of quartz.

Hitchings (U. S. and C. B. S.) (Washington County, J. E. McG., 1909).—On the northern part of Maguerrewoc Mountain, locally known as Hitchings Mountain, and about 90 feet north of the highest point and about 45 feet south of where the slope changes to an abrupt descent to a valley between it and Pine Mountain. It is about $\frac{1}{2}$ mile east of the Milltown-Baring Road, $\frac{5}{8}$ mile southeast of the southeastern part of Milltown, and $\frac{7}{8}$ mile from the east shore of St. Croix River. The station is on land belonging to E. R. Hitchings, and on an exposed ledge 8 by 3 feet, and is marked according to note 4.¹ Two reference marks, note 27,¹ are, respectively, 11.502 meters SW. by W. $\frac{1}{2}$ W. and 1.153 meters N. by E. $\frac{1}{2}$ E. from the station. The first is cut in an exposed ledge and the other is on the same ledge as the station mark.

¹ See pp. 163 and 164.

Kelley (*U. S. and C. B. S.*) (Washington County, J. E. McG., 1909).—On the east side of St. Croix River, about $\frac{3}{8}$ mile above Milltown upper bridge and about 125 meters from the shore. The station is on meadowland belonging to Mott Kelley, of Milltown, to the rear of his house and about 250 meters west of the railroad. It is also about 40 meters north of a road or lane which runs to the Milltown Bridge Road. The station is marked according to note 28.¹ The projecting part of the post, about 4 inches, has the letters "U. S. R. M." cut on its vertical faces, i. e., one letter on each face. Reference mark No. 1, a nail in the top surface of a cylindner of cement contained in a piece of 3-inch drain tiling and buried alongside of the south fence of the meadow, is 37.703 meters south by east from the station. The prolongation of the line from the station to reference mark No. 1 is tangent to the west side of the trunk of a large solitary pine tree in the field where the mill refuse is burned. Reference mark No. 2, a 24 by 6 by 6 inch granite post set in low wet ground close to the river shore, is 171.736 meters west from the station. A hole drilled in the top of the post marks the spot. On the west fence of the meadow, 35.25 meters from the station, a cross mark is made in line with reference mark No. 2.

Miller (*U. S. and C. B. S.*) (Washington County, J. E. McG., 1909).—On a heavily wooded point of the south shore of St. Croix River, nearly directly opposite Spruce Point Light, and about $1\frac{3}{4}$ miles above the point (De Monts) where the river sharply turns from an easterly to a southerly course. The station is on a large sloping ledge about 2 feet outside of the line of vegetation and on the property of Charles Miller, the land end of whose fish weir is about 75 feet farther upstream. About 20 feet upstream there is a small cove caused by the removal of a cantle of the ledge, and on the hillside behind the station there are a number of cedar trees, some of them 1 foot in diameter. The station is marked according to note 4,¹ and the letters "U. S. R. M." are cut in the ledge just above it. Two reference marks, note 27,¹ are, respectively, 6.047 meters southeast and 9.937 meters southwest of the station. The first is on the nearer end of a section of ledge and the other is on the sloping face of a large stone which is about 6 feet by 30 inches by 4 feet in height. The cross is about midway of the height.

Narrows (*U. S. and C. B. S.*) (Washington County, J. E. McG., 1909).—On the south side of St. Croix River, opposite Hills Point, and about $\frac{5}{8}$ mile below Knights Point. The station is on top of the river bank and at the lower end of a field belonging to Aaron Tucker, whose house is at the upper end of the same field and near the north side of the Calais-Eastport Road. The mark is a standard brass disk set in a hole drilled in a pyramidal topped stone which is about 9 feet from the edge of the bank. The letters "U. S. R. M." are cut in the same stone. About 400 feet upstream a new lighthouse was then in course of construction. Two reference marks, note 27,¹ are, respectively, 19.199 meters south by west and 16.696 meters southwest from the station. The first is on a sloping face of a large stone which projects 20 inches above the ground and is about 10 feet from the northernmost of two hemlock trees; the other is on the sloping face of a black rock, triangular in shape and slightly above ground level.

Hymurch (*U. S. and C. B. S.*) (Washington County, J. E. McG., 1909).—On the south shore of St. Croix River, on a prominent point $\frac{3}{4}$ mile below Mark Point Light and $1\frac{1}{4}$ miles above De Monts Point. The station is on the property of Mrs. Lewis Wilson, on a black granite ledge which will be covered at high water and which is about 6 feet inside of the grass line and $3\frac{1}{2}$ feet below the edge of the bank on which the outer line of birches grow. About 50 feet upstream is a boulder of gray granite, 7 feet square by 5 feet high at the high-water line, and a short distance downstream is a summer cottage belonging to Henry Murchie. The station is marked according to note 4.¹ Two reference marks, note 27,¹ are, respectively, 8.952 meters south-southeast and 8.747 meters northwest by north of the station. The first is on the sloping top of an exposed ledge, and the other on top of a large triangle of black granite.

¹ See pp. 163 and 164.

Pokeshine (Washington County, C. H. B., 1887).—On Pokeshine Mountain, in the town of Princeton, about 2 miles south of the South Princeton Road and north of the Shining Lake. The mountain is difficult of ascent, there is no trail, and a dense forest growth. The summit is quite flat and covered with large forest growth of oak, birch, maple, and pine trees. The station was a pole in the tallest pine and a triangle cut in the north side of the pole.

Pirington (U. S. and C. B. S.) (Washington County, J. E. McG., 1909).—On a rocky point of the south shore of St. Croix River, about $\frac{1}{2}$ mile below the narrows and $\frac{3}{8}$ mile above Mark Point Light. The station is on a narrow ledge of black trap about 10 feet outside of the earthen bank of the river and off the end of an open field, belonging to Mrs. Pirington, which slopes steeply upward to the Calais-Eastport Road. About 20 feet outside of the station the ledge slopes down to a sandy beach, which is visible only at low water. The station is marked according to note 4.¹ Two reference marks, note 27,¹ are, respectively, 15.494 meters east-southeast and 11.637 meters west by south from the station. The first is on the sloping top of a boulder of black granite projecting from the earthen bank; the other is on a trap ledge about $5\frac{1}{2}$ feet outside of the earthen bank.

Abutment (U. S. and C. B. S.) (Washington County, J. E. McG., 1909).—This station is on the northwest abutment of the railroad bridge that crosses the St. Croix River about $\frac{3}{4}$ mile above Woodland, and is marked according to note 1c.¹ The mark is $7\frac{1}{2}$ inches from the northwest line of the top of the abutment and $17\frac{1}{8}$ inches from the face of the abutment, which descends vertically to the shelf on which the granite seat for plate girder rests. As the space at the station was too limited to permit of the erection of a signal, an eccentric point 0.700 meter distant was selected for that purpose. A reference mark, note 27,¹ is cut on the north corner of the abutment, at a distance of $9\frac{5}{8}$ inches from the station mark.

Knights Point (U. S. and C. B. S.) (Washington County, J. E. McG., 1909).—On the prominent point of that name on the west side of St. Croix River, about $\frac{1}{2}$ mile above the narrows and Whitlock Mill Light. The station is about 25 feet from the eastern edge of the bank and about 180 feet from the extreme end of the point, and is marked by a standard disk set in a hole drilled in a 4 by 5 foot exposed surface of black granite which is nearly level with the ground. The letters "U. S. R. M." are cut close by on the same exposed granite. The land belongs to Manson Hill and is for the most part under cultivation. Two reference marks, note 27,¹ are, respectively, 14.677 meters south-southwest and 3.015 meters north by east from the station. The first is on a boulder of black granite whose exposed dimensions are $3\frac{1}{2}$ by 5 feet by height of $2\frac{1}{2}$ feet; the other is 5 inches below the top of the southeast face of the largest boulder in the field. Its dimensions are 6 by 7 feet by height of 4 feet.

Meadow (U. S. and C. B. S.) (Washington County, J. E. McG., 1909).—On a point of the west side of St. Croix River about $\frac{3}{4}$ mile above Whitlock Mill Light and $\frac{1}{4}$ mile above Knights Point. The station is just inside of the top of the 10-foot perpendicular bank of the river, on an exposed seam of trap rock 5 by 3 feet in diameter, and is marked according to note 4.¹ The adjacent ground is meadowland and belongs to Salem Hill, whose house is about 300 feet distant, on the north side of the Calais-Eastport Turnpike. Reference mark No. 1 is a cross in the top surface of a cylinder of cement contained in a 14-inch length of vitrified drainpipe sunk slightly below the ground surface and concealed by the turf. It is 12.722 meters west-southwest of the station. Reference mark No. 2 is a cross within an equilateral triangle cut in the exposed surface of a ledge which is level with the grass. It is 23.117 meters northwest by west from the station.

Mound (U. S. and C. B. S.) (Washington County, J. E. McG., 1909).—On the summit of a small mound on the west side of St. Croix River, about 2 miles below Calais

¹ See pp. 163 and 164.

and $\frac{1}{4}$ mile below Todd Point. Just above the mound there is an old deserted wharf known as Jewett's wharf. The station is about 60 feet east of the Calais-Eastport Turnpike and almost abreast of the sixth telegraph pole northward of the second mile-post from Calais. It is on land belonging to William Murchie but occupied by a family named Duncan, whose house is at the foot of the mound and on the east side of the road. The station is marked according to note 28,¹ the top of the post projecting about 4 inches. The letters "U. S. R. M." are cut, one letter on each side, on the projecting part. Reference mark No. 1, note 27,¹ is 29.758 meters north-northwest of the station. Reference mark No. 2 is a cylinder of cement and ashes in a piece of drainpipe sunk flush with the ground, and is 13.357 meters south by east from the station and at the corner of a small barn near the Duncan residence.

Todd Point (U. S. and C. B. S.) (Washington County, J. E. McG., 1909).—On the prominent point of that name on the west bank of St. Croix River, about a mile above Knights Point, and about $\frac{1}{4}$ mile below the steamboat wharf near Johnson's tannery. The station is on a high bluff, 16 feet from its outer edge and 80 feet in front of the old Todd residence, and is marked by a standard brass disk set in a hole drilled in the top of a 6 by 6 inch granite post. This post extends 20 inches below and projects 4 inches above the surface of the ground, and the letters "U. S. R. M." are cut on its exposed vertical faces—i. e., one letter on each face. A subsurface mark, over which the mark on the granite post is carefully centered, is a cross within a $2\frac{1}{2}$ -inch triangle cut on the solid rock 22 inches below the surface of the ground. This subsurface mark must not be referred to except in case of the disturbance or removal of the granite post. Two reference marks, each a small wooden cross pressed into the top surface of a cylinder of cement, sand, and broken rock contained in a section of 4-inch vitrified drainpipe and sunk nearly to the level of the ground, are placed, respectively, 8.795 meters west by north and 12.111 meters north-northwest from the station.

Stubbs (U. S. and C. B. S.) (Washington County, J. E. McG., 1909).—On the Milltown, Me., side of the St. Croix River, about 200 feet above the upper bridge and 100 feet from the shore. The station is in the back yard of Mrs. M. A. Stubbs's house and near the Washington County Railroad and just west of the main street of Milltown. It is marked according to note 28,¹ except that there is no underground mark. Reference mark No. 1, note 27,¹ is 1.61 meters from the station. Reference mark No. 2 is 7.979 meters southeast by south from the station, on an exposed ledge.

Pumping station (U. S. and C. B. S.) (Washington County, J. E. McG., 1909).—On the Milltown, Me., shore of the St. Croix River, just below the upper bridge and the customhouse and immigration building. It is on the filled-in portion of the Calais Water Co. land, the filling being cinders, which are kept in place by a stone retaining wall which rises vertically from the water's edge. The station is on the rear of the building used for the emergency pumping engine and is 6 feet from the retaining wall and 30 feet from another wall at right angles to the first. The station is marked according to note 28.¹ The projecting part of the post (about 4 inches) has the letters "U. S. R. M." cut on its vertical faces, i. e., one letter on each face. Reference mark No. 1 is similar to the subsurface mark, except that it is set with its top flush with the ground. It is 5.963 meters east by south from the station and 6.087 meters from the northwest corner of the rear building of the pumping station. Reference mark No. 2, note 27,¹ is 45.154 meters south-southwest of the station. Reference mark No. 3, note 27,¹ is cut on a large round stone of the river wall, at a distance of 39.244 meters from the station. There is but one course or layer of stone above it, and on a course below it a thin flat stone projects about 6 inches beyond the general vertical line of the outer face of the wall.

Harrison (U. S. and C. B. S.) (Washington County, J. E. McG., 1909).—On an open lot on the southeast corner of Harrison and North Streets, Milltown, Me. The lot

¹ See pp. 163 and 164.

belongs to John Corbett, whose residence is on the adjacent lot to the southward. The station is on the south side of a footpath which crosses the lot diagonally and southwesterly from Harrison Street, and is marked according to note 4,¹ the rock being a foot below the surface of the ground. At a distance of 3.66 meters, on the highest exposed part of the rocky ledge, within 15 feet of North Street, is a small painted spot with a painted arrow pointing to it. This is a bench mark placed by the city engineers of Calais. The station is also about 1.5 meters northeast of the nearest line of the exposed ledge. Two reference marks, note 27,¹ are, respectively, 7.621 meters north and 7.194 meters west-northwest from the station. South of the station and on the west line of Corbett's lot there is a copper bolt set in the ledge, probably a mark of the city engineers.

Poorhouse (*U. S. and C. B. S.*) (Washington County, J. E. McG., 1909).—On the east side of St. Croix River about $\frac{1}{2}$ mile above Union bridge and less than $\frac{1}{4}$ mile below the north end of Milltown. The station is on a flat topped bluff opposite the Milltown (New Brunswick) cotton mill and directly above the bridge by which the Washington County Railroad connects with the Canadian Pacific Railroad and the yards of the great cotton mill. The Calais poorhouse stands to the north and a road from it to North Street passes between the station and the fence inclosing the poor farm. The station is about 10 feet from the edge of the bluff on a ledge whose exposed surface is 24 by 15 inches. It is marked according to note 4.¹ The letters "U. S. R. M." are cut on the same ledge. Two reference marks, note 27,¹ are, respectively, 20.730 meters northeast by east and 15.778 meters east from the station.

Todd Mountain, 1908 (*U. S. and C. B. S.*) (Charlotte County, New Brunswick, J. E. McG., 1908).—On the hill so named which is about $\frac{1}{2}$ mile westward from Middletown, New Brunswick, on the north side of the Middletown Road. The station is about $\frac{1}{4}$ mile from the road, about 130 meters northwest of the Todd Mountain Reservoir, and about the same distance southeast of the summit of the hill. It is on a ledge or boulder in open pasture land, and to the eastward of the lines of trees now filling the old lane leading to the summit. The exposed part of the boulder or ledge projects slightly above the ground and is marked by a drilled hole in which is set a piece of round steel rod projecting 2 inches. Two reference marks, two large maple trees in the old lane or roadway, distant, respectively, 55.34 feet and 68.87 feet, are blazed and each marked with three nails to form a triangle. These marked blazes are, respectively, 27 inches and 16 inches above the ground. Also there are two lone pine trees between the upper reference mark and the fence separating the pasture from the woods.

Quarantine (*U. S. and C. B. S.*) (Washington County, J. E. McG., 1909).—On the prominent wooded point of the south shore of St. Croix River which is directly opposite Mark Point Light and just above great beacon which marks the upper end of the extensive ledge which makes out from the American shore. The station is on a bare ledge of black granite streaked with grayish material and is 3 feet inside of ordinary high-water line and about 8 or 9 inches above it. It is marked according to note 4¹ and just below it the letters "U. S. R. M." are carved. Two reference marks, note 27,¹ are, respectively, 6.874 meters east-southeast and 16.350 meters west-southwest from the station. The first is on top of a sloping ledge about 30 inches outside of vegetation and 2 feet inside of and 15 inches above high-water mark; the other is on the sloping top of a ledge of black granite, which shows 30 inches clear of the vertical face of the bank, which is 5 feet higher, and is 30 inches above ordinary high-water line.

Milltown grammar school cupola (Washington County, C. H. B., 1887).—In Milltown, Calais, a cupola very similar to that of Calais City. The ornamental work about the openings of the bell tower and the white railing around the bell deck are omitted. The roof is red.

¹ See pp. 163 and 164.

Milltown waterworks chimney (Washington County, C. H. B., 1887).—In Milltown, Calais, just below the Middle Range on the northwest side. It is square, unpainted brick, and has an ornamental top 50 feet high.

Milltown Congregational Church (New Brunswick, Canada, C. H. B., 1887).—In Milltown, St. Stephens, and a tall sharp gray spire with no vane.

Milltown cotton mill chimney (New Brunswick, Canada, C. H. B., 1887).—In Milltown, St. Stephens, a square brick chimney, 50 feet high, much blackened at top from smoke; the main chimney of the St. Croix cotton mills.

Fowler (U. S. and C. B. S.) (Washington County, J. E. McG., 1909).—On the east side of St. Croix River about $\frac{3}{8}$ mile below the north end of Milltown and the same distance above Union Bridge Road, and about 90 meters from the shore. The station is in Middle Landing Park on an exposed boulder about 120 feet from the gateway. The station is marked according to note 4.¹ Two reference marks, note 27,¹ are, respectively, 7.582 meters north and 4.855 meters east of the station. The letters "U. S. R. M." are also cut on the station boulder.

Slough (U. S. and C. B. S.) (Washington County, J. E. McG., 1909).—On a bare ledge of the Calais shore of St. Croix River about 200 meters above Union Bridge Road, and near the mouth of Middle Landing Brook. The ledge rises from the waters of a slough made by the railroad embankment and the impounding of the waters at the mouth of the brook. The station is near the summit of the ledge and is about 30 feet higher than the waters of the slough. It is marked according to note 4¹ and the letters "U. S. R. M." are carved just below it. Two reference marks, note 27,¹ are, respectively, 5.907 meters east by south and 2.938 meters W. by N. $\frac{1}{2}$ N. from the station.

Big Trees (U. S. and C. B. S.) (Washington County, J. E. McG., 1909).—On the point of the west bank of the St. Croix River about 300 feet below the Calais lower steamboat wharf. The point is wooded and is much used as a picnic ground. Some of the pine trees are of great size, reaching diameters of 28 inches to 3 feet. The station is 4 feet from the edge of the bluff bank and 30 feet in upstream direction from one of these large trees which grows straight up at the very edge of the bluff. The rock at the station was too friable to permit of the usual marking and only the small drill hole for the insertion of the nail in the foot of the signal pole marks the spot. A large projecting boulder, however, 1.104 meters SW. by S. $\frac{1}{2}$ S. from the station, is marked according to note 4,¹ and the letters "U. S. R. M." This point is designated in the record as "Eccentric A." Two additional reference marks, note 27,¹ are, respectively, 9.877 meters west by south and 7.617 meters northwest by north from the station.

Tannery (U. S. and C. B. S.) (Washington County, J. E. McG., 1909).—On the west bank of St. Croix River near the Calais lower steamboat wharf and Johnson's tannery. The station is 11.75 meters above the upper line of the road, called Steamboat Street, which runs from the Calais-Eastport Road to the wharf. It is marked by a standard brass disk set in a hole drilled in black granite which projects from 1 to 6 inches above the ground, its exposed dimensions being 1.20 by 0.75 meter. Two reference marks, note 27,¹ are respectively, 10.511 meters east by north and 14.101 meters SW. $\frac{1}{2}$ S. from the station. No. 1 is on the top of a mass of trap rock which rises abruptly 9 or 10 feet from the beach for a length of 20 feet and average width of $5\frac{1}{2}$ feet. The mark is 6 feet from the end nearest the tannery. No. 2 is on the sloping face of an exposed trap ledge, about in its center, and is about 27 feet from the upper line of Steamboat Street.

Young (U. S. and C. B. S.) (Washington County, J. E. McG., 1909).—On a point of the south shore of St. Croix River about $\frac{3}{8}$ mile above the Calais lower steamboat wharf and Johnson's tannery. The station is on an irregular ledge which at ordinary high water extends out from the river bank about 9 feet and ends in a sharp point. The land belongs to the Benjamin Young Estate. The eastern bank of the river begins about 5 feet inside of the station and the hill slope beyond is covered with a dense

¹ See pp. 163 and 164.

growth of trees and brush almost to the Calais-Eastport Turnpike, which is about 150 meters distant. The station is marked according to note 4¹ and the letters "U. S. R. M." are carved nearby. Two reference marks, note 27,¹ are, respectively, 14.702 meters south-southeast and 6.264 meters south from the station. The first is 5 feet outside of the eastern toe of the bank, and the other is on the vertical face of a ledge and about 4 feet above the highest tides.

Ranch (U. S. and C. B. S.) (Washington County, J. E. McG., 1900).—On a small rocky hill of the Calais shore of St. Croix River, located about 150 meters above Indian Point, 250 meters below the Union Dam, and 60 meters from the shore. The station is about an inch west of a line of iron rods, averaging 6 inches in height, which apparently marks the western boundary of the Indians' land. At the station it separates their property from a lot owned by Frank Townsend, who lives near by. The station is marked according to note 4¹ and is 7½ inches north of the iron rod which is nearest to the railroad track. Two reference marks, note 27,¹ are, respectively, 1.435 meters north-northwest and 9.279 meters north by west from the station.

Bridgestone (U. S. and C. B. S.) (Washington County, J. E. McG., 1909).—West of the railroad track and south of wagon road connecting with Union Bridge. The station is a cross inclosed in an equilateral triangle on a granite post set in the ground. A reference mark cut in a stone whose dimensions are 3 feet by 18 inches by 7 inches is 7.03 meters from the station.

Indian Point (U. S. and C. B. S.) (Washington County, J. E. McG., 1909).—On the prominent point of the Calais shore of St. Croix River about ½ mile above the International Bridge. The station is near the edge of the flat top of the bluff and about 15 feet from a footpath winding down the hill to the railroad. It is also about 39 feet westward of the building line of the west side of Pool Street and on land belonging to James Hill. The station is marked according to note 1 a.¹ The projecting part of the post has the letters "U. S. R. M." cut on its vertical faces, i. e., one letter on each face. Reference mark No. 1 is a small wooden cross laid horizontally in the top surface of a cylinder of earth and cement contained in a 14-inch length of 3-inch tile pipe set about ½ inch below the surface of the ground. It is 23.870 meters east-northeast from the station. Reference mark No. 2 is a cross within an equilateral triangle cut on the 2 by 2 foot exposed surface of granite about 20 feet from the end of Pool Street where the steep descent to the railroad track begins. It is 17.409 meters east by north from the station.

Boz (U. S. and C. B. S.) (Washington County, J. E. McG., 1909).—On the prominent point of the Calais shore of St. Croix River, on which are located Lord's shipyard, Adams's box factory, and Boardman's foundry and shot tower. The station is near the river end of Barker Street and about 42 feet from the front of the box factory. It is marked according to note 28.¹ The post is set in the ground, so that its top projects 3½ inches, and has the letters "U. S. R. M." cut on its exposed vertical faces, i. e., one letter on each face. Reference mark No. 1 is a small wooden cross, set horizontally in the top surface of a cylinder of cement contained in a piece of 4-inch drainpipe, and set an inch below the surface of the ground and within a foot of the northeast corner of the box factory. This mark is 14.959 meters south-southwest from the station. Reference mark No. 2 is a cross within a 6-inch equilateral triangle cut on the top of a flat gray stone whose exposed dimensions are 38 by 25 by 12 inches. It is 8.395 meters north of the station.

Barnard (U. S. and C. B. S.) (Washington County, J. E. McG., 1909).—On the Calais shore of St. Croix River, within the limits of the old Barnard Wharf at the foot of North Street. The station is about 50 feet shoreward from the outer end of the wharf and 23.7 feet from its upper sides. The station is marked according to note 28.¹ The projecting part of the post has the letters "U. S. R. M." cut on its vertical faces, i. e.,

¹ See pp. 163 and 164.

one letter on each face. Reference mark No. 1 is a 2-inch equilateral triangle, made of lath nails, almost on the outer edge of the top stringer of the easterly side of the wharf, the most distant nail being 12.477 meters SE. $\frac{1}{2}$ E. from the station. Reference mark No. 2 is the head of a nail inserted in the top of a cylinder of sand and cement and contained in a 15-inch length of 4-inch drainpipe and placed 14.256 meters southwest of the station. It is 7 feet from the northeast side of a warehouse.

International Bridge (U. S. and C. B. S.) (Washington County, J. E. McG., 1908).—On the steel bridge between Calais and St. Stephen. The station is on a transverse steel beam over the central stone pier and between the toes of the two trusses. Its upper surface has a groove in which a nail in the base of the signal pole conveniently fitted. The station point is 1.12 feet or 1.14 feet from the west end of the beam, according as measurement is made along the south or the north edge of the groove, the west end having a jog on it. A small square cut with a cold chisel about the point serves as a marker.

Meridian Mark (Washington County, C. H. B., 1866).—About $1\frac{1}{2}$ miles to the north of the observatory on the property of Mr. John Hill, on the southern face of the hill and about $\frac{1}{4}$ mile behind Mr. Hill's house. The station is marked by a stub and nail. Three maple trees, 4, 7, and 20 meters from the station, are marked. A stone 6 inches east and 1 foot south of the station is also marked.

Hannan (Charlotte County, New Brunswick, Canada, C. H. B., 1887).—In St. James Parish, on the west side of the Little Ridge Road, and 10 meters northwest from St. Stephens, on the farm of Mr. John Hannan. The station is a pole in a larch tree in Mr. Hannan's orchard, 75.4 feet southerly from his house.

Scotch Ridge church (Charlotte County, New Brunswick, Canada, C. H. B., 1887).—On the south slope of the Scotch Ridge in St. James Parish, and 9 miles northwest from St. Stephens. The church is painted flesh color and has a steeple resembling a candle extinguisher.

Whorty's house (Tower Hill) (Charlotte County, New Brunswick, Canada, C. H. B., 1888).—In southeast part of St. James Parish, on that part of the Tower Hill range known as "Hasty's Hill." It is 12 miles north of St. Stephens on west side of Woodstock road and 2 miles therefrom and 3 miles south of Lynnfield settlement. The station is the chimney of main house on summit of hill, the dwelling of George Whorty, marked by a white band 1 foot wide painted around the chimney 1 foot from the top.

Musquash Mountain (Washington County, C. H. B., 1888).—On the summit of Musquash Mountain near the line between the townships of Topsfield and Talmadge, and 5 miles southwest from the post office of Topsfield. The station is a pole in the tallest spruce tree on the summit. The tree has a triangle cut on it.

Lambert Lake Mill stack (Washington County, C. H. B., 1888).—The top of the round iron smokestack of the Hathorn Foss sawmill at Lambert Lake settlement, Township No. 1, northeast part of the county. The mills are on the south side of the Maine Central Railroad track, 50 meters distant. The stack is 50 feet high and the ground at its base is 5 feet above surface of water in Lambert Lake.

Todd (Washington County, J. H., 1890; 1908).—On the summit of a prominent hill about $1\frac{1}{2}$ miles south of the head of Muncy Cove of Chiputneticook Lake and $1\frac{1}{4}$ miles southwest of Vance Mountain. It is on the Todd farm and is marked according to note 16.¹

Vanceboro Union Church spire (Washington County, C. H. B., 1888).—The gilt vane on the top of the spire of the church.

Vanceboro U. S. Customhouse flagstaff (Washington County, C. H. B., 1888).—The flagstaff on top of the customhouse. It is 13.3 feet from the north side and 5.9 feet from the nearest corner of chimney of building.

¹ See pp. 163 and 164.

McAdam Junction water tower (York County, New Brunswick, Canada, C. H. B., 1888).—At McAdam Junction, on the New Brunswick Railway, about 6 miles east from the St. Croix River at Vanceboro. The tower is about 20 feet square and 50 feet high, painted gray with ornamental railing on top.

Howland (York County, New Brunswick, Canada, J. H., 1890; 1908).—Near the summit of a high hill on the "Howland farm," which fronts on the east side of the Woodstock Road and is about 2 miles northeastward from Vanceboro, Me. The station is about $\frac{1}{2}$ mile to the eastward and northward of Howland's house on a granite block in cleared pasture land, and is marked according to note 17.¹

Granite (Washington County, J. H., 1890).—On a large rock about 100 meters off the north point of "The Narrows" of Lake Chiputneticook, and a mile west of Haleys Point. The station is marked according to note 16.¹

Aurora (York County, New Brunswick, Canada, J. H., 1890).—On the Canadian shore of Lake Chiputneticook on the southwest shore of the peninsula, separating the lake proper from Sandy Bay Cove. The point on which the station is located contains a number of large granite rocks or boulders. The largest one was selected for the station, which is marked according to note 16.¹ It is about $1\frac{1}{4}$ miles below Five Islands and $\frac{3}{4}$ mile above Sandy Point.

Wind (Washington County, J. H., 1890).—On the American shore of Lake Chiputneticook, on the second prominent point above Five Islands, and about $\frac{1}{2}$ mile below Robinsons Cove. The station is on a granite rock and is marked according to note 16.¹

Musquash barn (Charlotte County, New Brunswick, Canada, J. H., 1890).—The south gable of a prominent barn on the west side of Musquash.

Bluff (Washington County, J. H., 1890).—On the north end of a small island in the south arm of Grand Lake about $\frac{1}{6}$ mile from its western shore and about $\frac{3}{4}$ mile to the southeastward of Robinsons Basin. A still smaller island called Loons Nest, lies about 250 meters southeastward of the station. The station is marked according to note 16.¹

Hedge (Washington County, J. H., 1890).—On a point of the west shore of the south arm of Grand Lake, abreast of and about 50 meters distant from an island and about $\frac{1}{6}$ mile north by west from the entrance to Robinsons Basin. The station is marked according to note 16.¹

Forest City church spire (Washington County, C. H. B., 1889).—On the north side of the main road leading west from the bridge over the outlet of Grand Lake, and 100 meters distant from it. The station is the top spire, gilt martin vane.

Superior schoolhouse chimney (York County, New Brunswick, Canada, C. H. B., 1888).—In Forest City settlement, North Lake Parish, about $\frac{1}{2}$ mile north of the bridge over the outlet of the lake, on the west side of road leading from Forest City over Skedaddle Bridge and on top of the first hill. The station is the chimney at the east end of a one-story building.

End (York County, New Brunswick, Canada, J. H., 1890).—About $\frac{3}{4}$ mile above Forest City Landing, back of the point at the foot of the rising ground. The station is marked by a cross on a granite rock, which is about 2 feet in diameter.

Weston Methodist Church (Aroostook County, C. H. B., 1889).—In the town of Weston, on the west side of road from Baring to Houlton, near the middle of the town, and about 1 mile south of Peekaboo Mountain. The church is on a small hill in southwest corner of road leading to the Forks of the Mattawamkeag, opposite the blacksmith shop of George Brannan. The station is the middle of small square bell tower on eastern apex.

Cedar Point (Aroostook County, J. H., 1890; 1911).—On the point of that name on the west side of Grand Lake opposite Howe's barn which is the only clearing on the Canadian side for a considerable distance. The station is $4\frac{1}{2}$ meters inside of the line

¹ See pp. 183 and 184.

of vegetation and on a rock projecting 6 inches above the ground. It is about $8\frac{1}{2}$ miles above Forest and about 3 miles south by west from Orient, and is marked according to note 19.¹ A reference mark, a cross within a 6-inch triangle, is placed on a large rock 7.387 meters from the station. The reference mark is about 0.4 meter lower than the station mark.

Orient church (Aroostook County, J. H., 1890).—On the north side of the main road, a short distance below or east from William McAllister's. The station is the apex of the cupola of the Methodist Church.

Cromwell (Aroostook County, J. H., 1890).—In the settlement of Amity about a mile south of Spring Hill and on the bank on the west side of the Houlton Road in front of the house of Mr. Cromwell. The station is close to a maple tree and is marked according to note 17,¹ the rock projecting about 8 inches above the ground.

Williams (Aroostook County, J. H., 1891).—In the town of Amity on the shed back of or on the east side of the main barn of Daniel Williams. The station is marked by four galvanized tacks.

Furze windmill (Aroostook County, C. H. B., 1889).—In the eastern part of the town of Hodgden, on the south side of the road leading from Hodgden Corner to the Union Corner (on the boundary line) at the White settlement and $\frac{3}{4}$ mile west from the "Line." The axis of the windmill was observed on. The windmill is built upon the shed connecting the house and barn of Thomas Furze. It is high enough to show over the other buildings near.

EAST OF MOUNT DESERT.

PRINCIPAL POINTS.

Old Proprietor spindle (Charlotte County, New Brunswick, Canada, O. H. T., 1887).—On the old Proprietor Ledge southeast of Grand Manan Island. It is an iron spindle with telescopic appearance.

Yellow Ledge (Charlotte County, New Brunswick, Canada, O. H. T., 1887).—On the yellow ledge off the southern end of Grand Manan. The ledge is composed of a reddish granite. The station is marked by a crosscut in the rock, the cross being rather shallow.

Bog Creek (Washington County, F. P. W., 1863).—On a high rocky hill about a mile southwest of Moose Cove and about $\frac{1}{2}$ mile northeast of the mouth of Bog Creek. To the southward of the station, and at the foot of the hill, there is a small wooden shanty, at a distance of about $\frac{1}{4}$ mile. The station is marked according to note 17.¹

Divide (Washington County, O. H. T., 1883; 1913).—On the highest hill west of the road between the head of Moose River and Bog Creek. This hill is about 300 meters west of the road and about a mile south by west from the head of Moose River, and is covered with brush and small timber. The station is on the highest point of the hill, near the southern edge of the summit, and about 50 meters west of a large white boulder. The station is marked according to note 17a.¹

Hill (Washington County, O. H. T., 1883; 1913).—On a rocky hill $1\frac{1}{4}$ miles southwest of Bog Creek, about $\frac{1}{4}$ mile northwest of the shore road, and about a mile southwest of station Divide. Divide and Trescott Rock are nearly in range. About $\frac{1}{4}$ mile east of the station, which is the highest point of a ledge in the northwestern part of the hill, there is a precipitous rock about 50 feet in height on the east side of the road. The station hill is covered with brush and timber, but toward the west the timber is small and the slope fairly steep, so that a fair view is obtainable in that direction. In other directions the view is much obstructed. The station is marked according to note 17a.¹

Ravine (Washington County, F. P. W., 1863).—On a high rocky hill on the coast about $1\frac{1}{2}$ miles above Long Point Cove. At the foot of the hill there is a small ravine

¹ See pp. 163 and 164.

and a strip of stone beach. From the cove about $\frac{1}{4}$ mile to the northeast a wood road leads nearly to the station. The station is marked according to note 17.¹

Sandy Point (Washington County, F. P. W., 1863; 1913).—On a prominent hill about $2\frac{1}{2}$ miles east by north from the village of Cutler and about 200 meters north of Long Point Cove, a shallow indentation on the ocean coast. A large meadow bordering on Black Point Brook lies immediately north of the hill. There are several summit knobs, but the station is on the one which is highest and has a clump of trees upon it. The station is about 12 feet west of the highest point and is marked according to note 17a.¹

Ledge (Washington County, O. H. T., 1883; 1913).—On a high and prominent bare rocky ridge about 2 miles north-northeast of the village of Cutler and $\frac{1}{4}$ mile northwest of the shore road. The ridge lies nearly east and west and has several summits. The station is on the highest point near the middle of the ridge and is marked according to note 17a.¹ Maker's house is about $\frac{1}{2}$ mile east of the station and on the west side of the road.

Hues (Washington County, O. H. T., 1883; 1913).—On a rocky and precipitous hill which is about $1\frac{1}{2}$ miles east of the village of Cutler and about $1\frac{1}{4}$ miles northeast of Little River Lighthouse, and about 200 meters north of the coast. The cove to the westward of it is called Hughes Cove. The top of the hill is partly covered with small trees and brush but is bare near the southeast side where the station is located. The best approach to the station is by a private road from Cutler which terminates about $\frac{1}{2}$ mile north of the station. The station is marked according to note 16.¹

Lookout (Washington County, F. P. W., 1863; 1913).—On the highest point of a hill known as the "Lookout," which is located just north of the mouth of Little River and near the eastern edge of the village of Cutler. The hill is covered with a dense growth of trees and cutting would be required to open any lines. The station is on the highest point of a bare flat ledge and is marked according to note 17.¹

Davis (Washington County, F. P. W., 1862; 1913).—On a hill about a mile west by south from Cutler, half a mile south of Little River, $\frac{3}{4}$ mile north of the Atlantic coast, and about $1\frac{1}{2}$ miles east of Little Machias Bay. Ackley's house is about 400 meters to the north. The hill is covered with a dense growth of timber and brush. The station is about 6 feet west of the highest part of the highest ledge and is marked according to note 17a.¹

Dennison (Washington County, F. P. W., 1863).—On a bare rocky hill on the east side of the mouth of Little Machias Bay. The station is on a long ridge of rock on the highest part of the hill and is marked according to note 17¹. At the foot of the hill and to the westward of the station a small cove makes up behind Dennison Point, and at the head of this cove is the house of Capt. J. Dennison.

Huntley (Washington County, O. H. T., 1883; 1913).—On the highest point of a prominent bare hill on the east side of Little Machias Bay, $1\frac{1}{2}$ miles west of Cutler, and about 110 meters east of the road along the east shore of the bay. From the station, which is marked according to note 16a,¹ an unobstructed view is obtained in all directions except the east.

Holway (Washington County, O. H. T., 1883; 1913).—On the highest point of land near Cape Wash, on the west side of the entrance to Little Machias Bay and a little nearer to the north side of the entrance to Cross Island Narrows, and about 3 miles southwest of Cutler. The hill is bare except for a few scattered clumps of trees. About 50 meters east of the station there is a large clump of small trees on a knoll of nearly the same height. The station is marked according to note 16a.¹

Ramsdell (Washington County, O. H. T., 1883; 1913).—On the highest point of a ridge about $\frac{2}{3}$ of a mile northwest of the head of Little Machias Bay and 150 to 200 feet north of the road running easterly along the head of that bay and which forms a junction with the Cutler-Machias Road about $1\frac{1}{4}$ miles to the eastward. The station is

¹ See pp. 163 and 164.

near the eastern end of the ridge and about 6 or 8 feet west of the remains of a stone fence. A house and barn are, respectively, 200 feet and 100 feet west of the station. The chimney of this house is a determined point in the triangulation under the name of Ramsdell's house chimney. The station is marked by a drill hole in the top of a boulder which projects 3 inches above the surface of the ground.

Quaker flagstaff (Washington County, O. B. F., 1913).—The foot of the flagstaff at the top of the roof on the east end of a barn or storeroom which is located on the extreme north point of Cross Island at the western entrance of Cross Island Narrows. This point is called Quaker Head on the chart but is known locally as Grass Point, Quaker Head being the point directly across the channel toward the east. There is another barn just north of the one upon which the flagstaff is located and a smaller building just south. Some 50 meters south is a small house, these being the only buildings on the point at this time.

Ackley (Washington County, C. H. B., 1882).—On the Hardwood Ridge on the east side of Holmes Bay, which is the eastern head of Machias Bay. The station is on the most prominent point of Holmes Bay, on the farm of Ralph Ackley and about 290 meters west of his house. It is marked according to note 17.¹

Cross Island Northwest Head (Washington County, C. H. B., 1882).—On northwest head of Cross Island in southwest part of Machias Bay. The hill rises abruptly from the shore and the station is not on the highest part but on the first top about 50 feet above the bay. It is marked according to note 17.¹

Lowell (Washington County, F. P. W., 1862; 1913).—On a prominent hill about $\frac{1}{2}$ mile from the north shore of Holmes Bay, and about 3 miles east by north from Machiasport. The road from East Machias to Cutler is about $\frac{1}{3}$ mile to the southward and there is a church about $\frac{1}{2}$ mile to the eastward. The hill is covered with a dense growth of spruce and fir and considerable cutting would be required to open lines in any direction. The station is at the highest point on a ledge slightly covered with moss and dirt. It is about 2 feet north of the edge of the ledge which is adjacent to a hollow place, and is marked according to note 17.¹

Round Island (Washington County, C. H. B., 1882; 1913).—On the highest point of the island of the same name located near the head of Machias Bay and the mouth of Machias River, about a mile north of Avery Rock Lighthouse and 3 miles southeast of Machiasport. The station is on the highest point of a ledge near the northeast side of the island and is marked according to note 16a.¹ Timber obstructs the view to the southwest and in a slight degree to the west, but all other directions are clear.

Long Point (Washington County, C. H. B., 1882).—On a small hill on Long Point which is on the west side of the head of Machias Bay and about 2 miles east-southeast of Machiasport. The station is on the highest point of rock, about 20 feet from the abrupt west side of the hill and a short distance east of the narrow neck connecting Long Point with the main peninsula. It is marked according to note 17.¹

Bucks (Washington County, F. P. W., 1862; 1913).—On the top of a prominent hill about 3 miles south-southeast of Macniasport, about midway between Zarabee and Bucks Harbor and about $\frac{1}{4}$ mile east of the road connecting them. The hill is covered with brush and trees, except at the summit, which is bare. In most directions the timber does not reach high enough to obstruct the view. The station is on the highest point of the ledge at the summit and is marked according to note 16.¹

Starboard (Washington County, F. P. W., 1862; 1913).—On a hill about $\frac{2}{3}$ of a mile north of Point of Main, the southern extremity of the land separating Machias and Little Kennebec Bays. Starboard Creek is about $\frac{1}{4}$ mile to the northeast and the north end of Starboard Island is a mile due east. The hill is covered with timber and brush, with numerous ledges near its rather flat summit. The station is near the east

¹ See pp. 163 and 164.

end of a large bare ledge and about 30 feet east of its highest point and is marked according to note 17a.¹

Howard (Washington County, A. D. B., 1859; 1913).—On a very prominent high bare hill known as Howard Mountain, located about 5 miles south of Machiasport, and 1 mile south of Bucks Harbor, and less than $\frac{1}{2}$ mile northwest of the head of Howard Bay. The latter is an arm of the west side of Machias Bay. The road from the north crosses the foot of the hill on the east side, and from it, near the head of Howard Bay, a well-worn trail leads to the summit. The station is about 3 meters west of the highest point of the ledge and about 4 feet from the southern edge, and is marked according to note 18,¹ the top of the bolt being slightly below the surface of the rock.

Dwelly (Washington County, F. P. W., 1862; 1913).—On a prominent hill about 3 miles east by north from Machias and about $\frac{3}{4}$ mile southwest from the lower bridge at East Machias. A prominent trail runs in a direction a little west of north from the summit of the hill to a house on the north side of the road from East Machias to Machias. The hill is covered with timber and brush, but its south side is so steep that the view is not appreciably interfered with in that direction. The station is on the highest point of a large bare ledge at the southern edge of the summit and is marked according to note 17.¹

Peterson (Washington County, C. H. B., 1882; 1913).—On a hill about a mile southwest of Machiasport and $\frac{1}{3}$ mile from the junction of the roads from Bucks Harbor and Little Kennebec, at the head of Sanborns Cove. A wood road from the top of the small hill is covered with timber, which obstructs the view in nearly all directions, the view to the westward being the most open. To open lines to the eastward would require heavy cutting. The station is on the highest point of the rock and is marked according to note 16.¹

Bryant (Washington County, C. H. B., 1883).—On the west side of the mouth of Little Kennebec Bay, about 150 meters from the shore and $\frac{1}{3}$ mile south of the wharf and canning factory (lobster). The station is on a rocky knubbin in the spruce growth, about 100 meters outside of a field, and is marked according to note 17.¹

Little Kennebec (Washington County, F. P. W., 1863; 1913).—On a prominent hill on the west side of Little Kennebec Bay abreast of the Narrows and about 5 miles south by east from Machias. The main road from Machias to Little Kennebec ends at some houses just north of the hill. The hill is covered with a dense growth of timber and brush and has numerous scattered ledges. The station is on a flat-topped ledge on the southeast side of the hill near the summit. The ledge has a crack extending east and west across the top, about $1\frac{1}{2}$ feet from its southern edge. The station is marked according to note 16.¹

Marstin (Washington County, C. B. H., 1883).—On a high hill about $\frac{1}{4}$ mile southwest of Marstin Point, west side of Little Kennebec River, belonging to Ezekiel Marstin. The station is on an outcrop of ledge and is marked according to note 17.¹ A road from the northwest terminates at Marstin Point.

Indian Hill (Washington County, F. P. W., 1862; 1913).—On the brow of a prominent hill, about $1\frac{1}{2}$ miles northeast from Machias. To reach the station, go east from Machias, turn north at the first road after crossing Middle River, proceed $\frac{3}{4}$ mile, and take the road to the left leading to Marshfield. A half mile west on this road is a small stream which comes from a ravine which is just west of the station. The station is on the highest point visible from the road and distant therefrom about 400 meters. There is a group of fir or spruce trees about 40 meters southeast of the station and a few scattering clumps of brush in other directions. The station is marked by a $\frac{1}{2}$ -inch drill hole in the middle of the top of a large boulder projecting about 6 inches above the ground.

¹ See pp. 163 and 164.

Cooper (or Western Ridge) (Washington County, A. D. B., 1859; 1913).—On the summit of the highest hill in the township of Cooper. It is known as Western Ridge or Cooper Hill and is about 750 feet high and covered with timber. It is best approached from Ayers Junction, on the Maine Central Railroad, by following the main road northward for about 16 miles, passing through the village of Meddybemps. The road passes along the east side of the hill within half mile of the summit. There is a fire lookout tower on the top of the hill built directly over the station. The tower is about 40 feet high, with a house on top. The land belongs to W. H. Morton. The station is marked according to note 18,¹ the rock being under the center of the lookout tower at the highest point of the hill. Drill holes were made on the rock on the lines to various main stations of the triangulation at the distances given below: In range with Chamcook, 12.6 feet from center of station; Prince Regents Redoubt, 14.7 feet and 133.9 feet; Grand Manan, 14 feet and 123.2 feet; Trescott Rock, 12 feet; Howard, 18.4 feet; Mount Desert, 22.7 feet; Burke, 23 feet. There was so much débris about the station in 1913 that none of these range drill holes were found. Some may have been destroyed when the tower was built, but most of them are probably still in existence. The latitude and longitude station of 1859, marked by a copper bolt sunk in the solid ledge of rock, is 14.0 meters west and 1.3 meters south of the station.

Moose-a-bec (Washington County, F. P. W., 1861; 1913).—On the summit of the highest hill on Head Harbor Island, about $4\frac{1}{2}$ miles southeast of Jonesport and 2 miles north by east from Moose Peak Lighthouse and nearly 1 mile from the south end of the island. The hill is covered with a dense growth of trees, mostly spruce and fir, with more or less brush. The station is on the highest point of a broad open ledge, which has a sharp drop about 5 meters to the southward, and is marked according to note 16.¹ Near the edge of the ledge and on the line to Moose Peak Lighthouse a cross was cut in the rock at a distance of 5.195 meters from the station.

Kel (Washington County, O. B. F., 1913).—On a prominent bare hill on Kellys Point, north side of Moose-a-bec Reach, and southwest side of Chandler Bay. The station is on a ledge a little south of the highest point of the hill. The ledge has a steep drop of a foot on its south side, and a large flagpole stands in this depression 0.77 meter from the station. The station is marked according to note 16.¹

Alley (Washington County, O. B. F., 1913).—On the north end of Alleys Island, a small island lying close to the northeast end of Great Wass Island and about $1\frac{1}{2}$ miles southeast of Jonesport. The station is on the highest point of a rocky ledge, about 2 feet from its south side and about 10 meters from trees in the center of the island. It is marked according to note 16.¹

Crumple (Washington County, F. P. W., 1862; 1913).—On a bare, rocky hill on Crumple Island, which lies about $\frac{1}{2}$ mile southwest of the southwest extremity of Great Wass Island, known as Pond Point. The station is a few feet north of the highest point and is about 10 meters southeast of a small house formerly used by the Life-Saving Service and about 20 meters north of their old flagstaff. It is marked according to note 16.¹ The reference mark is an iron bolt set in a hole drilled in the rock 5.28 meters west of the station.

Ryefield (Washington County, F. P. W., 1862; 1913).—On a prominent hill about 4 miles south-southwest from Jonesboro and about 300 meters west of the main road between Jonesboro and Jonesport. The head of Masons Bay is about a mile northeast of the station, and there is a small schoolhouse just under the hill and on the west side of the road. The hill is practically free from brush near the top, but the sides are more or less covered. The station is on a ledge at the highest point and is marked according to note 16a.¹

Norton (Washington County, F. P. W., 1862; 1913).—On a bare topped hill in West Jonesport, about 70 meters north of the main shore road, 400 meters east of the road to

¹ See pp. 163 and 164.

Indian River, and nearly north of the Underwood canning factory. About 200 meters south of the hill there is a large well with a roof over it. The station is on the highest round-top ledge of the summit and about 200 feet east of a north and south fence. The station is marked according to note 16.¹

Beals (Washington County, F. P. W., 1862; 1913).—On a high hill near the southwest side of Beals Island, about $1\frac{1}{2}$ miles southwest of Jonesport. The summit is a bare, rocky ledge and the station is on its highest point, 5 feet north of the edge, where an abrupt fall takes place. The shore line is about 200 meters distant toward the west and about 400 meters toward the south. The station is marked according to note 16.¹

• *Kelly* (Washington County, F. P. W., 1862; 1913).—On the top of a bare rocky knoll about a mile south of Indian River village and 200 meters east of Indian River. The station is about 100 meters west of the Jonesport Road. A dense growth of timber obstructs the view to the east and south. The station is marked according to note 16.¹

Pomp (Washington County, O. B. F., 1913).—On the north end of Poms Island, which lies south of Moose-a-bec Reach adjacent to Nortons Island, and about 2 miles southwest of Jonesport. The station is on the highest point of a rounded ledge which lies between two slightly higher ledges which are about 15 meters apart. A clump of trees on the north end of the island prevented the selection of either of the higher ledges. The station is marked according to note 16.¹

Doy (Washington County, O. B. F., 1913).—On a bare, rocky ledge in the southeast end of Doyles Island, which lies on the north side of Moose-a-bec Reach and about 2 miles west of Jonesport. The station is a little southwest of the highest part of the knoll and is 50 feet from the south shore of the island and just south of its only house. The station is marked according to note 16.¹

Moose (Washington County, F. P. W., 1862; 1913).—On the highest part of a hill in the northern part of Moose Island, which lies between Indian and West Rivers. The hill is now covered by a dense thicket. The ledge on which the station is placed is about $\frac{1}{4}$ mile west of Indian River, about $\frac{1}{2}$ mile south of the north end of the island, and about 150 meters west of the road leading to Indian River village. It may be hard to find, but can best be reached by leaving the road at a point nearly $\frac{1}{4}$ mile north of a house on its western side and proceeding westerly and keeping near the southerly slope while going up the eastern one. A pile of stones placed over the station will assist in its location. The station is marked according to note 16.¹ A rounded knob about 3 inches higher than the rest of the ledge is about 4 feet southwest of the station mark.

Look (Washington County, F. P. W., 1862; 1913).—On a prominent hill on the east side of Pleasant River, about 2 miles south of Addison Point. There are a few scattering trees on the hill, but on its north side the growth is denser. The station is on the highest part of a small ledge about 100 meters east of the road to Addison Point and marked by a $\frac{1}{4}$ -inch drilled hole within a 4-inch square.

Mitten Mount (Washington County, C. O. B., 1850; 1913).—On the highest and most northerly summit of Mitten Mountain, in the town of Centerville, and about 6 miles northeast of Columbia Falls. The mountain is covered with a dense growth of timber and brush, and the summit ridge is a series of rocky ledges extending nearly a quarter of a mile and with a prominent saddle near the north end. The station is on a prominent ledge which is about 100 feet long and 20 feet wide, and is marked according to note 16a.¹ At a distance 3.8 feet to the southwest of the station a small fir or spruce tree is growing on the top of the ledge. A good road from Columbia Falls passes just west of Mitten Mountain. Follow this road until a hill summit is reached which is nearly abreast of the north end of the mountain; then follow up a slight ravine to the saddle, which is just south of the station.

¹ See pp. 163 and 164.

Cape Split 2 (Washington County, C. H. B., 1881; 1913).—On the summit of a prominent hill in the southwest part of Cape Split, eastern side of Pleasant Bay. The hill is free from timber and brush except on its northern and western sides, and the view is now obstructed in all directions. The station is marked by a drill hole and surrounding triangle on the ledge which crops out at the highest point of the hill. About 8 feet west of the station there is a pole supported by a pile of rocks, probably used by the United States Geological Survey in 1907 or 1909.

White (Washington County, F. P. W., 1861).—On the summit of the middle one of the three hills known as Tumble-down Dick, located on the side of Pleasant River, about $\frac{1}{2}$ mile east of Tumble-down Dick Head. The land belongs to W. White, who lives at the foot of the hill, and the station is near the western edge of a cleared space. It is marked by an iron bolt about 8 inches long, set in a hole drilled in the rock 3 inches below the surface of the ground. The bolt projects a little above the surface, however, and stones are placed around it to prevent its being covered up.

Con (Washington County, O. B. F., 1913).—On the summit of a prominent knoll on the west side of Pleasant River, about 3 miles below Addison Point, and near the center of the short peninsula between the river and Upper Wass Cove. The station is on the highest point of the ledge, and 20 feet to the north of it there is another point of nearly equal height. The hill is a rocky one, with timber on its western slope and scattering trees on other parts. The station is marked according to note 16.¹

Wass (Washington County, F. P. W., 1862; 1913).—On a prominent small hill with a rocky summit, located about 75 meters west of the main road along the west shore of Pleasant River and 2 miles west-southwest from Addison Point and about $\frac{1}{4}$ mile south of a road across the peninsula. The north end of the hill is wooded, but the remainder has recently been cleared. The station is on a fairly flat part of the ledge, 10 feet from its southern edge, 8 feet east of its highest point, and less than 2 feet west of the upper edge of a quarry. There are two houses in the vicinity, one within 50 meters to the eastward and the other about 75 meters to the northeast. The station is marked according to note 16.¹

Ward (Washington County, C. H. B., 1881; 1913).—On the west side of Pleasant River, about 5 miles south of Addison Point village and on the east brow of the hill just west of the head of Sand Cove. The station is about 8 feet from the south end and $1\frac{1}{2}$ feet from the eastern edge of a narrow projecting ledge which is some distance east of the highest part of the hill. Fort Island and Seavey's house on the other side of the river are in range from the station. The station is marked according to note 16a.¹

Ripley 2 (Washington County, C. H. B., 1881; 1913).—On a hill on the extreme southeast point of Ripley Neck, on the west side of the entrance to Pleasant River. The station is on a rocky ledge on the highest part of a ridge which is about 75 meters east of the highest part of the hill. It is about 50 meters north of the beach and nearer to the eastern shore than the western. The station is marked according to note 16a.¹ The hill is covered, except in the immediate vicinity of the station, with a dense growth of trees and brush, and considerable cutting would be required to open lines in any direction.

Traf (Washington County, O. B. F., 1913).—On the highest part of the hill in the northeast end of Trafton Island, which lies in Narraguagus Bay about 2 miles north-northeast of Narraguagus Lighthouse and about $3\frac{1}{2}$ miles southeast of Millbridge. The station is on the northeast end of the summit ledge and is about 100 meters south of the extreme north point of the island. It is marked according to note 16.¹

Epping east base (Washington County, A. D. B., 1857; 1913).—This station marks the eastern terminus of the Epping base line and is located on Epping Plains, about 6 miles east-northeast from Cherryfield and about $3\frac{1}{2}$ miles north of Harrington. The road from Cherryfield to Epping reaches the plateau about 2 miles west of the station

¹ See pp. 163 and 164.

and then extends nearly due east to the station and then bears a little to the northward. The station is a few feet from the edge of the bluff and a few feet south of the angle in the road. The intersection of two crosslines on the head of a copper bolt inserted in the head of a granite block 2 feet long and set $3\frac{1}{2}$ feet below the ground constitutes the subsurface mark. A platform of beton, 5 feet square and 1 foot thick and with a central aperture $1\frac{1}{2}$ feet square, supports another granite block whose top is 3 feet square and projects about 6 inches above the surface of the ground. This block also has a copper tack inserted in its top, and the intersection of crosslines originally on its head constituted the station surface mark and was exactly vertically over the intersection on the subsurface mark. The upper bolt, however, has been so battered by some vandal that its crosslines are no longer visible. The Italian marble monument (3.28 feet high and 1.64 feet square) originally set over the station mark has been destroyed. To the northward at distances of 36 meters and 72 meters, respectively, and on a line perpendicular to the base at the station point, are two granite reference monuments, each 3.5 feet long and 1 foot square and each having a copper bolt inserted in the center of its top. The cross lines originally on the heads of these bolts have been entirely obliterated by hammering. A third granite post with merely a drill hole in its top was found when the station was visited in 1884 and again in 1913, but this is not mentioned in the original description of the station. This additional mark is about 108 meters north of the station.

Wallace (Washington County, F. P. W., 1861; 1913).—On the summit of a high hill locally known as Skippers Hill, about 2 miles northeast of Millbridge, and about $\frac{1}{4}$ mile east of the road from Millbridge to Harrington. The hill is covered with a dense growth of brush and some scattering trees. Near the southwest corner of the near-by flat there are some bare ledges, the most prominent one being about 20 feet west of the station, which is on the highest point of a small outcropping of the ledge. The station is marked according to note 17a.¹ Three other cairns at equal distances surround the central one.

Bois Bubert (Washington County, F. P. W., 1861; 1913).—On the highest point of Bois Bubert Island, which lies on the east side of Pigeon Hill Bay in a slate-colored rock. The ledge is flat on top, with a 2-foot drop on its south side, and the station is about 8 feet from this ledge and about 200 meters southwest of a large pond. The island is covered with bare ledges and a dense growth of brush and some timber between them. The station is marked according to note 16a.¹

Epping west base (Washington County, A. D. B., 1857; 1913).—On a hill in the west end of Epping Plains and about 6 miles north by west from Cherryfield. The summit of the hill is a mass of ledges and boulders and the station is on a solid ledge which is about 25 feet west of and about 15 feet lower than the highest point. This ledge was cut away about the station to the depth of 6 to 8 inches, so as to leave a projecting prism whose top was 4 feet square, and in the center of this was set the copper bolt (with a cross cut in its top) marking the station. In 1913 this bolt was still in place but its head had been so battered that the cross lines were no longer visible. The Italian marble monument (3.28 feet high and 1.64 feet square) originally placed over the mark has been entirely destroyed. Two similar projecting prisms, 1 foot square, were made, one 10 meters north and the other 10 meters south of the station, and in each was inserted a copper bolt with crosslines on its head. The line connecting the intersections on the two bolt heads was perpendicular to the base line and passed through the intersection of the crosslines on the head of the station bolt. The southern mark still remains intact but the northern one is badly mutilated, the bolt being gone and only a part of the drill hole remaining. To reach the station, take the road north from Cherryfield for nearly 6 miles to a bridge across a small creek. From this bridge the station hill is visible about $\frac{1}{2}$ mile to the eastward. Then about $\frac{1}{4}$ mile

¹ See pp. 163 and 164.

beyond the bridge take the road branching to the right and you will be almost at the station.

Pigeon (Washington County, C. O. B., 1855; 1913).—On the summit of the very prominent and commanding hill of that name, which is on the west side of Pigeon Hill Bay, about $\frac{5}{8}$ mile west-northwest of Chitman Point and about $5\frac{1}{2}$ miles south of Millbridge. The summit is almost free from timber and brush. The station is on a prominent bare ledge at the highest part of the hill and is marked according to note 18 a.¹ The bolt has a large head with a cross cut in it. The station is readily reached from the road which runs along the east side of the hill by leaving the road near a small graveyard, which is on the ridge about southeast of the station, and following the ridge to the summit.

Eagle Hill (Washington County, F. P. W., 1861; 1913).—On the eastern summit of the hill of that name, on the west side of Dyer Bay and about 300 meters from the shore. The hill is covered with timber and brush, but at the summit the growth is stunted and not thick, so that but little cutting would be required to open lines in any direction. The station is on a slightly hollowing place on the top of a bared ledge and about 4 feet from its north, south, and southeast points. The station is marked according to note 16a.¹ The main road from Steuben passes along the west side of the hill at a distance a little more than $\frac{1}{2}$ mile from the station.

Dyer (Washington County, F. P. W., 1861; 1913).—On Dyer Point, which is the southeastern corner of Dyers Neck, the peninsula separating Dyers and Goldsboro Bays. The station is on the highest point of a bare ledge and is marked according to note 16.¹ About a foot south of the station there is a prominent crack in the ledge extending northeast and southwest, and about 20 feet south the ledge has another summit of nearly the same height.

Bee (Hancock County, F. P. W., 1861).—On the highest part of Western Island, which lies in the southwest part of the mouth of Goldsboro Bay and about $\frac{1}{2}$ mile south of Indian Harbor. The station was marked by a nail in the top of a stub driven in the ground. Four other stubs similarly marked were placed about this in the form of a square whose diagonals intersect at the station.

Newman (Hancock County, F. P. W., 1861).—On a hill on the west side of Goldsboro Bay near the head of Newman Cove. The hill is bare and rocky and rises directly from the water's edge, and is owned by Tim Newman. The station is marked according to note 17.¹

Burke (Washington County, C. O. B., 1856; 1913).—Near the summit of the most southerly of several high points of a range of hills about $2\frac{1}{4}$ miles west of the Narragaugus River at Cherryfield and about the same distance northeast by north of Unionville. To reach the station, take the road leading westward from Cherryfield until a road fork just beyond the railroad crossing is reached, then take the left-hand road (Unionville Road) to the south side of the hill, now plainly visible; leave this road near a house just under the east side of the ridge, follow along said east side until the summit is nearly abreast, then proceed west to the summit. The station is on a ledge which is 3 feet lower than the highest point, the latter being too narrow to build a signal upon. It is marked according to note 16.¹ There are no trees or brush at or near the summit and an unobstructed view is obtained in all directions.

Cromer (Hancock County, F. P. W., 1861).—On a high hill known as Mount Cromer about $2\frac{1}{2}$ miles to the southward and eastward of Goldsboro. It is about $\frac{1}{2}$ mile west of Grand Marsh Bay, a branch of Goldsboro Harbor. The road from Goldsboro to Prospect Harbor passes along the east foot of the hill. The station is marked according to note 17.¹

Hovey (Hancock County, F. P. W., 1860).—On a hill known as "Hoveys Ledge," at the head of Goldsboro Harbor, and on the west side of the road leading from Golds-

¹ See pp. 163 and 164.

boro to Steuben. The land belongs to Abel Hovey, whose house is about 200 meters southeast from the station on the west side of the road. Luther Stevens's house is in the locality but close to the road. The station is marked by a hole drilled in the ledge.

Schoodic (Hancock County, F. P. W., 1860; 1903).—On the summit of Schoodic Mountain, which is located in the southeast part of Schoodic Peninsula, about $3\frac{1}{4}$ miles south of the town of Winter Harbor. The station is near the northeast edge of the summit and is about 500 meters from the west shore of Schoodic Harbor. A good road from Winter Harbor leads directly to the summit. The station is marked according to note 17.¹ In 1903 the top of the mountain was covered by a thick growth of trees and bushes.

Tunk (Hancock County, C. O. B., 1859).—On a mountain of the same name, which is the most commanding mountain east of the Penobscot except Mount Desert. It is about a mile north of the stage road from Ellicott to Cherryfield and about 8 miles northwest of the latter. The station is about 150 feet southwest from the highest point of the summit and about 4 feet lower and is marked according to note 17.¹

Ash (Hancock County, F. P. W., 1860; 1902).—On the summit of a hill on the eastern side of Frenchman Bay, about $\frac{1}{2}$ mile southeast of Hammond Cove at the head of Stave Island Harbor, and about $1\frac{1}{2}$ miles northwest of Winter Harbor. The road from Winter Harbor to West Goldsboro passes about $\frac{1}{4}$ mile to the westward of the station. The latter is marked according to note 17.¹

Humpback (Hancock County, A. D. B., 1858; 1913).—On Humpback Mountain, the summit of which is near the southeast corner of Brewster township and about 20 miles north of Cherryfield. The old Bangor-Calais stage road is about 3 miles south, and branching off from it about 200 meters west of the bridge across the Narragaugus River is the road made by the Coast Survey in 1858 and leading nearly to the summit. A telephone line along the latter road enables one to keep on the proper route to the place where Bache's camp was located and where two log cabins now stand. Just beyond these cabins a trail leads up to the steep part of the summit. A lookout tower for the use of the fire wardens stands on the highest point, and about 50 meters southeast of it, on a large bare ledge, the station is located. It was originally marked by a copper bolt set in the rock, but only the drill hole was found in 1913. Mr. French found three other drill holes not mentioned in the original description, each about 6 feet from the station located to the east, west, and south, respectively. The mountain is densely wooded and considerable cutting would be required to open lines to other stations.

Tucker 2 (Hancock County, H. G. O., 1879).—This station is 42 meters in a northwesterly direction from "Tucker" station described below. It also is marked according to note 17.¹

Tucker (Hancock County, F. P. W., 1860; 1879).—On the central part of the summit of Tucker Mountain which is located north of Frenchman Bay and about a mile southeast by east of Sullivan. It is also about $\frac{1}{3}$ of a mile north of the shore of Long Cove. The nearest house is that of John Hill, at the foot of the west side of the mountain and about $\frac{1}{4}$ mile below the Falls village. The station is marked according to note 17.¹

Mount Desert (Hancock County, A. D. B., 1856; 1902).—On the highest elevation of Mount Desert Island, known as Mount Desert or Green Mount. It is a very commanding position and the view is unobstructed in all directions. The station is on the summit and $22\frac{1}{4}$ inches east of the southeast corner of a crevice in the rock. The station is marked according to note 17.¹ Also the following range drill holes were found; 53.17 feet from station on line toward Peaked Mountain, 17.52 feet from the station on line to Blue Hill, and 21.83 feet from the station on line to Ragged Mountain.

¹ See pp. 163 and 164.

SUPPLEMENTARY POINTS.

Pond (Washington County, O. H. T., 1883; 1913).—On the highest point of a prominent bare rocky hill about $\frac{1}{4}$ mile from the coast, a mile south of Bog Creek, about 2 miles south of Moose River, and about $\frac{3}{4}$ mile east of the shore road. There is no timber near the hill except a few scattering trees, as the region has recently been burned over. The station is marked according to note 16a.¹

Maker's house chimney (Washington County, O. H. T., 1883; 1913).—The chimney on the top of the one-story house on the west side of the shore road about 2 miles north-northeast of the village of Cutler and about $\frac{1}{2}$ mile east of triangulation station Ledge. The ground between the house and Ledge is low with brush and rocky ledges. A prominent rocky hill is $\frac{1}{4}$ mile southwest of the house near the west side of the road.

Ackley's house chimney (Washington County, O. H. T., 1883; 1913).—The chimney of the only house which is in a small clearing near the top of the hill on the south side of Little River and about 1 mile west of the village of Cutler. The road to the wharves of Cutler on the south side of the river passes about 50 meters north of the house, the highest point of the road being about 100 meters west of the house. Davis triangulation station is almost due south of the house and about 400 meters distant.

Methodist Church (Washington County, O. H. T., 1883).—Reported lost in 1913.

Turner's house chimney (Washington County, O. H. T., 1883; 1913).—The highest chimney on the house near the north side of the road along the north shore of Little Machias Bay, about 200 meters west of the stream which enters into the bay near the northeast corner, and near the top of the hill.

Southwest Head, Cross Island (Washington County, C. H. B., 1885).—On the highest part of a detached mass of rock at Southwest Head of Cross Island. At high water this mass of rock is separated from the island by a narrow fissure. The station is marked according to note 17.¹

Mountain Head (Washington County, C. H. B., 1882).—On the summit of Mountain Head, which is on the western side of Machias Bay about $\frac{3}{4}$ mile east of Bucks Harbor village and $\frac{1}{4}$ mile north and west, respectively, of Bar Island and Bare Island. The station is on a rocky point on the northeast part of the summit and is marked according to note 17.¹

Huniley, F., house chimney (Washington County, O. H. T., 1883).—The chimney on the house on the east side of the road which runs down the south shore of Little Machias Bay.

Ramsdell's house chimney (Washington County, O. H. T., 1883; 1913).—The chimney of the house which is about 200 feet west of Ramsdell triangulation station.

Holmes Bay church spire (Washington County, O. B. F., 1913).—The prominent white spire on the south end of the church on the north side of the shore road along the north side of Holmes Bay, and just east of the hill upon which triangulation station Lowell is located, nearly 4 miles east of the town of Machiasport.

Salt Island (Washington County, C. H. B., 1882).—On the highest ledge of Salt Island, in the western part of Machias Bay, about a mile northeast of Avery Rock Lighthouse and about 3 miles southeast of Machiasport. The station is marked according to note 17.¹

Fletcher (Washington County, C. H. B., 1882; 1913).—On the highest point of the large rocky hill known as Fletcher Hill, located about $\frac{2}{3}$ of a mile east of Machiasport and about 100 feet east of the road from East Machias to Little Cove (east side Machias River). The station is marked according to note 17.¹

Machiasport town hall (Washington County, C. H. B., 1882; 1913).—The very prominent cupola on the town hall at Machiasport, near the west bank of the Machias River, on the east side of the main road from Machias to the southward.

¹ See pp. 163 and 164.

Machiasport high school (Washington County, C. H. B., 1882; 1913).—The prominent cupola on the high school, located on the north side of the main shore road near where it turns south to leave the town. It is 200 meters northwest or 400 meters west of the shore of Machias River.

Foster Island (Washington County, C. H. B., 1882).—On the Foster Island that lies on the western side of Machias Bay entrance and on the east side of Englishman Bay. It is about a mile south-southeast of Point of Main and about $1\frac{1}{2}$ miles north-northwest of Libby Island Lighthouse. The station is about 100 meters northeast of the highest point of the island and is marked according to note 17.¹ (There is another Foster Island in Narragaugus Bay on which a Foster station is located.)

Robinson's house cupola (Washington County, C. H. B., 1882; 1913).—The very prominent cupola on the house of Mr. Robinson, $\frac{1}{2}$ mile south of Machiasport, about 200 meters west of Machias River, and $\frac{1}{4}$ mile north of Sanborns Cove, on the east side of the main road south from Machiasport.

Larabee Cove church spire (Washington County, C. H. B., 1882; 1913).—The spire of the only church in the village of Larabee Cove. On the east side of the main road north and south through the town and near the north side of the settlement. The shore is about 400 meters toward the east and southeast. The cupola is on the west end of the building.

Scabby (Washington County, C. H. B., 1883).—On the highest part of the northernmost of the Scabby Islands, about a mile south of Point of Main and $1\frac{1}{4}$ miles west-northwest of Libby Island Lighthouse. The station is marked according to note 17,¹ the rock being about a foot below the surface of the ground.

White house, west chimney (Washington County, F. P. W., 1863; 1913).—The western of two chimneys on a large house near the north side of the main road from Little Kennebec Bay to Machiasport, $\frac{1}{4}$ mile from the head of the eastern branch of Little Kennebec Bay at the northeast point of the bay, and a little more than $\frac{1}{4}$ mile west of the small creek which flows into the Little Kennebec at the northeast end.

New barn, north gable (Washington County, F. P. W., 1863; 1913).—The north gable of the large barn on the east side of the road near its end at Sea Wall Point on the west shore of Little Kennebec Bay, about 7 miles south of the town of Machias or about 10 miles by road, about 100 meters from the shore of Bare Cove, and a little more than 100 meters from the small cove to the northward.

Burnham, Capt., house chimney (Washington County, F. P. W., 1862; 1913).—The highest chimney on the house of Capt. Burnham, just south of the main road from Machias to East Machias, and very near the shore of Machias River, just east of the mouth of Middle River.

Machias, town hall cupola (Washington County, F. P. W., 1862; 1913).—The center of the square flat-topped cupola on the south end of the building long used as the town hall, but in 1913 occupied as a high school, on a hill some 250 meters east of the courthouse, and on the same side of the main street.

Machias white spire (Washington County, F. P. W., 1862; 1913).—The tall, slender, white spire of the Congregational Church on the east side of the principal business street in Machias, which is north and south. Less than one block from the main east and west street. The United States post office is located at the northwest corner of these two streets and the county courthouse on the next street north.

Porter (Washington County, C. H. B., 1885).—On a rocky hill in Machias village on the south side of Machias River and about 200 meters southeast of the bridge. The land belongs to the Halway Estate. The station is marked according to note 17.¹

Yellow house, east chimney (Washington County, F. P. W., 1863; 1913).—The eastern of two high chimneys on the large house about 2 miles south of Machias on the west side of the main road to the head of Little Kennebec Bay from Machias. The road is the

¹ See pp. 163 and 164.

eastern one which continues to Machiasport. The house is $\frac{3}{4}$ mile northwest of the junction of this road with the road which connects the two roads near the head of the bay. The house was originally painted yellow, but in 1913 was a whitish gray.

Marshfield church (Washington County, C. H. B., 1885).—The bell tower of the Marshfield church. The point observed upon was directly under the weather vane.

Roque (Washington County F. P. W., 1862; 1913).—On the highest point of the northeast section of Roque Island, Englishman Bay, about $\frac{3}{4}$ mile south of Great Head and just east of the middle of the narrow neck connecting the two sections of the island. The station is on the most northern and western of several rocky ledges at the summit. Toward the south and east several knobs appear to be higher, but are really lower, the timber and brush interfering with a direct comparison. The shore of Roque Harbor is about $\frac{1}{6}$ mile south of the station. The station is marked according to note 16a.¹

Harkins Ridge (Washington County, C. H. B., 1885; 1913).—On the summit of a prominent ridge about 100 meters east of the main road between Whitneyville and Jonesboro, and about a mile south of the town line. The top of the ridge is rather flat and has scattering trees and occasional clumps of trees over it. The station is about 300 meters northeast of the place where the ridge crosses the road, and is just south of a prominent clump of spruce trees. The station is marked by a drill hole on the top of a granite block set with its top 3 inches above the ground. The dimensions of the granite block are 6 by 10 by 18 inches. A pile of rocks covers the station and three other piles of rock are at places where the original tripod braces were anchored.

Mark (Washington County, F. P. W., 1862; 1913).—On the summit of Mark Island at the eastern entrance of Moosabec Reach, about 3 miles east of the town of Jonesport. The station is marked by a triangle cut on east side of a spruce tree about 8 feet from the ground. This tree is the only evergreen on the immediate summit and is about 15 feet north of the highest point of the hill. The south side of the tree is dead to a height of about 6 feet, being free from bark in this section. In 1913 a new triangle was cut on the tree a little more toward the north side and about 3 feet from the ground.

Moose Rock tripod (Washington County, O. B. F., 1913).—The top of the tripod structure placed on a ledge about $\frac{1}{4}$ mile north of the middle of Head Harbor Island by the Lighthouse Service. It is an iron structure with a cage on the top.

Sawyer (Washington County, F. P. W., 1862; 1913).—On the highest point of the hill known as Sawyers Hill, on Looks Head, at western side of the entrance to Chandler River and about 3 miles southeast of Jonesboro. There are several houses and cleared fields just north of the hill. The hill is covered with a dense growth of trees and brush, and considerable cutting would be required to open lines in any direction. The station is on a bare and open ledge and is marked according to note 16.¹

Rogers (Washington County, F. P. W., 1862; 1913).—On a commanding hill on the west side of Chandler Bay, about a mile south of Rodgers Island and the mouth of Masons Bay, and just east of the road from Jonesport to Jonesboro. The station is on the highest point of the hill and is about 200 meters from the water's edge. There is a clump of spruce and fir trees about 10 meters south of the station and the remainder of the hill is covered with small brush; but little cutting would be required to open lines in any direction. The station is marked according to note 16a.¹

Woodard (Washington County, F. P. W., 1862; 1913).—On a low hill on the west side of Chandler Bay about 100 meters south of the stream crossing Popplestone Beach and about midway between the beach and the main road to Jonesport. A private road leading from the main road to the beach passes 10 meters southeast of the station. The hill is covered by a dense growth of trees and brush. The station is marked according to note 16a,¹ the drill hole being in a small round-topped whitish stone slightly below the surface of the ground.

¹ See pp. 163 and 164.

Kelly schoolhouse cupola flagstaff (Washington County, O. B. F., 1913).—The flagstaff on the top of the cupola on the north end of the large school building midway between Jonesport and Kelleys Point, on the north side of Moosabec Reach, on the south side of the shore road, and very prominent from the water.

Rake (Washington County, F. P. W., 1862; 1913).—On the summit of the principal hill near the middle of Great Wass Island and about 4 miles south of Jonesport. The ledge on which the station is placed is very prominent and resembles a huge flat-topped boulder as its steep sides rise from 6 to 8 feet above the surrounding rock. The station is a little more than $\frac{1}{2}$ mile from the western shore of the island and is marked according to note 16a.¹ Considerable cutting will be required to open lines in any direction.

Three Falls Life-Saving Station (Washington County, O. B. F., 1913).—The cupola on the main building of the Three Falls Life-Saving Station on the west side of Great Wass Island about 1 mile from the south end of the island. Owing to the timber immediately behind the building, it is not very prominent from a distance. The cupola is conical in shape and yellowish in color.

Sawyers Cove church spire (Washington County, O. B. F., 1913).—The tall, slender, dark gray spire on the south end of the Congregational Church, near the shore at Sawyers Cove in Jonesport, on the north side of a short road which is some 150 meters south of the main road along the shore of Moosabec Reach, and just east of the road which connects the other two roads near the west end of the southern road. Just across the road from Sawyer's large store and less than 100 meters from the wharves at Sawyers Cove.

Jonesport church spire (Washington County, F. P. W., 1862; 1913).—The spire on the old church near Sawyers Cove on the north side of the main shore road. The Congregational Church is just one block south and has a much more prominent spire.

Beals north church spire (Washington County, O. B. F., 1913).—The prominent spire on the north end of the white church near the north shore of the island about $\frac{1}{4}$ mile from the Beals south church spire. The spire is octagonal and not so slender as the spire on the south church, and rests on an open belfry.

Beals south church spire (Washington County, O. B. F., 1913).—The prominent spire on the north end of the most southern church in the village of Beals on the south side of Moosabec Reach across from Jonesport, on a small hill a little more than $\frac{1}{4}$ mile from the landing at the reach. The spire is slender and octagonal, resting on a square base, with gables on the top of an open belfry.

Beals school cupola (Washington County, O. B. F., 1913).—On a large yellow building near the north shore of Beals Island, and a short distance from the shore of Moosabec Reach. The station is the tip of a square cupola with a very gentle slope to the sides of the roof, near the center of the ridge of the roof of the building.

Underwood cannery factory chimney (Washington County, O. B. F., 1913).—The center of the large tall, square, flaring top, red brick chimney at the Underwood sardine cannery, near the shore in west Jonesport.

Union Church spire (Washington County, O. B. F., 1913).—The spire on the corner of the north end of Union Church in West Jonesport, just south of the place where the road to Addison Point leaves the shore road. The church and spire are painted green and covered with shingles.

Browny (Washington County, F. P. W., 1862; 1913).—On the highest point of Browny Island, which lies about a mile west of Great Mass Island and $1\frac{1}{2}$ miles northwest of Crumple Island. The island is free from timber and brush, and a small house stands near its northern end. The station is near the eastern end of the island and is marked according to note 16.¹

¹ See pp. 163 and 164.

Indian River church No. 1 (Washington County, F. P. W., 1862; 1913).—The chimney near the east end of the old church on the east side of the main road between Jonesport and Addison Point, about 75 meters north of the beginning of the road to Moose Island.

Indian River church No. 2 (Washington County, F. P. W., 1862; 1913).—The low and dilapidated spire of the old church on the opposite side of the road to Indian River Church No. 1, and a little farther north. The spire is on the east end next to the road.

Plummer (Washington County, F. P. W., 1862, 1913).—On the highest point of Plummer Island, which lies about 1 mile southeast of Wallace Point of Moose Neck and about $2\frac{1}{2}$ miles northeast of Nash Island Light. The hill is covered with a dense growth of spruce and fir trees. The station is on a small ledge and is about 3 feet east of and 2 or 3 inches lower than its highest point. The station is marked according to note 16a.¹

Flat (Washington County, F. P. W., 1862; 1913).—On the highest part of Flat Island, which lies about 2 miles to the eastward of Nash Island. The island is free from brush and timber and the top of the hill is covered with soil a foot deep. The station was originally marked by a hole drilled in the underlying ledge, but in 1888 a stone well was built around it, a coil of steel wire rope was placed therein, and a stone post $4\frac{1}{2}$ feet long was then set up over the station. This post was found in 1913 to be leaning badly but otherwise apparently undisturbed and it was assumed that the drill hole was still intact.

Batson's house, west chimney (Washington County, F. P. W., 1862; 1913).—The western of two high chimneys on a house on a prominent hill about 3 miles south of Addison Point, and $\frac{1}{4}$ mile east of Pleasant River, on the east side of the shore road and very near it. It is nearly a mile northeast of Reef Point.

White house with long L, south chimney (Washington County, F. P. W., 1862; 1913).—The southern of the high chimneys on the long house on the east side of the shore road on the east side of Pleasant River about 1 mile south of Addison Point. The house sets with its main roof east and west with a long part parallel with the road connecting the main part of the house with the barn.

Small brown house chimney (Washington County, F. P. W., 1862; 1913).—The highest chimney of the small house about $1\frac{1}{2}$ miles south of Addison Point on the east side of the road and also on east side of Pleasant River. The house is the first south of a small stream where the road makes a prominent bend to the eastward in order to cross. It is about $\frac{1}{4}$ mile south of this stream.

Addison Point church spire (Washington County, F. P. W., 1862; 1913).—The spire on the west end of the large white church in the town of Addison Point, about 100 meters east of the main road to Columbia Falls and about 200 meters north of the road which follows down the east shore of Pleasant River.

Look's, Joe, house chimney (Washington County, F. P. W., 1862; 1913).—The chimney on the old house on Reef Point, which is about 150 meters from the shore to the west and also south of the house, and about 200 meters from the north shore. Reef Point is a little more than 3 miles north of Addison Point on the east side of Pleasant River.

Log (Washington County, F. P. W., 1861; 1913).—On a high ridge near the east side of Dyers Island. This island forms part of the dividing line between Narragaugus and Pleasant Bays. The station is on the highest point of the summit ledge and is about 300 meters west of the Pleasant Bay shore and about 400 meters northwest of Watts Cove. The station is marked according to note 16a.¹

Foster (Washington County, F. P. W., 1861; 1913).—On the summit of a hill in the center of the west side of Foster Island, which lies on the east side of Narragaugus Bay opposite the mouth of Narragaugus River. The summit is a bare rocky ledge with few trees within 50 feet, but the sides of the hill are densely wooded and considerable

¹ See pp. 163 and 164.

cutting would be required to open lines in any direction except the southwest. The station is marked according to note 16a.¹

Pond Island, house cupola flagstaff (Washington County, O. B. F., 1913).—The flagstaff on the top of the cupola on a large house near the north end of Pond Island about $\frac{3}{4}$ mile from Narragaugus Lighthouse. The house is the largest and most prominent of several small houses on the north end of the island and the only one having a cupola on its top.

Mill River church (Washington County, F. P. W., 1861; 1913).—The spire or cupola on the west end of the church in the village of Mill River, about 3 miles southwest of the town of Harrington. The church is on the northeast side of the road, about $\frac{1}{4}$ mile northwest of the junction of this road with the main road between Harrington and Middlebridge. The tower is flat topped and gray in color.

Fort (Washington County, F. P. W., 1861; 1913).—On the summit of Fort Hill, in the southeastern part of the small peninsula known as Strout Point, on the western side of the entrance to Back Bay from Narragaugus Bay and abreast of the southernmost point of the island called Kemp's Folly, which lies about $\frac{1}{4}$ mile to the eastward. The station is also about 2 miles east of Millbridge and is marked according to note 16a.¹ The hill is now covered by a dense growth of fir and spruce trees.

Turner (Washington County, F. P. W., 1861; 1913).—On the highest point of a bare ledge on the summit of Turners Hill, which is about $2\frac{1}{2}$ miles southeast of Millbridge, about $\frac{1}{2}$ mile south of Wyman, and about $\frac{1}{2}$ mile west of the shore of Narragaugus Bay. The hill is covered with a dense growth of brush and timber. The station is marked according to note 16a.¹

Millbridge church No. 1 (Washington County, F. P. W., 1861; 1913).—The tall white spire of the Congregational Church of Millbridge, on the northwest side of the bridge road, about 50 meters from the main north-and-south road through the town. There is a clock at the base of the tower, which is on the southeast end of the building.

Millbridge church No. 2 (Washington County, F. P. W., 1861; 1913).—The rather short spire on the west end of the southern church in Millbridge, on low ground and less prominent than church No. 1. On the east side of the main north-and-south road just south of the road which branches to the west from Steuben and other points. The church is white in color.

Pigeon Hill Bay, west side, house chimney (Washington County, F. P. W., 1861; 1913).—The chimney on the old house just south of the Carrying Place, which joins Petit Manan Point to the mainland, about 1 mile south of the top of Pigeon Hill, about 100 meters west of a prominent bight in the shore line of Pigeon Hill Bay, and very close to the main road to Petit Manan Point.

Pigeon Hill Bay, head of, white chimney of house (Washington County, F. P. W., 1861; 1913).—One of two chimneys on a very old dilapidated house at the head of Pigeon Hill Bay, about $\frac{1}{4}$ mile east of the north-and-south road to Petit Manan Point, and about 100 meters south of the road from Weyman to the road above mentioned. In 1913 it is not certain which of the two chimneys is the station.

Pearl (Hancock County, F. P. W., 1861).—On a hill on the eastern side of Prospect Harbor and about a mile north of Cranberry Point. The station is marked according to note 17.¹

Hathaway (Hancock County, F. P. W., 1861).—On a rocky hill on the west coast of Prospect Harbor about midway between Bunkers and Birch Harbors. The station is about 200 meters from the coast and is marked according to note 17.¹

Grindstone (Hancock County, F. P. W., 1860).—On the summit of a stony hill on Grindstone Neck, west side of Winter Harbor. The land is owned by Mark Bunker, who lives at the head of Sand Cove of Winter Harbor. A road from Winter Harbor passes close to the station and terminates $\frac{5}{8}$ mile beyond, at the south end of the neck. The station is marked according to note 17.¹

¹ See pp. 163 and 164.

St. Bernard (Hancock County, F. P. W., 1860).—On a bare hill about a mile northwest of Winter Harbor. A road leading to Winter Harbor passes along the western foot of the hill at a distance of about $\frac{1}{4}$ mile from the station, and about 100 meters to the northwest of the latter there is a clump of spruce trees. The station is marked according to note 17.¹

Egg (Hancock County, F. P. W., 1860).—On the southernmost island in the entrance to Frenchmans Bay, known as "Egg Rock." The station is on a flat rock at the highest part of the island, and is marked according to note 17.¹

Calf (Hancock County, F. P. W., 1860).—On a wooded hill in the southern part of Calf Island, eastern part of Frenchmans Bay, owned by Nathaniel Stover, whose house is a short distance to the southeast. The station is marked according to note 17.¹

Wheeler (Hancock County, F. P. W., 1860).—On the highest part of round Porcupine Island, located in Frenchmans Bay about $\frac{3}{4}$ mile to the eastward of Bar Harbor. This island is also known as Wheelers Porcupine and Bald Porcupine. The station is marked according to note 17.¹

Newport (Hancock County, F. P. W., 1860).—On the highest point of Newport Mountain, which is located in the eastern part of Mount Desert Island, about $\frac{5}{6}$ mile from the shore and $2\frac{1}{2}$ miles from Bar Harbor. The mountain is wooded about halfway up and the remainder is bare granite. A road from Bar Harbor to the coast at Newport Cove, just west of Great Head, runs along the eastern base of the mountain. The station is marked according to note 17.¹

MOUNT DESERT TO PENOBSQUIT BAY.

PRINCIPAL POINTS.

Great Duck Island (Hancock County, G. A. F., 1863; 1911).—On a rocky hill on the northern end of the island of that name, which lies off the mouth of Blue Hill Bay about 6 miles south-southeast of Bass Harbor Head of Mount Desert Island and about $6\frac{1}{2}$ miles east-southeast of East Point of Swan Island. The station is a few yards north of the highest part of the ledge, and is marked according to note 18.¹ Two reference marks, each a drill hole filled with lead, are placed, respectively, 18.58 meters west-southwest and 20.16 meters northwest of the station.

Quarry (Hancock County, H. G. O., 1879).—On the highest part of a rocky hill in the western part of the village of Franklin. The land belonged to Mrs. Sutherland and is the site of an extensive quarry not now in operation. A schoolhouse bears northwest from the station, and the latter is marked according to note 17.¹

Island (Hancock County, H. G. O., 1879).—On the highest part of a bare ledge near the southeastern end of Crabtree or Burying Island, which lies about $2\frac{1}{4}$ miles south-southwest of West Franklin, at the junction of Taunton and Egypt Bays, and midway between Butler and Cedar Points. The station is marked according to note 17.¹

Bragdon (Hancock County, G. A. F., 1865; 1879).—On a large rocky ledge in the southern part of a high hill about $1\frac{1}{2}$ miles north of the village of West Franklin. The station is on the east side of the road from West Franklin to Eastbrook and is about a mile south of the "Beechland School." It is also about $\frac{1}{2}$ mile east-northeast of the junction of Great and Mill Ponds and 1 mile west-southwest of Georges Pond. The land belongs to Theodore Bragdon, whose house is near-by at Beechland. The station is marked according to note 18.¹

Sands Point (Hancock County, G. A. F., 1865; 1903).—On a knoll on the eastern side of the point of that name on the north shore of Mount Desert Island near the mouth of Eastern Bay. Eastern Bay connects Frenchmans and Blue Hill Bays. The station is on the only prominent ledge of rock on the knoll and is marked according to note 18.¹

¹ See pp. 163 and 164.

Savage Mountain (Hancock County, G. A. F., 1870).—On the high hill of that name, located about $\frac{3}{8}$ mile east of the head of Northeast Harbor, Mount Desert Island. A path leads from Augustus Savage's house to the summit. The station is about 300 feet southwest from the highest peak of the mountain and 13 feet west of the highest point of the ledge on which it is located. It is marked according to note 18.¹

Commons (Hancock County, G. A. F., 1865).—On the west side of Skillings River, on high ground belonging to Agreen Crabtree and about $\frac{1}{2}$ mile from the shore. It is about a mile north of Old Point and $\frac{1}{4}$ mile south of Mosley Point and $\frac{1}{2}$ mile east of Marlboro. A road from Marlboro passes about $\frac{1}{4}$ mile to the south of the station and forms a junction farther on with another road which passes about the same distance east of the station. The station is marked according to note 25.¹

Springer (Hancock County, G. A. F., 1865).—On a hill on the eastern side of Skillings River, near its head, about $\frac{1}{4}$ mile from the shore and about 2 miles northwest by west from Hancock. The station is on the north side of the road from Hancock, close to a clump of birch trees, and a short distance west of a small graveyard. It is on the property of L. Springer, whose house is a short distance off to the northwest on the northeast side of the road. The station is marked according to note 18.¹

Brown Mountain (Hancock County, G. A. F., 1870).—On the mountain of that name, located on the east side of Somes Sound and about halfway up. The station is on a ridge near the center of the mountain and about 100 yards west of the highest peak. A short distance to the southward of the station there is a large boulder cleft in the middle and on the next peak there is a large pile of rocks. The station is marked according to note 18.¹

Richardson (Hancock County, G. A. F., 1870).—On a hill on the east side of Somes Sound, about 1 mile above Sargent Point and the same distance east of Squantum Point. The station is on a ledge in Martin Richardson's pasture and just to the southeast of his house, and 11 feet southeast of a large boulder. To the eastward the land is much higher. The station is marked according to note 18.¹

Trenton Point (Hancock County, G. A. F., 1865; 1911).—Near the summit of the hill in the upper part of the point of that name, about midway between Raccoon Cove and Berrys Cove, and about $\frac{1}{2}$ mile northeast of the road leading to Lamoine. The station is 8 paces west of a fence and between two small clumps of spruce trees (four trees in the northern clump and three in the southern). Lamoine is about 2 miles northwest of the station. The station was originally marked according to note 18,¹ but in 1911 the bolt had been removed, leaving only the drill hole as the mark. It now has a small pile of stones over it.

Fernald Hill (Hancock County, G. A. F., 1870; 1902).—On the high hill of that name, also known as Flying Mountain, located on the west side of the narrows of Somes Sound, Mount Desert Island, about $\frac{1}{4}$ mile to the northward of Fernald Cove. The station is on the southern part of the hill, 22 feet south of the highest point and 11 feet west from the edge of the bluff. It is marked according to note 18.¹

Richards (Hancock County, G. A. F., 1865; 1908).—On Hadley Point, the most northerly point of Mount Desert Island, about $\frac{3}{8}$ mile south-southeast from the extreme point, on land belonging to Simeon H. Richards, whose house is back of a clump of large spruce trees. The station is about $\frac{3}{4}$ mile northeast of Eden and about $\frac{1}{4}$ mile north of the Eden-Salisbury Cove Road. It is marked according to note 18.¹ A large pile of stones is 5 paces south of the station. "Hadley Point" station is on the same hill, about 250 meters west by south from this station, and care should be taken, therefore, not to mistake one for the other. They are marked in the same manner.

Robinson Mountain (Hancock County, G. A. F., 1870).—This mountain is on the west side of Somes Sound, about halfway up, and directly opposite Browns Mountain, which is on the east side. The station is about 100 yards east of the highest point of the eastern summit of the mountain, and is marked according to note 18.¹

¹See pp. 163 and 164.

Hadleys Point (Hancock County, G. A. F., 1865).—On the point of that name, the most northerly point of Mount Desert Island. The station is about $\frac{1}{2}$ mile south by west of the extreme point, about $\frac{1}{4}$ mile north of the Eden-Salisbury Cove Road, and about $\frac{5}{6}$ mile northeast by north from Eden. The land was then owned by Abraham Richardson, whose house stood about 30 meters to the southward. The station is marked according to note 18.¹ "Richards" station is on the same hill, about 250 meters to the east by north. Care should be taken not to mistake the one for the other, as they are marked in the same manner.

Parker (Hancock County, G. A. F., 1870).—On a bare knoll on the west side of Somes Sound near its head and about $\frac{3}{4}$ miles south by east from Mount Desert Village and $\frac{3}{8}$ mile south of Mason Point. The land belongs to J. Parker, whose house is northwest of the station. The station is marked according to note 18,¹ on a small exposed part of the rock, which is slightly higher than the surrounding grass ground.

Scrag Island (Hancock County, J. W. D., 1875; 1911).—On the easternmost of two islands known collectively as "The Green Islands." It lies about $2\frac{1}{2}$ miles east by south of the east point of Swan Island and about $\frac{1}{4}$ mile south of Black Island. The station is on the highest point of the hill, near the eastern end of the island, and is marked according to note 18.¹ Two reference marks, note 23,¹ are placed, respectively, 10.60 meters southeast by east and 17.05 meters south of the station.

Bunker (Hancock County, G. A. F., 1865; 1911).—On the highest part of Old Point, which lies between Jordan River and Berrys Cove and to the northwestward of Mount Desert Island's most northern point. The station is about $\frac{1}{2}$ mile north of the extremity of Old Point, $\frac{1}{4}$ mile west of shore of Berrys Cove, and about 150 meters south of the road leading to Lamoine. The land belongs to Martin Bunker, whose house is on the south side of the road and near the station. A stone fence is 12 paces west, and a rail fence 44 paces south of the station, which is marked according to note 18.¹

Bass Harbor (Hancock County, G. A. F., 1863; 1902).—On a hill on Bass Harbor Head, Mount Desert Island, about 300 meters northeast of the lighthouse. The summit of the hill is bare and rocky and the station is marked according to note 18.¹

McFarland (Hancock County, G. A. F., 1865).—On the high hill of that name about 3 miles east-southeast of Ellsworth, $1\frac{1}{4}$ miles west-northwest of the head of Kilkenny Cove of the Skillings River, and $1\frac{1}{2}$ miles southeast by south of Washington Junction. The station is on the summit of the hill and 220 paces north of a flagstaff which is in range with the chimney of N. McFarland's house, which is on the south side of the Ellsworth-Franklin Road. The station is marked according to note 25.¹

Higgins (Hancock County, G. A. F., 1865).—On the north side of the hill on Indian Point, west side of Mount Desert Island, about $1\frac{1}{4}$ miles west by south from Town Hill. The station is about $\frac{1}{4}$ mile from the end of the point, $\frac{1}{8}$ mile from the shore of Clarks or Northwest Cove, and $\frac{1}{2}$ mile north of the west shore road. A branch road to Indian Point passes close to the station, which is marked according to note 18.¹ The land then belonged to Sylvanus Higgins.

East Sister Island (Hancock County, N. H. H., 1908).—On the northeast part of East Sister Island, about a mile south-southeast of East Point of Swan Island and 2 miles southwest of Black Island. The station is about 10 feet from the edge of the woods and about 3 feet north of the western end of a fairly conspicuous seam in the rocks running east and west and is 4 or 5 feet higher than the surrounding boulders. It is marked according to note 17.¹

Placentia Island (Hancock County, N. H. H., 1908).—On the island of that name, which lies in the Blue Hill Bay about $1\frac{1}{4}$ miles east-northeast of Swan Island and about $1\frac{1}{4}$ miles southwest of Bass Harbor Head Light of Mount Desert Island. The station is on the southwest end of the island about 20 feet from the shore and about 12 feet above high water. It is marked according to note 17.¹

¹See pp. 163 and 164.

Oak Point (Hancock County, S. C. McC., 1864).—On the west side of Penobscot River about $\frac{1}{2}$ mile below Iron Beacon. The center is marked by an iron cone.

Seal Cove (Hancock County, G. A. F., 1863; 1911).—On the high rocky hill on the north side of Seal Cove, Mount Desert Island (west side). The station is on the highest and most northerly of three nubbles on the summit, and is marked according to note 18.¹ The hill is now thickly covered with young fir and spruce trees.

Bluff Point (Hancock County, G. A. F., 1864).—On the east side of Union River Bay, close to the shore and about 350 meters west of the road to Ellsworth and about $1\frac{1}{4}$ miles south of Weymouth Point. The distance to Ellsworth is about 5 miles north-northeast. The station is marked according to note 18.¹

Townsend (Hancock County, J. W. D., 1875; 1911).—On the summit of Big Mountain, Swan Island, about a mile east of Burnt Coat Harbor, $1\frac{1}{2}$ miles northeast by north of Stanley Point, and $\frac{1}{4}$ mile southeast of the road leading to the village of Atlantic. The station is marked according to note 18.¹ Two reference marks, note 23,¹ are placed, respectively, 5.55 meters west and 12.70 meters southwest of the station.

Bartlett (Hancock County, G. A. F., 1863).—On the eastern side of Bartlett Island about $\frac{1}{4}$ mile west-northwest from the head of Great Cove and about $1\frac{1}{2}$ miles from the northern extremity of the island. Two large flat ledges of granite crop out at the summit of the hill and the station is on the highest and most northerly of these. It runs nearly level for about 16 yards and then drops abruptly. The house of David Bartlett is about 300 yards to the northwest on a road leading toward North Point. The station is marked according to note 18.¹

Haynes (Hancock County, G. A. F., 1864).—On the highest part of the prominent point of that name on the east side of Union River Bay, about $\frac{1}{6}$ mile true north from Southwest Point and abreast of Hopkins Point of Newbury Neck. The station is marked according to note 18.¹

Harbor Island (Hancock County, J. W. D., 1875; 1911).—On the northeast part of the island of that name, which lies immediately south of Swan Island off the mouth of Burnt Coat Harbor. The station is at the upper edge of a clearing, and near the large house belonging to Mr. Stinson, and is marked according to note 18,¹ about 118 feet west-southwest from the western corner of the barn. Two reference marks, note 23,¹ are placed, respectively, 18.14 meters northeast by east and 21.25 meters southeast by south from the station.

Burnt Coat (Hancock County, J. W. D., 1875; 1911).—On a high ridge of the peninsula forming the west side of Burnt Coat Harbor, Swan Island. The station is in the southern and highest part of the ridge and is about $\frac{1}{2}$ mile northwest of the lighthouse on the end of the same peninsula. It is marked by a $\frac{1}{2}$ -inch drill hole in the top of a boulder standing about 3 feet higher than the general level. Owing to the thick growth of young fir or spruce trees the station was not found in 1911, but probably still exists.

Bar Island (Hancock County, G. A. F., 1863; 1911).—Lost.

Smith (Hancock County, G. A. F., 1864).—On the west side of Union River Bay (upper part of Blue Hill Bay) about $\frac{1}{4}$ mile from the shore and $\frac{5}{8}$ mile east of the head of Morgan Bay. A road crossing the head of Morgan Bay passes close by the station and forms a junction with the shore road to Surry about 180 meters to the eastward. The north end of the "Carrying Place" between Morgan and Union River Bays is about a mile southwest by south from the station. The station is marked according to note 18.¹

Hopkins (Hancock County, G. A. F., 1863).—On a bare rocky hill near the center of the southeastern part of Long Island, Blue Hill Bay. The station is near the the eastern edge of the summit and is about $\frac{3}{8}$ mile from the eastern shore of the island, about

¹ See pp. 163 and 164.

$\frac{3}{4}$ mile from its southernmost point, and about $\frac{1}{2}$ mile from its southeast corner. The station is marked according to note 18.¹

Morgan (Hancock County, G. A. F., 1864).—On a high granite hill rising abruptly from the water on the western shore of Morgan Bay, an arm of Blue Hill Bay lying west of Newbury Neck and about $4\frac{1}{4}$ miles east of the village of Blue Hill. The station is on the highest part of the hill, on a bare ledge, and is marked according to note 18.¹

Hat Island (Hancock County, N. H. H., 1907).—On the small island of that name lying on the east side of Jericho Bay close to the southwest end of Swan Island. The station is not on the highest point but 27.83 feet westerly therefrom, and is marked according to note 17.¹ A reference mark is on the highest part of the ledge and consists of a triangle cut in the rock.

Marshall Island (Hancock County, N. H. H., 1907).—On the extreme southern point of Marshall Island, which lies in the mouth of Jericho Bay to the southward and westward of Swan Island. The station is marked according to note 17¹ and is about 30 feet from high-water mark.

Carter (Hancock County, G. A. F., 1863).—On the highest hill of Long Island, Blue Hill Bay. The hill is a little north and a little west of the center of the island and $\frac{3}{4}$ mile south-southeast from the wharf on the south side of Deep Cove. A road from this wharf leads to the station, which is on the highest point of the hill and marked according to note 18.¹ A tall hackmatack tree standing alone near the station is a very conspicuous object.

Herriman Point (Hancock County, G. A. F., 1864; 1903).—On the north end of the small peninsula on the west side of Blue Hill Bay forming the east side of Allen Cove. The station is on the middle one of three points on the north shore of the peninsula and is marked according to note 17.¹ The ledge is covered by a thin layer of soft earth, but piles of stone originally placed about the base of the signal serve to identify the locality.

Wood (Hancock County, G. A. F., 1864).—On the north side of the mouth of Blue Hill Harbor about $\frac{5}{8}$ mile north-northwest of Woods Point, about 0.4 mile east by north from Clossen Point, and on the east side of the Blue Hill-Surry Road and about 20 meters therefrom. The station is marked according to note 17.¹ A large rock about 2 feet northwesterly from the station serves as a reference mark. Giles Wood's house stands a short distance to the southward on the north side of a branch road leading to Woods Point.

Great Spoon Island (Hancock County, G. A. F., 1868; 1911).—On the summit of a bluff on the west side of the island of that name, which lies about 2 miles east of Isle au Haut. The station is marked according to note 18.¹ Two reference marks, note 23,¹ are placed, respectively, 12.55 meters north by west and 12.7 meters west-southwest of the station.

SUPPLEMENTARY POINTS.

Sullivan hotel flagstaff (Hancock County, H. G. O., 1879).—The flagstaff of the Waukeag House, Sullivan, of which White Bros. are proprietors.

Sullivan, Waukeag Silver Mining Co., barn, red roof, cupola flagstaff (Hancock County, H. G. O., 1879).—The flagstaff on the smith and machine shop of the Waukeag Silver Mining Co.

Dyer (Hancock County, H. G. O., 1879).—In the village of Franklin, on Dyer Point, on land owned by Mrs. Dyer. Center of station is 7 meters from the southeast corner of small graveyard and 1 meter west of road to the extreme end of point.

Franklin spire (Hancock County, H. G. O., 1879).—The white spire of the Methodist Church in the village of Franklin.

¹ See pp. 163 and 164.

Hancock Union Church spire (Hancock County, H. G. O., 1879).—The white spire of Union Church in Hancock, about 1 mile north of Sullivan Ferry.

Macomber, H. E., new barn, east gable (Hancock County, H. G. O., 1879).—The east end of H. E. Macomber's new barn in the western part of the village of Franklin, and about 400 meters due west from triangulation station Quarry.

Butlers Point barn, southwest gable (Hancock County, H. G. O., 1879).—The southwest end of old barn belonging to A. Butler, near the extremity of Butlers Point, which is made by the junction of Franklin and Egypt Bays.

Cline's barn, east gable (Hancock County, H. G. O., 1879).—The east gable of George P. Cline's barn.

White Ledge (Hancock County, N. H. H., 1907).—On the southern end of the ledge of that name lying about 2 miles east of the northern end of Isle au Haut, and about a mile to the southeastward of Fog Island. The station is marked by a $\frac{1}{2}$ -inch drill hole in the center of the top of a stone monument. The monument top is 8 inches square and has also the letters U. S. cut in it.

Hardwood Island (Hancock County, G. A. F., 1863; 1911).—On the highest hill on the southeast end of the island of that name, which lies between Mount Desert Island and Long Island, about a mile west of the former and $\frac{3}{4}$ mile southwest of Bartlett Island. The hill is entirely bare and the station, which is marked according to note 17 a,¹ is about 100 yards south of a fence.

PENOBSCOT BAY AND RIVER.

PRINCIPAL POINTS.

Ragged Island (Knox County, N. H. H., 1913).—On the high, bare spot on the southern end of Ragged Island. The station mark is a standard triangulation mark stem. A nail is inserted in the stem. The mark is set in concrete flush with its face. Reference mark 1, a drill hole $\frac{1}{2}$ inch deep surrounded by a 2-inch circle, in a rock showing an iron content by its reddish-brown color, is 16.23 meters from the station, in azimuth $331^{\circ} 16'$. Reference mark 2, a drill hole 1 inch deep in a ledge is 2.85 meters from the station, in azimuth $145^{\circ} 13'$.

John (Knox County, N. H. H., 1913).—On the high, bare spot on the northwestern point of Matinicus Island known as the West Point. The station mark is a copper bolt embedded in concrete and projecting about $1\frac{1}{2}$ inches. Reference mark No. 1 is a $\frac{1}{2}$ -inch drill hole 1 inch deep in a ledge having streaks of quartz showing in it. From the station this reference mark is $59^{\circ} 24'$ to the right of a tall scraggy tree on Matinicus Island and at a distance from the station of 13.7 meters. Reference mark No. 2 is a $\frac{1}{2}$ -inch drill hole 1 inch deep in a rock. From the station this reference mark is $99^{\circ} 32'$ to the left of a white boulder on the shore (top of boulder) and at a distance from the station of 6.2 meters.

Woodenball (Knox County, S. H., 1858; 1913).—On the granite peak at the southeastern end of the island of that name which lies about 12 miles to the southward of Vinal Haven Island, 3 miles to the eastward of Matinicus Island, and 5 miles to the northeastward of Matinicus Rock Lighthouse. The station is about 80 feet above the level of the sea and is marked according to note 17.¹

No Man's Land (Knox County, N. H. H., 1913).—On the northeastern part of No Man's Land. Running from Matinicus Harbor to No Man's Land, the station is on the second high spot from the east. The best way to reach this station is to run into a small cove on the eastern side of the island known as Rum Guzzle. The station is on the left-hand side on entering this cove. The station mark consists of a standard triangulation mark with stem. A nail is inserted in the stem. The mark is set in concrete flush with its face. Reference mark No. 1, a drill hole 1 inch deep in the ledge

¹ See pp. 163 and 164.

surrounded by a 2-inch circle, is 7.29 meters from the station, in azimuth $190^{\circ} 52'$. Reference mark No. 2, a drill hole 1 inch deep in the ledge, is 14.5 meters from the station, in azimuth $290^{\circ} 08'$.

Metinic (Knox County, S. H., 1858; 1888).—On the summit of a hill in the northwest corner of Metinic Island, which lies about 5 miles southwestward from Two Bush Island Light and the same distance southeastward from Mosquito Island. The station is on land belonging to Fred Thorndyke, of South Thomaston, and commands a fine view of Penobscot Bay Entrance, etc. It is marked according to note 17.¹ In 1888 a large upright stone was placed over the mark and smaller stones were piled in a mound around it.

False White Head (Knox County, S. H., 1859; 1911).—On the highest part of the northeast end of Spruce Head Island, which lies on the west side of Muscle Ridge Channel and near Elwell Point, and about a mile northeast of Whitehead Island. It is also about $4\frac{1}{2}$ miles east by north of Tenants Harbor. The station is about $1\frac{1}{2}$ miles northeast of the lighthouse on Whitehead Island and is marked according to note 18.¹ Two reference marks, note 23,¹ are placed, respectively, 5.27 meters south by east and 15.74 meters southwest from the station.

Green Island (Knox County, S. H., 1859; 1913).—On large Green Island, which lies off the mouth of West Penobscot Bay, about $5\frac{1}{2}$ miles east of Metinic Island, about 6 miles northwest of Metinicus Island, and about 5 miles south of Two Bush Island Light. The station is on the highest part of the island, and is marked according to note 17.¹

Norton Island (Knox County, S. H., 1860; 1911).—On the western side of the island of that name, which lies in the western side of Muscle Ridge Channel between Whitehead and Rackliff Islands. The station is about $2\frac{1}{2}$ miles east-northeast from Tenants Harbor Light and 1 mile northwest of Whitehead Island Light. The station is marked according to note 18.¹ Two reference marks, note 23,¹ are placed, respectively, 9.89 meters northward and 5.8 meters northwestward from the station.

High Island (Knox County, S. H., 1858; 1908).—On the island of that name, one of the group known as the Muscle Ridge Islands, located in the western part of the mouth of Penobscot Bay, about $1\frac{1}{2}$ miles from shore. High Island is in the northern part of the group and is about $1\frac{1}{2}$ miles south of Ash Point, and about 4 miles south of Rockland. The station is about 40 feet southwest of the highest point and is marked according to note 18.¹ Two reference marks, note 23,¹ are placed, respectively, 12.94 meters northeast and 11.27 meters north of the station.

Hay Island (Knox County, G. A. F., 1868; 1909).—On the island of that name lying about $1\frac{1}{2}$ miles southeast of Vinal Haven Island, and $\frac{1}{4}$ mile north of Otter Island. The station is marked by a hole drilled in the top of a concrete post set at the highest point of the island. Two reference marks, note 23,¹ are placed, respectively, 6.3 meters northeast and 16.9 meters southeast of the station.

Duck Harbor Mountain (Knox County, G. A. F., 1868; 1911).—On the rocky summit of a hill in the southwestern part of Isle au Haut. It is about $\frac{1}{2}$ mile from the western shore of the island and a slightly greater distance from the south shore, about 0.4 mile south of Duck Harbor and about $1\frac{1}{6}$ miles from the extreme southwest point of Western Head. The station is marked according to note 17.¹

Hurricane Island (Knox County, S. H., 1859; 1908).—On the summit of a bare rocky hill, on the island of that name, which lies in the mouth of Penobscot Bay about $\frac{3}{4}$ mile west of Green Island, which lies close to the southwest corner of Vinal Haven Island. The station is marked according to note 18.¹ Two reference marks, note 23,¹ are placed, respectively, 17.23 meters southeast and 15.45 meters north-northeast of the station.

¹ See pp. 163 and 164.

Hall (Knox County, F. P. W., 1860).—On a ledge on the east side of St. George River about 2 miles below Thomaston and 17 feet west of the road leading thereto. Isaac Hall's house is about 20 meters to the southward of the station and on the east side of the road, and a schoolhouse on the west side of the road is the same distance to the northward; Barley Graves's house is about 60 meters distant toward the north. The station is marked according to note 17.¹

Isle au Haut Mountain (Knox County, G. A. F., 1868; 1911).—On a hill on Vinal Haven Island about a mile north by west from Vinal Haven village or Carvers Harbor. An old road from this village leads to the station, which is on the summit of the hill and marked according to note 18.¹ Two reference marks, drilled holes filled with lead are, respectively, 7.30 meters southwest and 8.12 meters north of the station.

Ten 2 (Knox County, O. B. F., 1911).—On the north end of Sheep Island. The station is the northern end of the base *Ten 2-1*, and is marked by a stake.

One (Knox County, D. B. W., 1905).—On the north end of Sheep Island. The station is the southern end of the base *Ten-1*, and is marked by a stake. In 1911 the stake was found but was not solid in the ground.

Isle au Haut (Knox County, C. O.B., 1854; 1905).—On the highest hill of Isle au Haut about $1\frac{1}{4}$ miles from the northern shore and $\frac{3}{4}$ mile from its eastern shore. The station is on the summit and is marked according to note 18.¹ A road from Isle au Haut village leads to the station, and the lighthouse on Robins Point bears about west by north.

York Island (Knox County, G. A. F., 1868; 1911).—On a hill in the northern part of the island of that name, which lies about $\frac{1}{2}$ mile east of the northern part of Isle au Haut. The station is on the summit and is marked according to note 18.¹ Two reference marks, note 23,¹ are placed, respectively, 11.67 meters south-southeast and 16.8 meters west-northwest from the station.

Cross (Knox County, O. B. F., 1911).—On eastern edge of the most prominent ledge in this vicinity and some 75 meters from the west edge of Monroe Island. A small opening was made toward the south to open up "Ten," which is in line also with a spar buoy on the east side of Sheep Island. The station is marked by a small cross cut in the solid rock some 120 feet from a house southwest.

Post Hill (Knox County, S. H., 1859).—Reported lost in 1911.

A, Monroe Island, steel beacon (Knox County, O. B. F., 1911).—On the top of the knoll near the north end of Monroe Island. The station is marked by a 2 by 3 inch post. A cross is cut in solid rock 2.03 meters from the station on the line to the old beacon, which is 22.70 meters from the station.

Ingraham Hill (Knox County, S. H., 1859; 1911).—On the hill of that name about a mile south-southwest from Rockland and $\frac{1}{2}$ mile west of the road from Rockland to South Thomaston. The station is about 100 meters to the southward of the summit of the hill and was originally marked by a copper tack in a spruce stub driven into the ground. To provide against the loss of the stub three drill holes were made at distances 11.50, 5.83, and 5.37 feet from the center. The triangle formed by these drill holes has sides 15.67, 9.90, and 13.89 feet in length, the shortest side being to the southward of the station. The drill holes are filled with lead.

Coombs Hill (Knox County, G. A. F., 1861; 1909).—On the highest point of the hill of that name, located on the eastern side of the narrow but prominent neck of land known as Coombs Neck and forming the northeast corner of Vinal Haven Island. Seal Bay lies immediately to the westward and Calderwood Neck about a mile to the northwestward. The village of Vinal Haven is about $3\frac{1}{2}$ miles to the southwest by west and a road from that place to the end of the neck passes a short distance to the westward of the station. The station is marked according to note 18.¹

Starboard Rock (Knox County, G. A. F., 1868; 1901).—On the summit of a high bluff on the north side of Winter Harbor (east part of Vinal Haven Island) and about

¹ See pp. 163 and 164.

200 meters east of the cove extending up Calderwood Neck. The station is close to the shore and is about $\frac{1}{2}$ mile east of the head of Mill River. It is marked according to note 17.¹

Fox Rocks (Knox County, S. H., 1858; 1911).—On the summit of a hill in the northwestern part of Vinal Haven Island, about 1 mile south of Fox Island Thorofare, and $\frac{3}{8}$ mile south of Perry Cove. The station is on a precipitous rock which is about 100 feet in diameter and averages about 25 feet in height above the surrounding woods. The station is surrounded by a 13-inch triangle and about this are 4 drill holes forming a square the intersection of the diagonals of which mark the center. Two reference marks, note 23,¹ are placed, respectively, 10.40 and 3.87 meters from the station in northeast and west directions.

Ames (Knox County, F. D. G., 1902).—On Calderwood Neck on a rocky hill about 150 yards east of the dwelling house of James Calderwood. The main road leading to Vinal Haven (Carvers Harbor) passes about 100 yards east of the station. The station is marked by an iron eyebolt set in a drill hole in a flat rock near the center of the top of the hill. There is another eyebolt in a rough ledge 29.5 feet to the south. The south edge of the westernmost chimney and the north edge of the easternmost chimney of Calderwood's house and the station are in range.

Mark Island (Hancock County, N. H. H., 1907).—On the highest point of Mark Island. The station is marked by a $\frac{1}{2}$ -inch drill hole in the rock.

Dyer (Knox County, S. C. McC., 1861).—On a hill on the northwestern side of Fox or North Haven Island about $1\frac{1}{2}$ miles west of the village of Pulpit Harbor, $\frac{1}{2}$ mile from the head of Bartlett Harbor, and $\frac{1}{4}$ mile south of Dyers Cove. The station is marked according to note 17.¹

Pigeon Hill (Knox County, S. H., 1860; 1911).—On a prominent rock on the small peninsula on the south side of North Haven Island and on the east side of Southern Harbor. It is about 300 meters from the shore of Southern Harbor and about the same distance from the shore of Brown Cove of Fox Island Thorofare, and $\frac{3}{4}$ mile northwest by north from the village of North Haven. The station is marked by a pine plug driven into the rock and four drill holes around it form a square.

Spruce Island (Hancock County, G. A. F., 1868; 1907).—On the summit of the hill in the southern part of the island of that name, located in the group of islands between Deer Island Thorofare and Merchants Row. It is about 2 miles southeast of Deer Isle and $5\frac{1}{2}$ miles north-northeast of Isle au Haut. The station is marked according to note 17.¹ Another drill hole with an iron bolt driven in it is 0.675 meters to the southeast of the station.

Bear Hill (Knox County, S. H., 1858; 1911).—On the summit of the hill of that name on the east side of Chictawaukie Pond and about 2 miles north-northeast of Rockland. The station is marked according to note 17.¹ An additional drill hole is 2.4 inches north of the station.

Mark (Waldo County, J. B. B., 1904; 1911).—At the southwest extremity of Mark Island, about 20 or 30 feet above the surface of the water. It is near the water and on the only narrow flat ledge at this point which is not covered with a dense growth of trees. The center is marked by the vertical neck of a bottle, which is sunk 1.5 feet in the ground and rests on a foundation of rocks. Three reference marks, small drill holes in solid rock ledge, are, respectively, 2.305 meters from the station, in azimuth $168^{\circ} 25'$; 2.900 meters from the station, in azimuth $249^{\circ} 19'$; and 1.685 meters from the station, in azimuth $54^{\circ} 35'$. A fourth reference mark, a small drill hole in a large, white, round boulder, is 12.675 meters from the station, in azimuth $119^{\circ} 23'$.

Burnt Cove (Hancock County, G. A. F., 1861; 1907).—On the summit of a rocky hill located about 300 meters from the southwest coast of Deer Isle, $\frac{3}{4}$ mile south of the head of Burnt Cove, and 1 mile west-northwest of Stonington. The hill shows

¹ See pp. 163 and 164.

white and rocky from Vinal Haven Island and all parts of Isle au Haut Bay, and is owned by Eben Thurlow. The station is marked according to note 18.¹

North Fox (Knox County, S. H., 1858; 1911).—On the summit of a high bare hill called Oak Hill, near the northeastern extremity of North Haven Island. Another hill within 30 feet of the same elevation stands about $\frac{1}{4}$ mile to the northward. The station is readily accessible, it being possible to drive quite to it. It is marked according to note 18.¹ Two reference marks, note 23,¹ are placed, respectively, 109.5 feet southwest and 70.2 feet east by north from the station.

Graves (Knox County, S. C. McC., 1861).—On the rocky ledge known as "The Graves," lying in West Penobscot Bay about 1 mile from its western shore and $2\frac{1}{2}$ miles from Camden. It is also about $1\frac{1}{2}$ miles south by east from Negro Island Lighthouse and $1\frac{3}{4}$ miles east-northeast from Indian Island Lighthouse. The station is on one of the rocky heads that are never covered by the tide, and is marked by a screw pile set in the rock.

Goose Island (Waldo County, N. H. H., 1911).—On the island of that name, which lies about $\frac{5}{8}$ mile southeast of Lasell Island. The station is near the south end of the island and just south of an outcropping ledge, which is the highest point. It is marked according to note 22.¹ Two reference marks, note 23,¹ are placed, respectively, $6\frac{1}{8}$ feet east and $16\frac{1}{4}$ inches north of the station.

Ojier (Knox County, S. H., 1861).—Reported lost in 1911.

Ragged Mountain (Knox County, A. D. B., 1854).—On the summit of the mountain of that name, also known locally as Hosmer Mountain, which is located on the west side of Penobscot Bay about 4 miles west of Camden and about 7 miles north of Rockland. It is readily reached from Camden by the road to the northeast base of the mountain and thence to the summit by a road constructed by the Coast Survey in 1854. The station is marked according to note 18.¹ The latitude station of 1854, marked by a drill hole in the ledge, is 12.47 meters south and 11.18 meters east of the station.

Compass Island (Hancock County, N. H. H., 1911).—This island lies in Penobscot Bay about $2\frac{1}{4}$ miles north by west from Webster Head of North Haven Island. The station is near the southern end of the island on a slight elevation and is marked according to note 22.¹ A white boulder in a hollow is 98 feet north-northeast of the station, and the sharply defined southeast corner of an outcropping ledge is 41 feet to the south-southwest.

Deer Isle (Hancock County, G. A. F., 1862).—Reported lost in 1911.

Spruce Head 2 (Hancock County, N. H. H., 1911).—On a high hill in the northwestern part of Great Spruce Island, which lies in Penobscot Bay about 3 miles north-northeastward of the northeast point of North Haven Island. The station is on the highest ledge of the summit and is marked according to note 22.¹ Two reference marks, note 23,¹ are placed, respectively, 2.95 meters southeast and 3.93 meters south-southwest of the station.

Gilkey (Waldo County, S. C. McC., 1861).—Reported lost in 1913.

Mark Island (Hancock County, N. H. H., 1911).—Near the highest point of the island formerly known by that name but now called Resolution Island, there being no less than five other Mark Islands in Penobscot Bay and vicinity. The station is on the prominent flat ledge of the summit but 11 feet east of its highest point. The station is marked according to note 18a.¹ Two reference marks, note 23,¹ are placed, respectively, 12.93 meters north-northwest and 10.22 meters northeast of the station. The island lies in Penobscot Bay about 2 miles to the northwestward of Great Spruce Head Island and the same distance east-southeast of Dark Harbor.

Little Deer Isle (Hancock County, G. A. F., 1862; 1905).—On the summit of a bare rocky hill, the highest on the island. Little Deer Isle lies on the south side of

¹ See pp. 163 and 164.

Eggemoggin Reach between Deer Isle and Cape Rosier Peninsula. The station is marked according to note 18.¹ A road connecting the small villages of Little Deer Isle and Eggemoggin is less than $\frac{1}{4}$ mile to the northeast of the station.

Western Island (Hancock County, N. H. H., 1911).—On a rocky head on the north end of the island of that name. The island lies in East Penobscot Bay $1\frac{1}{4}$ miles east of Cape Rosier. It is best reached by way of the small cove just west of the head, as all other approaches are obstructed by sunken rocks. The station is marked by a 7 by 7 inch square concrete post set in concrete on the crumbling rock. The post has a small drill hole in the center of its top, surrounded by the letters "U. S. C. S." Two reference marks, note 23,¹ are placed, respectively, 3.71 meters east by south and 6.09 meters north-northeast of the station.

Spectacle Island (Hancock County, W. H. S., 1872; 1911).—In the northwest part of the island of that name, which is located in the western end of Eggemoggin Reach, East Penobscot Bay, about $\frac{1}{2}$ mile east-southeast of Black Point of Cape Rosier Peninsula. The station is marked according to note 17.¹

Blake Point (Hancock County, G. A. F., 1862; 1911).—On the southeast point of Cape Rosier Peninsula about $1\frac{1}{2}$ miles east-southeast of Cape Rosier and about $5\frac{1}{4}$ miles south-southwest of Castine. The hill is about 250 meters from the shore and is the property of Daniel Black, whose house is at the foot of the hill and to the southeastward of the station. The station is at the summit and is marked according to note 18.¹ In 1911 there was considerable growth of trees and shrubbery on the hill.

Billings (Hancock County, G. A. F., 1862; 1905).—On the north side of Eggemoggin Reach, about a mile northeast of the head of Billings Cove, about the same distance north by east of Sargentville, and east by south of the head of Walker Pond. The station is in a field belonging to Reuben Billings, of Sedgwick, and is on the east side of the road from Sargentville to Penobscot. It is marked according to note 18,¹ the rock being about 4 feet in diameter.

Flat Island (Waldo County, N. H. H., 1911).—On a small island of that name which lies in West Penobscot Bay, 1 mile west of the entrance to Seal Harbor, about $1\frac{1}{4}$ miles southeast of Great Spruce Head, and about $\frac{1}{2}$ mile southwest of Seal Island. The station is near the center of the island and is marked according to note 17,¹ the drill hole being in a low flat ledge. Two reference marks, note 23,¹ are placed, respectively, 9.28 meters north-northeast and 27.01 meters southwest of the station.

Temperance (Waldo County, 1860; 1911).—On the summit of a high bare hill of that name, sometimes called "Loving's Lot," located on the west side of Penobscot Bay about 1 mile from the shore. It is about $1\frac{1}{2}$ miles north-northeast of Spruce Head, $1\frac{1}{4}$ miles west of Great Spruce Head, and $1\frac{3}{4}$ miles southwest by west of Northport. The Belfast-Camden Road passes about $\frac{1}{2}$ mile to the eastward of the station which is marked according to note 18.¹

Cape Rosier (Hancock County, S. C. McC., 1861; 1911).—On a hill on the west side of the peninsula of Cape Rosier, between Cape Rosier and Orrs Cove, and about $\frac{5}{6}$ mile northeast of the former. The station is a little west of the highest point of the hill and is marked by a copper bolt set in a hole drilled in the rock in a hollow and covered by a rock bearing a drill hole near its edge. Three other drill holes are located, respectively, 18, 14, and $9\frac{1}{2}$ inches from the station, and to the southeast of the station at a distance of $34\frac{1}{4}$ feet there is a spruce tree blazed with a triangle.

Wire Cove Mount (Hancock County, W. H. S., 1872; 1911).—On the hill of that name on the eastern side of Weir Cove, an indentation of Eggemoggin Reach in the southeast coast of Cape Rosier Peninsula. The station is on the highest point of the hill and is marked according to note 17.¹ There are three rock piles around the station.

¹ See pp. 183 and 184.

Orrs Hill (Hancock County, N. H. H., 1911).—On the eastern shore of East Penobscot Bay, on the most westerly point of rock of the bare hill north of Orrs Hill and about $1\frac{1}{2}$ miles north of Cape Rosier. The station is about 40 meters back of the high-water line and is marked according to note 18a,¹ the triangle having a $\frac{3}{4}$ -inch drill hole at each of its angles. Three reference marks, note 23,¹ are placed, respectively, 5.47 meters north-northeast, 4.04 meters east-southeast, and 4.97 meters south by east from the station.

Bird (Waldo County, F. W. D., 1871; 1911).—On a high hill about 2 miles west-northwest of Northport of Saturday Cove and about 200 meters north of the road leading to that village. A clubhouse with a large stone chimney stands on the summit, and the station is about 1 meter from the northeast corner of the clubhouse platform. It is marked according to note 16.¹

Bakeman Hill (Hancock County, W. H. S., 1872; 1911).—On the highest point of the hill of that name in the northern part of the peninsula of Cape Rosier, about $2\frac{1}{4}$ miles south of Castine Bay and the same distance from the west shore of Smith Cove. The station is marked by a drilled hole in a rock set over an iron bolt which is below the surface.

Flanders (Waldo County, F. W. D., 1871; 1911).—On a high hill located about 5 miles south-southwest of Belfast and about 3 miles northwest of Northport. The road from Northport passes about $\frac{1}{4}$ mile to the southward of the hill and the owner, Mr. Flanders, lives on the east side of the road. The station is on the eastern side of the hill, a little below the summit, and is marked according to note 18a.¹ Two reference marks, note 23,¹ are placed, respectively, 27.55 meters south by east and 19.90 meters southwest of the station.

Cunningham (Hancock County, G. A. F., 1863).—On the highest part of Cunningham Ridge, about $1\frac{1}{2}$ miles north-northwest from North Sedgwick, $3\frac{3}{4}$ miles north by east from Sedgwick, and $1\frac{1}{2}$ miles west-northwest from Salt Pond of Blue Hill Bay. The road from North Sedgwick to Bluff Head on Bagaduce River is within 200 feet to the westward of the station. The house and barn of Moses B. Carter stand to the southward, and the latter is at a distance of 206 feet and the former a short distance farther off but nearer the road. The station is marked according to note 18a.¹

Dickey Bluff (Waldo County, S. H., 1860).—Reported lost in 1911.

Coombs Point (Waldo County, N. H. H., 1911).—On the point of that name in the northeast part of Long Island, Penobscot Bay, and about $\frac{1}{2}$ mile east of the village of North Islesboro. The station is on the flat-topped boulder about $2\frac{1}{2}$ feet in diameter projecting 6 inches above the surface of the ground and about 125 feet from the high-water line. It is marked according to note 18a.¹ Two reference marks, note 23,¹ are placed in other boulders respectively 16.09 meters southwest and 12.60 meters north-northwest of the station.

Patterson (Waldo County, S. H., 1858).—Reported lost in 1911.

Patterson 2 (Waldo County, N. H. H., 1911).—On a high hill known as Patterson Hill about $3\frac{1}{2}$ miles southwest of Belfast. The station is marked by a brass plate 3 inches in diameter and marked "U. S. Geological Survey B. M."

Kedears Hill (Waldo County, S. C. McC., 1861; 1911).—On the summit of a hill in the northwestern part of North Islesboro, Long Island, West Penobscot Bay. The station is about $1\frac{1}{2}$ miles southwest of Turtle Head, $\frac{1}{2}$ mile southeast by south from Marshall Point, and $\frac{1}{4}$ mile from the shore of Turtle Head Cove. It is marked according to note 18.¹

Castine (Hancock County, S. C. McC., 1861).—Reported lost in 1911.

Marshalls Point (Waldo County, N. H. H., 1911).—On the point of that name in the northwest part of Long Island, Penobscot Bay. The station is 20 feet from the end of the point and is marked according to note 18,¹ the boulder projecting about 8 inches

¹ See pp. 163 and 164.

above the surface of the ground. Two reference marks, note 23,¹ are placed on other bowlders, respectively, 28.82 meters east-southeast and 35.32 meters southeast by south from the station.

Taplins Hill (Hancock County, W. H. S., 1872; 1911).—On the most prominent part of the hill of that name about $2\frac{1}{4}$ miles east-northeast of Castine, $\frac{1}{2}$ mile northeast of West Brooksville, and on the east side of Bagaduce River. The station is on the highest part of the southern end of a long ridge and is about $\frac{3}{8}$ mile southwest of the head of Tapley Cove. Two roads from West Brookfield pass, respectively, about 500 meters to the westward and 300 meters to the southward of the station. The station is marked according to note 18.¹ Two reference marks, note 23,¹ are placed, respectively, 16.51 meters south and 5.38 meters to the northward of the station.

Moose Point 2 (Waldo County, N. H. H., 1911).—On the northwest shore of Penobscot Bay between Belfast Bay and Searsport Harbor. The station is on the eastern side of the point and near the shore. It is marked by a copper bolt set in a small ledge which projects about 6 inches above the surface of the ground. Two reference marks, note 23,¹ are placed, respectively, 9.19 meters north-northwest and 32.17 meters north-northeast of the station.

Blue Hill (Hancock County, C. O. B., 1862).—On the high hill of that name on the west side of Blue Hill Bay, about 4 miles northwest by north of Woods Point, and $1\frac{1}{2}$ miles north by east of the village of Blue Hill. The station is on the summit and commands an extensive view in all directions, its elevation being over 940 feet. It is marked according to note 17.¹

Penobscot (Hancock County, W. H. S., 1872; 1911).—On a prominent hill on the north side of Bagaduce River about $4\frac{1}{4}$ miles northeast of Castine and $\frac{3}{4}$ mile north-northwest of the south end of Wardwell Point. The station is on the southern end of the ridge, 7 meters south of a line fence crossing the hill and about 150 meters to the westward of the road from Castine to Penobscot. It is marked according to note 17a.¹

Webster (Hancock County, S. C. McC., 1863).—On a hill on the east side of Penobscot River about 2 miles south-southeast of Fort Point Lighthouse and $3\frac{3}{4}$ miles north-northeast of Castine. The station is about $\frac{3}{4}$ mile from the river shore and $\frac{1}{4}$ mile from the head of Morse Cove. It is also 54 feet to the eastward of the Castine-Bucksport Road and 87 feet southwest of a stone-wall fence. The land belongs to Joseph Webster, whose house is near to the southward of the station. The station is marked according to note 18,¹ about 6 inches below the surface of the ground.

Patershall Hill (Waldo County, S. H., 1860).—On the hill of that name on the east side of Belfast River, about $1\frac{1}{2}$ miles north by west from Belfast. The station is on land belonging to Doane Patershah and is marked according to note 17.¹

Cape Jellison (Waldo County, S. C. McC., 1861; 1911).—On the summit of a hill on the west side of the mouth of Penobscot River about $\frac{1}{2}$ mile northeast of Squaw Point, which is the southwest point of the peninsula known as Cape Jellison. The station is about $\frac{1}{4}$ mile from the river shore and $2\frac{1}{4}$ miles west by south from Fort Point Lighthouse. The station is marked according to note 18.¹

Little Ball (Hancock County, S. C. McC., 1861; 1911).—On the northwest part of the summit of Little Ball or Wallamatogus Mountain, which is located about $1\frac{3}{4}$ miles east of Penobscot River and $1\frac{1}{2}$ miles north of Littlefield Cove of Northern Bay of Bagaduce River. The station is about $\frac{1}{4}$ mile north of a road leading to Penobscot and is marked according to note 18b.¹ The head of the bolt has been broken off, so that close inspection is necessary to find it.

Sandy Point (Waldo County, S. C. McC., 1863).—On a hill on the west side of Penobscot River about $4\frac{1}{2}$ miles below Bucksport and 1 mile above the point of same name and close to the village of Sandy Point. It is also about 3 miles north by east of Fort Point Lighthouse and $2\frac{1}{2}$ miles east-northeast of Stockton Springs. The station is

¹ See pp. 163 and 164.

about $\frac{1}{4}$ mile from the river shore and $\frac{3}{4}$ mile from the shore of Fort Point Cove and is marked according to note 18.¹ The road from Bucksport to Stockton Springs and Searsport passes about 30 meters to the eastward of the station.

Mount Ephriam (Waldo County, S. H., 1860).—On a ledge on the summit of the high hill of that name located about 7 miles northeast of Belfast and about $4\frac{1}{2}$ miles north of Searsport. The station is on land belonging to W. Chase and is marked according to note 17.¹

McClouds (Hancock County, S. C. McC., 1863).—On the summit of a high hill in the northern part of Whitmore Island, which lies in the Penobscot River immediately south of Bucksport. The hill is locally known as McCloud Mountain and is the highest on the island. The station is about $1\frac{1}{2}$ miles south of Bucksport and is marked by a drill hole in a flat rock placed over the original mark, which was a stake driven in the ground. The station is most readily reached by driving from Bucksport along the road on the east side of the island to the sawmill and then taking the branch road which leads to the summit.

Perry (Hancock County, S. C. McC., 1863).—On a partially wooded hill on the east side of Orland River about $\frac{1}{2}$ mile from the shore and $\frac{3}{4}$ mile south of Orland and 3 miles southeast by east from Bucksport. The station is about $\frac{1}{3}$ mile east of the road from Orland to Castine and is marked by a copper tack in the top of a piece of spruce scantling 2 feet long sunk in the ground and covered by a pile of rocks.

Bucksport (Hancock County, S. C. McC., 1863).—On the hill known as Mount Olive, located just back of Bucksport and east of Mill Stream and the extension of Central Street. The station is on the summit of the hill and is marked according to note 18.¹

Waldo (Knox County, C. O. B., 1855).—On Mount Waldo, in the southeastern part of Frankfort Township, about 2 miles southwest of the village of Frankfort, about $1\frac{1}{2}$ miles west of Marsh Creek, a tributary of the Penobscot River, and about 5 miles west-southwest of Bucksport. The mountain has two summits which are about 500 feet apart, and the station is on the easternmost one. It is marked according to note 17.¹

Treats (Waldo County, S. C. McC., 1863).—On the hill of that name on the west side of Penobscot River, about 4 miles northwest by north from Bucksport and just above the mouth of Marsh River. The station is on the eastern edge of the summit and is marked by an iron cone.

Cobb's Hill (Hancock County, S. C. McC., 1863).—On a high bare hill of that name on the east side of Penobscot River, about 1 mile east-southeast of Parker Point, $1\frac{1}{2}$ miles east-northeast of Bucksport Center, and 1 mile south of North Bucksport. The station is on about the highest part of the summit ledge and is marked according to note 18.¹ A part of the copper bolt has been dug out.

Trevetts (Waldo County, S. C. McC., 1863).—On a hill sometimes known as "Punch Bowl," on land belonging to R. Trevett, and about $1\frac{1}{2}$ miles north of the wharf at Winterport and east of upper road to Bangor. Center is marked by a pint claret bottle.

Saunders (Hancock County, A. D. B., 1856).—On the summit of Mount Saunders, now known as Bald Mountain, in the southern part of Dedham Township. It is about $3\frac{1}{2}$ miles southeast of Dedham, 11 miles east-northeast of Bucksport, $11\frac{1}{2}$ miles northwest by north of Ellsworth, and 13 miles south-southeast of Bangor. The station commands a good view in all directions, and is marked according to note 18.¹ Additional drill holes were also made in lines to other triangulation stations as follows: To Hump-back Mountain at distances of 18.5 feet and approximately 318 feet, respectively; to Pigeon Hill at distances of 30.3 feet and approximately 200 feet; to Mount Desert at distance of 20 feet; to Isle au Haut at distances of 28 feet, and — (not given). The

¹ See pp. 163 and 164.

station is also about $2\frac{1}{2}$ miles west of Greenlake, which is on the railroad from Bangor to Ellsworth.

Mount Harris (Penobscot County, A. D. B., 1855).—On the largest of the Dixmont Hills, in the township of Dixmont, about 21 miles west by south from Bangor, about 18 miles north by west from Belfast, and about 12 miles south by east from Newport. The station is on the summit and is marked by a buried earthen cone and a stake with a nail in its top reaching above the surface; also a stone column 15.8 feet high, with a base of 7 feet and width at top 5 feet, and extending 20 inches below the surface, was constructed around the point. Three drill holes in the rock were also made to the north, east, and west of the station at distances, respectively, of 74 feet, 17.3 feet, and 69.4 feet. These drill holes were filled with sulphur.

Stubbs (Hancock County, S. C. McC., 1864).—On the summit of a high bare hill on the east side of Penobscot River, about $\frac{3}{4}$ mile from the shore, $1\frac{1}{4}$ miles southeast by south from South Orrington, $1\frac{1}{2}$ miles northwest from North Bucksport, and $\frac{1}{2}$ mile east of the Bucksport-Bangor Road. The station is marked according to note 18.¹

Bald Hill (Penobscot County, S. C. McC., 1864).—On a high, partially wooded hill just above the iron beacon and at the head of the most remarkable bend in the river (below Bangor.) The signal is on the highest part of the hill. The center is marked with lower half of pint claret bottle, on top of which is a large rock.

Baker (Penobscot County, S. C. McC., 1864). On land belonging to Isaiah Baker on a high knoll quite close to Baker's house and on the west or south side of Penobscot River, opposite Bald Hill, and only a short distance from the Bangor-Winterport Road. A pint claret bottle marks the center over which is a pile of rocks. The following references are given: To pine tree northeast, 118 feet; to fence southwest, 11.2 feet; to corner fence southeast, 121 feet; to corner fence west, 89.8 feet.

Orrington (Penobscot County, S. C. McC., 1863).—On a hill on the east side of Penobscot River about $\frac{3}{4}$ mile from the shore, $\frac{5}{6}$ mile southeast of the village of Orrington, and $\frac{1}{4}$ mile east of the Maine Central Railroad. The station is marked according to note 18.¹

Hampden (Penobscot County, S. C. McC., 1864).—On a high hill in the town of Hampden, near the Winterport, Hampden, and Bangor Road, on land belonging to John Smith, south of a large barn on adjoining lot. The center is marked with a pint claret bottle and three instrument pegs. The bottle is below the surface of the ground and rocks are piled upon it. The following references are given: To stone wall opposite, 17.7 feet; to pine tree west, 127.5 feet; and corner of stone wall about 31 meters.

Nichols (Penobscot County, S. C. McC., 1864).—On a hill in township of Orrington, east bank of the Penobscot River, known as Bakers Hill, on land belonging to Robert M. Nichols quite close to Brewer and Bangor Road. The center is marked with an iron cone sunk below the surface of the ground with rocks piled upon the top. The following references are given: To west corner of house south, 169.5 feet; to fence in direction of Horseback, 184.4 feet.

Academy (Penobscot County, S. C. McC., 1864).—On a hill on the west bank of Penobscot River in rear of Hampden Academy and quite close to the old battle ground. The center is marked with an iron cone $1\frac{1}{2}$ feet below the surface, in which end of pole is inserted. Three instrument pegs also indicate center. The references are as follows: To fence west (three copper tacks), 11.5 feet; to corner fence northeast, 89.6 feet; to hole drilled in rock 15.11 feet.

Stewart (Penobscot County, S. C. McC., 1864).—On the west bank of the Penobscot River, on land belonging to William and James Stewart, of Bangor, very near the upper road to Bangor near the foundation of an ancient building and between the land and houses of Crosby and Cornish. The center is marked with an iron cone sunk below

¹ See pp. 163 and 164.

surface of ground and three instrument pegs. The references are as follows: To post and rail fence west, 12.8 feet; to southeast corner barn, 148.5 feet.

Doane (Penobscot County, S. C. McC., 1864).—On the east side of the Penobscot River on land belonging to Jos. Doane (about $\frac{1}{4}$ mile east of road to Brewer) near the corner of a stone wall. The center is marked with an iron cone sunk below the surface, and three instrument pegs. The references are as follows: To pine tree northeast, 51.8 feet; to corner of stone wall, 65.1 feet; to poplar tree about southwest, 78.4 feet.

Horseback (Penobscot County, S. C. McC., 1864).—On the west bank of the Penobscot River on a high peaked hill about $\frac{1}{2}$ mile above Sterns sawmills, known as Horseback Hill (a similar peak will be found $\frac{1}{2}$ mile farther north). The station is on the highest part of the hill. The station is marked with a black bottle (quart) sunk below surface with rocks piled over it. Three instrument pegs also indicate center. The references are as follows: To fence, 24.10 feet; to pine bush, 20.85 feet; to pine tree, 75.11 feet.

Hink (Penobscot County, S. C. McC., 1864).—On the east side of the Penobscot River on land belonging to Jesse Hinks, about $\frac{3}{4}$ mile from road and nearly east from High Head. Flagstaff, Brewer, and Chamberlin triangulation stations are nearly in range. Two clock spires (south of Kenduskeag) in Bangor are in range. The center is marked with an iron cone and three instrument pegs. The references are as follows: Fence about east, 110.10 feet; fence about south, 142 feet; fence corner southeast, about 57 meters.

High Head (Penobscot County, S. C. McC., 1864).—In the lower part of the city of Bangor on the highest part of bluff through which is a cut for the A. & K. R. R. The center is marked with an iron cone and three instrument pegs.

Chamberlin (Penobscot County, S. C. McC., 1864).—On a high sand hill on the east bank of the Penobscot River in the town of Brewer about $\frac{1}{4}$ mile above the bridge, on land belonging to Chamberlin, who lives near. The sand has been removed in several places around the signal. The center is marked with a pint claret bottle 1 foot below surface, on top of which is a flat rock and three instrument pegs. The references are as follows: To beech tree, 93 feet; to fence, 2.1 feet; to edge of bank, 11.8 feet.

Thomas Hill (Penobscot County, C. O. B., 1857).—The highest hill in Bangor, approached from Union and Court Streets, and about $\frac{1}{3}$ mile distant from the Bangor House. The station is on the summit and is marked according to note 17.¹

SUPPLEMENTARY POINTS.

Seal Island (Knox County, N. H. H., 1913).—On the most westerly part of Seal Island, about 40 feet east of its highest point, on which there is a pile of loose rock which has been used to support a pole. The station mark is a standard triangulation mark with stem, inserted in a small ledge about 3 feet in diameter. As the station mark could not be inserted quite to its full length, the top of the rock was covered with neat cement to the height of the disk. Three reference marks are as follows: No. 1, a drill hole 2 inches deep near the southwest edge of a large ledge south of the signal, is 7.71 meters from the station, in azimuth $319^{\circ} 27'$. No. 2, a similar drill hole in the rock about 20 feet northwest of the rock pile, is 6.95 meters from the station, in azimuth $45^{\circ} 12'$. No. 3, a drill hole nearly east of the station on exposed ledge about 4 feet from the edge of the grass line to the north, is 9.18 meters from the station, in azimuth $220^{\circ} 21'$.

Rackleys Island (Knox County, S. H., 1858; 1909).—On the summit of a bare hill on the eastern side of the island of that name, which lies in the mouth of West Penobscot Bay close to the eastern side of Andrews Island. The station is marked according to note 17.¹

¹ See pp. 163 and 184.

Brimstone Island (Knox County, N. H. H., 1910).—On the island of that name lying about $2\frac{1}{2}$ miles southeast of Vinal Haven Island and $1\frac{3}{4}$ miles west of Saddleback Ledge Light. The station is near the southeast edge of the highest part of the island and is marked according to note 16.¹

Crescent Island (Knox County, S. H., 1858; 1909).—On the small rocky island of that name lying about $4\frac{3}{4}$ miles south by west from Owls Head Light, $2\frac{1}{2}$ miles south-southeast from Ash Point, $1\frac{1}{4}$ miles northeast from Andrews Island, and a short distance east of Muscle Ridge Channel. The station is near the south end of the island and its position is indicated by four drill holes, each 2 feet from it.

White Island (Knox County, G. A. F., 1868; 1911).—On the southeastern part of the southernmost (except one very small island) island of the White Island Group. It lies about 2 miles west of Vinal Haven Island and 1 mile northwest of Hurricane Island. The station is on the summit of a small hill and is marked according to note 18.¹ Two reference marks, note 23,¹ are placed, respectively, 11.98 meters east and 15.70 meters southwest of the station.

Dog Point (Knox County, G. A. F., 1868; 1909).—On the southwest coast of Vinal Haven Island, on the west side of a small peninsula the extreme southern point of which is called Dog Point and lies between Hurricane Sound and Old Harbor. The station is on the summit of a hill and at the northern edge of a small ledge. A quarry now abandoned comes to within a foot of the station on the south side. The station is marked by an iron spike driven into a hole drilled in the rock.

Wind (Knox County, O. B. F., 1911).—The center of the top of an old windmill on the hill at Crescent Beach.

Outer South Beacon (Knox County, D. B. W., 1905).—Reported lost in 1911.

Inner South Beacon (Knox County, D. B. W., 1905; 1911).—On the point between Crescent and Holiday Beaches. The beacon consists of two timbers 4 by 6 inches, 26 feet long, set together edgewise and bound together at the bottom with a $\frac{1}{4}$ -inch iron strap. In the center of the end of each timber there is a 2-inch iron bolt which fits in a hole drilled in a rock on which the beacon stands.

Basin (Knox County, G. A. F., 1868; 1911).—On the summit of a hill in the south end of a peninsula of the west side of Vinal Haven Island lying between "The Basin" and the upper part of Hurricane Sound. Barton Island is immediately to the southward and Leadbetter Island less than a mile to the westward. The station is on a bare ledge and is marked according to note 18.¹ Two reference marks, note 23,¹ are placed, respectively, 21.14 meters south-southeast and 17.89 meters west by north from the station.

Leadbetters Island (Knox County, G. A. F., 1868; 1911).—On a bare ledge on the northwest side of the island of that name lying in Penobscot Bay near the west side of Vinal Haven Island. The station is on the summit of the ledge and is marked according to note 17.¹ Two reference marks, note 23,¹ are placed, respectively, 12.98 meters south and 12.85 meters east-northeast of the station.

P. H. (Knox County, O. B. F., 1911).—On the north side of the road near Post Hill range beacon. It is a 2 by 3 inch post.

D. steel beacon on Post Hill (Knox County, O. B. F., 1911).—This beacon is 14.55 meters northerly from P. H. A cross was made in the top of the high point of rock 2.28 meters from the beacon, and with the mark, beacon, and P. H. all in line, the mark being 16.83 meters from P. H.

Inner North Beacon (Knox County, D. B. W., 1905; 1911).—On Dodgers Point. The marking is identical with that at Inner South Beacon.

Outer North Beacon (Knox County, D. B. W., 1905; 1911).—On the north point of Monroe Island. The marking is identical with that at Inner South Beacon.

St. Helena Island (Hancock County, G. A. F., 1868; 1911).—On the summit of a hill in the western part of the island of that name, which is one of the group lying between

¹ See pp. 163 and 164.

Deer Isle and Isle au Haut. It is about $3\frac{1}{2}$ miles north of the latter and $1\frac{1}{4}$ miles south by east from Stonington. The station is marked according to note 18.¹ Two reference marks, note 23,¹ are placed, respectively, 9.69 meters north by west and 17.46 meters east by south from the station.

Stimson Island (Knox County, S. H., 1860; 1911).—On a bluff on the southwest end of the island of that name located in the east end of Fox Island Thorofare and near the southeastern point of North Haven Island. The station is marked according to note 18.¹ Two reference marks, note 23,¹ are placed, respectively, 14.8 meters east-northeast and 17.57 meters south-southeast from the station.

Russ Island (Hancock County, G. A. F., 1868; 1911).—On the summit ledge on the island of that name located on the south side of Deer Island Thorofare and about $\frac{1}{2}$ mile south of the southeast part of Deer Isle and 1 mile southeast by east of Stonington. The station is marked according to note 18.¹ Two reference marks, note 23,¹ are placed, respectively, 18.46 meters southwest and 14.50 meters west of the station.

Lasell Island (Waldo County, N. H. H., 1911).—On the western side of the island of that name near the shore and about 100 meters north of a small cove. The island is in West Penobscot Bay and is about 4 miles northwest of Pulpit Harbor (North Haven Island) and 5 miles east-southeast of Camden. The station is $7\frac{1}{2}$ feet east of a deep cut in the cliff and is marked according to note 22.¹ The post projects about 4 inches above the surface of the ground. Reference mark No. 1 is a $\frac{3}{4}$ -inch hole, 3 inches deep, and filled with lead, drilled on the top of a projecting ledge of schist 18 feet south of the deep cut above mentioned. Reference mark No. 2 is a $\frac{3}{4}$ -inch hole, 3 inches deep, drilled in a flat ledge north of the cut and filled with lead, $5\frac{1}{4}$ feet from its edge and 16 feet east of the vertical edge of the cliff along the shore.

Brackett's cottage flagpole (Waldo County, N. H. H., 1911).—The top of the flagpole on Brackett's cottage.

Round (pavilion near Spruce Head) (Waldo County, N. H. H., 1911).—The top of the pavilion.

Cape Rosier barn, red cupola (Hancock County, N. H. H., 1911).—The top of the cupola.

Redmans Hill (Hancock County, W. H. S., 1872; 1911).—On a hill in the southern part of Cape Rosier Peninsula about $\frac{3}{4}$ mile east of Cape Rosier and $\frac{1}{4}$ mile from the north shore of Eggemoggan Reach. The station is on the highest part of the hill northeast of Mr. Redman's house, and is marked according to note 18.¹ Two reference marks, note 23,¹ are placed, respectively, 6.50 meters to the southwest and 6.91 meters to the south of the station.

Foster (Hancock County, W. H. S., 1872; 1911).—On the east shore of Penobscot Bay about $1\frac{3}{4}$ miles north-northeast of Cape Rosier and 3 miles south-southwest of Dice Head Light. The station is on a hill about 60 meters from the shore and is marked according to note 17.¹ Two reference marks, note 23,¹ are placed, respectively, 7.10 meters northeast and 5.10 meters southeast by south from the station.

John B's Mount (Hancock County, W. H. S., 1872; 1910).—On the hill so named on the west side of the northern part of Orcutt Harbor, northwest end of Eggemoggan Reach, East Penobscot Bay. It is about $\frac{1}{4}$ mile from the shore and $\frac{3}{4}$ mile south of the head of Smith Cove. The station is a little to the northeast of the summit and is marked according to note 17.¹

Dickey Bluff Observatory flagstaff (Waldo County, N. H. H., 1911).—The top of the cupola on the observatory.

Castine Normal School spire (Hancock County, N. H. H., 1911).—The top of the spire on the brick building.

Wadsworth Cove boulder (Hancock County, N. H. H., 1911).—On top of a large flat boulder.

¹See pp. 163 and 164.

Gilmore's house, east chimney (Waldo County, S. C. McC., 1862).—The east chimney of the house on the north side of Belfast Bay on the road from Belfast to Searsport.

Long Cove, coal tower (Waldo County, N. H. H., 1911).—The south tower.

Whitmore's house, east chimney (Hancock County, S. C. McC., 1863).—The east chimney of house on Orphans Island about 1 mile from the southern end of the upper road..

Spark's house, chimney (Hancock County, S. C. McC., 1863).—At the confluence of the Eastern Branch of the Penobscot River and Orland River.

Fort Knox (Waldo County, S. C. McC., 1863).—On the highest part of the outer wall of Fort Knox, which stands on the prominent point on the west side of the Penobscot River just opposite ($\frac{1}{2}$ mile southwest of) Bucksport. The station is marked according to note 18.¹

Deserted (Waldo County, S. C. McC., 1863).—On an old house foundation on a hill on the west side of Penobscot River about $\frac{1}{2}$ mile from the shore, $\frac{3}{4}$ mile west by north from Prospect Ferry, and $1\frac{1}{4}$ miles west from Bucksport. The station is marked by an iron cone sunk below the surface.

Parker Point (Hancock County, S. C. McC., 1864).—On point about west of Cobbs Hill on the east bank of Penobscot River and about 1 mile from Winterport. An iron cone sunk below the surface marks the center.

Oak Point (Waldo County, S. C. McC., 1864).—On west side of Penobscot River about $\frac{1}{2}$ mile below Iron Beacon. An iron cone marks the center.

Thomas Hill Observatory (Penobscot County, S. C. W., 1851; 1857).—Latitude and longitude station on Thomas Hill, Bangor, on Mr. Divinel's ground, not far from Union Street, and 16 meters east and 225 meters south of the triangulation station Thomas Hill. The station is marked by a hole drilled in a rock.

PENOBCOT BAY TO KENNEBEC RIVER.

PRINCIPAL POINTS.

Fort St. George (Knox County, C. F., 1863).—On a knoll in the fort on the east side of St. George River about $3\frac{1}{2}$ miles below Thomaston and less than $\frac{1}{2}$ mile from the village of St. George. The station is 25 meters from the shore and is marked by a hole in masonry on the top of the right bank, 18 meters from the northern end and 15 meters from its eastern end.

Burtons Hill (Knox County, C. F., 1863).—On a ledge on the summit of the hill of that name on the west side of St. George River, and opposite Fort St. George, and about 300 meters from the shore. The land belongs to A. W. Burton, whose house is 236 meters to the southwest. The station is also 195 meters east of the main road to Cushing, and is marked according to note 26a.¹

Mosquito Island (Knox County, N. H. H., 1910).—On the island of that name which lies about $\frac{1}{2}$ mile to the southwestward of Mosquito Head and $1\frac{3}{4}$ miles to the eastward of Marshall Point or Herring Gut Lighthouse. The station is on the southeast shore about 8 meters from high-water mark and 34 meters south of a large white boulder. The southernmost of two lone spruce trees is 34.75 meters east of the station. The station is marked according to note 17,¹ the rock projecting about 8 inches above the soil.

Foundation Hill (Knox County, C. F., 1863).—On a hill on the east side of St. George River about $\frac{1}{4}$ mile below Watts Point and opposite Baileys Point. The station is within the angle of the foundation of a small house, 6 feet distant from each side, and is 120 meters from the river shore. The station is marked according to note 26.¹

¹ See pp. 163 and 164.

Smith (Knox County, F. P. W., 1860).—On a wooded hill on the west side of St. George River about 3 miles west by south from Thomaston and $1\frac{1}{2}$ miles southwest by south from South Warren. The station is about 60 meters west of the road from Thomaston to Friendship, on land belonging to George Smith, whose house is about $\frac{1}{4}$ mile distant to the north and on the west side of the road. Philip Smith's is about the same distance to the southward. The station is marked according to note 17.¹

Raccoon (Knox County, F. P. W., 1860).—On a high rocky hill locally known as Raccoon Ledge on the west side of St. George River (about 2 miles inland) and about $\frac{1}{4}$ mile east of Meduncook River opposite East Friendship. The nearest approach is by way of Maple Juice Cove, from the head of which it bears northwest about a mile. The land belongs to William Crouse. Louis Mink's house is a short distance to the southwest. The station is marked by a hole drilled in the highest part of the ledge.

Hathorn Hill (Knox County, C. F., 1863).—On a bare hill on the west side of Maple Juice Cove about 150 meters from the shore, on land belonging to Rufus Hathorn, whose house is about 120 meters northwest of the station. Maple Juice Cove lies on the western side of St. George River between Stone and Burton Points the former being about $\frac{3}{4}$ mile south by east and the latter about $\frac{1}{2}$ mile southeast by east from the station. The mark is a triangle cut in the rock. The village of Cushing is about 2 miles to the northeastward and the road leading there passes about $\frac{1}{4}$ mile west of the station.

Church (Lincoln County, F. P. W., 1860).—In the belfry of the Congregational Church on the east side of Medomak River about $4\frac{1}{2}$ miles below Waldoboro. The station is marked by a copper tack in the floor and it is surrounded by four others, each 2 inches from the center one. An eccentric point was occupied and this was 3 feet west of the central point. The distances of the central point from the four corner posts of the belfry are: Northeast post, 5 feet 8 inches; southeast post, 5 feet 6 inches; southwest post, 5 feet 9 inches; northwest post, 6 feet 1 inch.

Comery (Lincoln County, F. P. W., 1860).—On a hill on the east side of Medomak River, $\frac{1}{4}$ mile from the shore and a mile below Waldoboro. The hill is wooded on its northern and eastern parts and belongs to Capt. Isaac Comery. A fence crosses the hill $44\frac{1}{2}$ feet south of the station and Daniel Wing's house stands about 100 meters to the southwest. The station is marked by a stub, with a copper tack in its head, driven into the ground.

Hungry (Lincoln County, F. P. W., 1859).—On a bare hill on the western side of the northern part of Hungry Island, which lies in the lower part of Medomak River, between Bremen, Long Island, and Delano Cove. The water on the west side of Hungry Island is locally known as "Flying Passage." The station is marked according to note 17.¹

Stahl (Lincoln County, F. P. W., 1860).—On the west side of Medomak River, about $3\frac{1}{2}$ miles below Waldoboro, and on a hill which is near the center of Dutch Neck. The land belongs to Capt. John B. Stahl, whose house is nearby on the east side of the road. Widow Stahl's house is 49 feet to the northeast. The station is about $\frac{1}{4}$ mile from the shore and 60 feet east of a road leading to Waldoboro via Engley Corner, and is marked by a copper tack in the head of a stub driven into the ground.

Bremo (Lincoln County, F. P. W., 1860).—On the west side of the narrows of Medomak River and east side of Butter Point of Dutch Neck. The station is on a bare ledge not far from the shore and is about $4\frac{1}{2}$ miles below Waldoboro and about $\frac{1}{2}$ mile above the mouth of Broad Cove. It is marked according to note 17.¹

Davis (Knox County, F. P. W., 1859).—On the summit of a hill on the western side of Harbor Island, which lies in Muscongus Bay about $\frac{3}{4}$ mile north of Franklin Island Light. The hill is about $\frac{1}{2}$ mile north of the southwest point of the island and is therefore about $1\frac{1}{4}$ miles north of the lighthouse mentioned. The land belongs to

¹ See pp. 163 and 164.

Richard Davis, whose house is about 350 meters to the east-northeast. The station is marked according to note 17.¹

Geel (Lincoln County, F. P. W., 1860).—On a steep rocky ledge on the west side of Medomak River about $2\frac{1}{2}$ miles below Waldoboro. The station is about $\frac{3}{4}$ mile southeast of the head of Meetinghouse Cove and 100 meters south of the road from Dutch Neck to Waldoboro via Engley Corner. Mr. Geel's house is some distance to the eastward and on the north side of the road. The station is marked according to note 17.¹

Kinsel (Lincoln County, F. P. W., 1860).—On a hill on the west side of Medomak River about a mile below Waldoboro and 100 meters east of the Waldoboro Road. The station is on land belonging to Benjamin Kinsel, whose house is about 100 meters to the northwest and on the east side of the road. Adam Lighthouse is about the same distance to the southwest. A stone fence crosses the hill $40\frac{1}{2}$ feet south of the station and the latter is marked according to note 17.¹

Gull (Lincoln County, F. P. W., 1859).—On the southeast point of the small island, known as Western Egg Rock, lying in Muscongus Bay about $2\frac{1}{4}$ miles west by south from Franklin Island Light and $3\frac{1}{4}$ miles east by south from New Harbor. The station is marked according to note 17.¹

Johnston (Lincoln County, F. P. W., 1859; 1872).—On a large bare hill in Bremen Township about 3 miles to the northward of Muscongus Harbor. The station is marked according to note 17.¹

Muscongus (Lincoln County, F. P. W., 1859).—On a bare hill on the west side of Muscongus Sound about $\frac{3}{4}$ mile northward of Muscongus Harbor and about 600 meters from the shore. The station is marked according to note 17.¹

Hitchcock (Lincoln County, F. P. W., 1860).—On a hill on the east side of Damariscotta River about $1\frac{1}{2}$ miles below Damariscotta, on land belonging to Briggs Hatchet. A stone fence crosses the hill about 5 meters south of the station. Mr. Hitchcock's house is on the west side of the road to Damariscotta and distant about 150 meters. The station is marked according to note 17.¹

Ariss (Lincoln County, F. P. W., 1860).—On a bluff belonging to Albert Hunter and located about midway between the east shore of Damariscotta River and the road leading to Damariscotta, which town is about 3 miles above. The houses of Mrs. Blaney and Marius Howe are on the west side of the road and distant about 200 meters and 400 meters to the southeast and northeast, respectively, of the station and Albert Hunter's house is about $\frac{1}{2}$ mile to the eastward. A stone fence crosses the hill about 20 meters to the southeast of the station. The station is marked according to note 17¹ and is about 300 meters east of the river and the same distance west of the road.

White (Lincoln County, F. P. W., 1860).—About a mile and a half below the Damariscotta-New Castle Bridge. On a hill on the west side of Damariscotta River, the land belonging to Alden White, whose house is about 80 meters to the eastward, on the east side of the Damariscotta Road. The road is about 40 meters from the station, and a stone fence crosses the hill at about the same distance to the southward. The station is marked according to note 17.¹

Norwood (Lincoln County, F. P. W., 1860).—About $2\frac{1}{2}$ miles below New Castle on a bare ledge on a hill on the west side of the Damariscotta River, belonging to Zacchaeus Norwood, whose house is 150 or 200 meters northeast. William Hath's house is about the same distance to the southeast. A stone fence runs 10 meters north of the station. The station is marked according to note 17.¹

Nichols (Lincoln County, F. P. W., 1860).—On the roof of Oliver Nichols's barn about $\frac{1}{4}$ mile from the east shore of Damariscotta River, about $4\frac{1}{2}$ miles below Damariscotta and immediately on the east side of the road leading thereto. Mr. Nichols's house is about 80 meters north of the barn. The station is $25\frac{1}{2}$ feet from the northwest corner

¹ See pp. 163 and 164.

of the roof and 26 feet from its western side. It is marked by a copper tack, which is surrounded by four others each 3 inches from the central mark.

Edgecombe (Lincoln County, B. H., jr., 1855; 1872).—On a high hill in the eastern part of Edgecombe, about $\frac{3}{4}$ mile west of the road from Damariscotta to Boothbay Harbor. The land is owned by Henry Williams, who lives at the foot of the hill, and a stone fence marking the boundary of his property runs nearly east and west across the hill and 15 paces north of the station. The station is marked according to note 17.¹

White Island (Lincoln County, A. W. E., 1855).—On the southernmost and highest of two small islands, known as the White Islands, lying about 2 miles northeast of Damiscove Island, and in the mouth of the Damariscotta River. It is not known how the station was marked, but probably according to note 17.¹

Damiscove (Lincoln County, A. W. E., 1855).—On the highest part of the southeast point of Damiscove Island. The point is known among the fishermen as the "Pulpit." The island was then owned by William D. Stetson. The station was marked according to note 17.¹ An unsuccessful search was made for this mark in 1902. (See Damiscove 2.)

Damiscove 2 (Lincoln County, F. D. G., 1902).—The search for the original station Damiscove was unsuccessful, but in 1902 a small drill hole was found in the ledge at about the highest part of Pulpit Rock, and 15 feet therefrom to the southwest a cross cut in the rock. The position of the drilled hole was determined and called Damiscove 2.

Haggett 1 (Lincoln County, A. W. E., 1855).—On a high bare hill in Edgecombe Township on the west side of the road leading from Sheepscot Bridge to Damariscotta River and about $2\frac{3}{4}$ miles by the road from Wiscasset. A stone fence on the west side of the road is 30 meters from the station. The land on which the station stands is owned by Mr. Haggett. The station is marked by a hole drilled in the ledge.

Mount Pisgah (Lincoln County, A. W. E., 1857; 1902).—On a bare hill of that name in Boothbay and on the eastern side of the harbor and distant from it about $\frac{1}{4}$ mile. The land is owned by Capt. Allen Lewis. The station is marked according to note 17.¹ The hole is to the south and within 3 feet of the Boothbay Harbor standpipe. Trees and houses now intercept the view in nearly every direction.

Southport Ledge (Lincoln County, A. W. E., 1857; 1902).—On the high bare hill in Southport, about $\frac{1}{4}$ mile west of Burnt Island Light. The station is on a smooth ledge on the highest part of the hill and is marked according to note 17.¹

Kenniston (Lincoln County, A. W. E., 1858).—In Boothbay Center on Parish Lot Hill, about 1 mile east of Mr. William Kenniston's house, on the northern end of the ridge which forms the top of the hill. No description of the marking is given, although the station may be marked.

Bartoe (Lincoln County, A. W. E., 1855; 1857).—On a high bare ridge in the southern part of the island in the east side of Sheepscot River, variously known as Bartoes, Bartols, and Barters Island. The station is marked according to note 17.¹

Blin (Lincoln County, B. H., jr., 1855; 1872).—On a projecting ledge on a hill on the farm formerly owned by Hiram Cooper but now (1872) owned by Bradbury Blin. The old road from Dresden Mills to Alna passes over the hill, and Mr. Blin's house is near its highest point. The station is marked according to note 17,¹ and was readily found in 1872. The hill is known as Blins Hill and is about $1\frac{1}{2}$ miles northeast of Dresden Mills.

Cushman (Lincoln County, A. W. E., 1857).—On the highest part of the hill on the west side of the head of Cushman Cove, which is part of Back River of the Sheepscot River. It is about a mile below Birch Point, and about 2 miles below Wiscasset. The

¹ See pp. 163 and 164.

station is about 51 paces south-southeast of a stone fence which runs southwest and northeast across the hill, and is marked according to note 17.¹

Parkers Island (Sagadahoc County, A. W. E., 1855; 1859).—On a hill in the eastern part of Parkers Island (now Georgetown Island) between Hoods Cove and the head of Herman Harbor. The station falling in a crevice between two large rocks, four holes were drilled, two in each rock, and the intersection of the lines connecting alternate holes marked the station. Subsequently, as it was thought the northern rock might change its position, two additional holes were drilled in the southern rock, so that the original intersection points might thus be preserved even if the northern rock should shift its position. The station was recovered in 1859 and found still intact.

Griffiths Head (Sagadahoc County, A. W. E., 1857).—On the top of a knoll on the extreme western point of the entrance to Sheepscot River, and about 40 feet above high-water mark. The station is marked by a hole drilled in the ledge.

Back River (Sagadahoc County, A. W. E., 1855; 1913).—On the highest part of a high bare ridge on the southeast part of Arrowsic Island, on the west bank of Back River. The ridge rises abruptly from the river at this point and is wooded nearly all the way up, but the summit is bare. The land belongs to George H. Perry, who lives about $\frac{1}{2}$ mile south of the station. The station is marked according to note 4,¹ and a standard reference mark was set in the ledge 2.61 meters from the station, in azimuth $4^{\circ} 05' 50''$. Other azimuths are as follows: Indian Point beacon, $113^{\circ} 34'$; south gable Perrys Barn ($\frac{1}{2}$ mile distant), $55^{\circ} 33'$. Rocks were piled around the station mark.

Gilmores Hill (Sagadahoc County, A. W. E., 1855; 1913).—On the highest point of a high ridge on the east bank of Sacoana River, about 1 mile from Arrowsic bridge, in front of Bath. The land now (1913) belongs to W. L. Lincoln. The top of the ridge is bare rock, and the station is marked by a standard marker set in a drilled hole $1\frac{1}{2}$ inches in diameter. A standard reference mark is similarly set at a distance of 4.08 meters from the station, in azimuth $135^{\circ} 45' 20''$. A pile of rocks was made around the station. Lincoln's house chimney is $\frac{1}{4}$ mile distant in azimuth $63^{\circ} 25'$.

Rotunda Hill (Sagadahoc County, A. W. E., 1855; 1904).—On the top of a high rocky ledge on the east side of the Kennebec River near the junction of Back River. To the eastward of the station, which is on the highest bare part of the ridge, the hill is wooded and much higher. The hill is now known as Bealls Mountain, and belongs to Mr. Hinkley. The station which is marked by a hole drilled on the ledge can best be reached from Hinkleys wharf, at the mouth of Back River, by going up the hill about $\frac{1}{4}$ mile or until the headlands are in line.

Coxes Head (Sagadahoc County, A. W. E., 1855; 1904).—This head is on the west side of the Kennebec River near its mouth and belongs to the United States. The hill is bare on its top and southern slope, but on the northern and eastern slopes is a grove of fir spruces. The station is in the southeast corner of the old fort and originally was marked according to note 16.¹ The station is 13.3 meters from the center of a large flagpole erected by the pilots, and 3.6 meters north of a wire fence crossing the top of the hill.

Morse (Sagadahoc County, C. O. B., 1852).—On a hill known as Morses Mountain, on Cape Small Peninsula, between Sprague and Morse Rivers about 300 meters east of the former and $\frac{1}{4}$ mile west of the latter, and about $\frac{3}{4}$ mile east of the ocean shore. The station is on the summit and is marked according to note 17.¹

Bowker (Sagadahoc County, A. W. E., 1856; 1913).—On the highest part of a bare rocky hill west of the road from Bath to Phippsburg and about 400 yards north of the "Meadowbrook Road." The land is owned by H. W. Cutting, who lives on the Bath-Phippsburg Road about 5 miles from Bath. There is a group of pine trees on the steep slope at the north end of the ridge, 100 meters north of the station, and 160 meters north of the station a stone fence crosses the ridge. The station is

¹ See pp. 163 and 164.

marked according to note 4,¹ and a reference mark, note 12 c¹, is 5.73 meters from the station, in azimuth $183^{\circ} 27' 35''$. A pile of rock was made over the station. Other azimuths are as follows: Chimney of house (two in line) $\frac{1}{2}$ mile distant, $358^{\circ} 25'$; chimney of John Frisbee's house, $37^{\circ} 26'$; chimney of H. W. Cutting's house, $\frac{1}{2}$ mile distant, $232^{\circ} 20'$.

Cape Small (Sagadahoc County, A. D. B., 1852; 1911).—On a high hill on Cape Small Peninsula, about 10 miles from Bath, about $5\frac{1}{2}$ miles north of Small Point, about $1\frac{1}{4}$ miles east of New Meadows River, and about $2\frac{1}{4}$ miles west of Parkers Head village (on the Kennebec River). The station is marked by a granite post set in the ground so that its top is about on the surface level. Two diagonal lines are cut in the top of this post and a $\frac{3}{4}$ -inch drill hole at their intersection marks the center. Three similar posts are set as reference marks, viz, one 3 feet to the north, one 5 feet to the south, and one 5 feet to the east of the station. These reference posts have each a drill hole in the top, but no diagonal lines, and are all sunk so that their tops are level with the surface of the ground. The station is entirely surrounded by trees, so that no view in any direction is obtainable without building up or cutting.

Hill (Sagadahoc County, J. B. B., 1903; 1913).—Near the south end of a ridge on the east bank of the Kennebec River, opposite the south end of Bath. The ridge is covered with low bushes and a few small pine trees. The station is 27 meters north of a stone fence, with pasture land beyond, at the top of the slope rising from the river. The station is marked according to note 6 b.¹ A reference mark, note 12 c,¹ is 0.76 meter from the station, in azimuth $351^{\circ} 40'$. Other azimuths are as follows: Standpipe (Bath), $122^{\circ} 40' 32''$; First Baptist Church (Bath), $155^{\circ} 10' 02''$; Congregational Church (Bath), $156^{\circ} 18' 52''$.

Great Hill (Sagadahoc County, A. W. E., 1855; 1913).—On a high hill about 2 miles southwest of Bath on land owned by S. D. Thompson, who lives on the Witch Spring Road, $1\frac{1}{2}$ miles from the courthouse. Follow the old county road from his house about $\frac{1}{4}$ mile to the point where it crosses the ridge overlooking New Meadow River and go up the rocky hill to the right of the road 150 meters to the station. A large pine tree is 8.8 meters distant from the station, and the hill is covered with bushes and small trees. The station is on a bare ledge where the land begins to slope to the northward, and is marked according to note 4.¹ A reference mark, note 12 c,¹ is 2.99 meters to the northward of the station. The following directions are given: Standpipe (Brunswick), $0^{\circ} 00' 00''$; large pine tree, $12^{\circ} 04'$; reference mark, $65^{\circ} 01' 30''$. A pile of stones was made around the station.

Ledge (Sagadahoc County, J. B. B., 1903; 1913).—On the southernmost of three rocks on the Kennebec River off the wharves at south end of Bath. The station is marked according to note 4.¹ A reference mark, note 12 c,¹ is 3.30 meters to the westward of the station.

Hunter (Sagadahoc County, F. P. W., 1860).—On a rock ledge about $\frac{3}{4}$ mile west of the Androscoggin River, $\frac{3}{4}$ mile above the Fall Bridge; $1\frac{1}{4}$ miles south-southwest of Sprague Mountain, 2 miles south by west of Pleasant Point of Merrymaking Bay, and $3\frac{1}{2}$ miles east of Topsham. The land belongs to Albert Hunter, whose house is about $\frac{1}{4}$ mile to the westward. The station is marked according to note 17.¹

Buckner (Sagadahoc County, F. P. W., 1860).—On a ledge of rock on the west bank of the Androscoggin River at its junction with Merrymaking Bay. The station is about 100 meters from the water's edge and is about 3 miles northwest of Bath and a mile west of the Kennebec River. It is marked according to note 17.¹ The land is owned by Mr. Harris, whose house is a short distance to the southwest.

Sprague (Sagadahoc County, A. W. E., 1855; 1913).—On the highest part of the prominent hill to the westward of the road from Brunswick to Bowdoinham, and overlook-

¹ See pp. 163 and 164.

ing Merrymaking Bay. A stone fence running nearly east and west forming the boundary line between the townships of Bowdoinham and Topsham crosses the hill about 20 meters north from the station. The hill is wooded on its north slope. The station is marked according to note 4,¹ and a reference mark, note 12,¹ is 5.22 meters from the station, in azimuth $135^{\circ} 26' 10''$. Other azimuths are as follows: Twin spires (Brunswick), $33^{\circ} 26' 30''$ and $33^{\circ} 27' 30''$, respectively; reference mark standpipe (Bath), $325^{\circ} 20' 00''$. A pile of stones was made around the station. The land is owned by E. B. Sprague who lives 5 miles from Brunswick on the road to Bowdoinham.

Hodgkins (Sagadahoc County, A. W. E., 1855; 1913).—On the highest part of a long rocky hill on the east side of the Kennebec River opposite Chops Point, about 4 miles north of Bath. The land is owned by Wilbur E. Howe, who lives between the station and the river. A stone fence crosses the hill 21 meters south of the station and through the valley to the eastward runs the "River Road." The station is marked according to note 4,¹ and the reference mark is a brass bolt set in a drilled hole 1.88 meters from the station, in azimuth $342^{\circ} 23' 30''$.

Hathorn (Lincoln County, F. P. W., 1860; 1913).—On the highest point of a hill on the east bank of Kennebec River back of a "hook point" $\frac{1}{4}$ mile south of Carney Point and opposite the south end of Swan Island. The top of the hill is nearly all bare rock, and a stone fence is 3 meters north of the station. The station is marked by a copper bolt set in a hole drilled in the rock. A pile of stones was made around the station. A reference mark, note 12 c,¹ is 1.68 meters from the station in azimuth $190^{\circ} 47'$.

Maxwell (Sagadahoc County, F. P. W., 1860; 1913).—On top of a bluff forming the west bank of the Abagadasset River on land owned by Mrs. Jennie Maxwell. The station is $1\frac{1}{2}$ miles from Brunswick, $\frac{1}{3}$ mile north of the public road from Brunswick to Richmond, and 180 meters southeast of the Maxwell house, which is near Harward. Large areas of rock show above the ground at several places on the hill and the station is on a large rock at the highest point on the hill and is marked according to note 4.¹ A reference mark, note 12 c,¹ is 2.35 meters from the station, in azimuth $144^{\circ} 45'$. Other azimuths were observed as follows: Standpipe (Bath), $0^{\circ} 20'$; south chimney of Maxwell's house, $114^{\circ} 47'$; double pine tree, $220^{\circ} 54'$; Maxwell Monument (in cemetery), $266^{\circ} 31'$.

Costellow (Lincoln County, S. C. McC., 1868; 1913).—On the top of a high hill on the east side of Kennebec River back of Cork Cove, south of the road to Wiscasset and between the river and the upper road to Bath. The land is owned by Mrs. E. J. Costellow. The hill is bare on top and slopes abruptly toward the river. The station is on a bare ledge with large areas exposed, and is 0.2 meter north of a deep crack, 3 meters south of a deep hole or depression, and $2\frac{1}{2}$ meters from a bluff to the east showing 2 feet above the ground and 65 meters from a stone fence to the eastward. The station is marked according to note 18,¹ and a reference mark, note 12 c,¹ is 5.64 meters from the station, in azimuth $56^{\circ} 48'$; another azimuth is a pine tree 65 meters from the station, $338^{\circ} 24'$. Rocks were piled around the station mark.

Richmond (Sagadahoc County, S. C. McC., 1868; 1913).—On the highest point of a bare ledge east of the academy building in Richmond, on land owned by J. G. Hatch. The station is 4.5 meters west of the bluff face of the ledge formed by the removal of rock, and 20.3 meters from the southeast corner of the academy building. The station is marked according to note 4,¹ and a reference mark, note 12 c,¹ is 2.35 meters to the southwest. A small iron rod set in the ledge 1.34 meters to the eastward and projecting 3 inches, serves as an additional reference mark.

Houdlette (Lincoln County, S. C. McC., 1868; 1913).—On top of a hill on the east side of the Kennebec River about $\frac{1}{4}$ mile south of West Dresden and the road to Dresden,

¹ See pp. 183 and 184.

and a shorter distance from the road to West Dresden. The widow Houdlette owns the land and her house is to the westward of the station near the road last mentioned. The station is near and inside of the corner formed by two fences and is 60 feet from the south fence and 71 feet from the west one. The station is marked according to note 4,¹ the stone at the center being surrounded by sand and cement. A reference mark, note 12 c,¹ is 19.86 meters from the station, the boulder showing 3 feet above the ground near the south stone fence.

Theobold (Lincoln County, S. C. McC., 1868).—On a hill on the east side of the Kennebec River, about $\frac{1}{4}$ mile north of the road to Dresden and on land belonging to Capt. C. Theobold who lives at the foot of the ridge to the west. The station was 104 feet north of a beech tree, and was marked according to note 17.¹ The locality was visited in 1913, but the station was not found, as the hill is now covered by a thick growth of trees and bushes.

Hathorne Hill (Sagadahoc County, S. C. McC., 1868; 1913).—On a hill of this name on the west side of the Kennebec River and 1 mile north of Richmond. The hill is bare about the station, which is 5 feet lower than and southeast from the summit. The chimney of a house about $\frac{1}{4}$ mile distant bears about southwest; a large oak tree 63 meters distant bears about south-southwest; chimney of Hathorn's house about $\frac{1}{2}$ mile distant bears about east-southeast. The station is marked according to note 4,¹ and a reference mark, note 12 c,¹ is 5.74 meters to the south-southwest. A pile of stones was made around the station.

Widow's Hill (Lincoln County, S. C. McC., 1868; 1913).—On the east bank of the Kennebec River, about $2\frac{1}{2}$ miles north of Richmond, on land belonging to Widow Houdlette. The station is on the top of the hill, back of the large ice house at Cedar Grove, and 50 meters north of the road extending eastward from the post office. It is on the only large boulder on the summit, and said boulder shows $1\frac{1}{2}$ feet above the ground. Two large pine trees and several small ones are growing on the east slope of the hill, and a stone fence is at the bottom of the steep slope to the west. The station is marked according to note 4,¹ and a reference mark, note 12 c,¹ is 19.18 meters to the southeast.

Wilson (Sagadahoc County, S. C. McC., 1868; 1913).—Lost.

Hagar (Sagadahoc County, S. C. McC., 1868; 1913).—Near the summit of a high ridge on the west side of Kennebec River about $1\frac{1}{2}$ miles above Iceboro, about 0.4 mile from the shore and about 200 meters west of the road from Richmond to Gardiner. The eastern slope of the ridge is steep, but the northern slope, upon which the station is located, is more gradual. The land belongs to E. A. Yeaton, whose house is to the eastward of the station. The station ledge rises above the ground about 10 inches and is marked according to note 4.¹ A reference mark, note 12 c,¹ is 1.02 meters to the northeast, and a pile of rock was made around the station.

Meserve (Lincoln County, S. C. McC., 1868; 1913).—On a hill to the east of the Kennebec River near the road from Gardiner to Dresden Mills, about 6 miles from the former and 3 miles from the latter. The station is 75 meters east of the road and on land belonging to William H. Laborce, and is $86\frac{1}{2}$ feet from the corner of a stone fence. There are several large bowlders on the top of the hill and apple trees growing on its southern slope. The station is marked according to note 4,¹ and a reference mark, note 12 c,¹ is 7.94 meters to the southwest. A pile of stones was placed around the station.

Woodward (Sagadahoc County, S. C. McC., 1868; 1913).—On the eastern slope of a ridge on the west side of Kennebec River about $1\frac{1}{2}$ miles north of Iceboro, on land belonging to the Woodward heirs. It is $\frac{1}{4}$ mile north of E. A. Yeaton's house, 60 meters west of the public road, and 30 meters north of a fence. There is a small cleared space around the station, beyond which the ridge is covered with trees and bushes.

¹ See pp. 163 and 164.

The station is marked according to note 4,¹ and a reference mark, note 12 c,¹ is 6.0 meters to the southeast.

Telegraph Hill (Kennebec County, S. C. McC., 1868; 1913).—On top of a high hill of that name on the east side of the Kennebec River near the "River Road," 4 miles south of Gardiner, and owned by John Alcott, who lives near the station. The station is on a flat ledge with considerable area exposed, and a quantity of small stones piled on it, and is 12.8 feet east of the remains of a stone fence on the west side of the road, and 20.1 meters from an angle in the stone fence leading from the road to Alcott's house. The station is marked according to note 4,¹ and a reference mark, note 12 c,¹ is 2.7 meters to the northeast.

Iron Hill (Kennebec County, S. C. McC., 1868; 1913).—On hill of this name on south side of Brunswick Avenue, Gardiner, and about 1½ miles west of the Kennebec River. The land is owned by Frank and Charles Bradstreet, and John W. Lawrence lives in and owns the house on land adjoining. The station is in line with the front of Lawrence's house, 46.8 feet east of the line fence, and 28 meters south of the stone fence along Brunswick Avenue. A flat ledge is the highest part of the hill, but the station is in a depression 15 inches lower. It is marked according to note 18,¹ and a reference mark, note 12c,¹ is 4.37 meters to the east-northeast. A pile of stones was made around the station.

Winter Hill (Kennebec County, S. C. McC., 1868; 1913).—On the top of a high hill, bare at the summit, ¼ mile north of the road from Hallowell to Kingston, and about 2½ miles east of Hallowell, on land owned by E. B. Thorn, and back of the house formerly owned by George Winter. The station is 11 meters from the north end of a narrow bare ledge 19 meters long. A large flat stone 31 meters south of the station is elevated above the ground to form a seat. The station is marked according to note 18,¹ and a reference mark, note 12 c,¹ is 5.975 meters to the southwest.

Perkins (Kennebec County, S. C. McC., 1868; 1913).—On the eastern slope of a hill about 1 mile south of Hallowell post office and ½ mile west of the Maine Central Railroad, on land owned by Mrs. Benjamin Vaughn. The station is 155 meters east of the highest part of the hill, 60 meters east of the eastern edge of a grove of maples, and about 20 feet below the summit. A seat or bench built of rough stones set in cement is about 1 foot east of the station, and a small building used by the Vaughn family as a tea house stands 71 meters to the westward. The land is used as a private park. The station is marked according to note 4,¹ and a reference mark, note 12 c,¹ is 19.72 meters to the southward, the boulder showing 4 feet above the ground.

Burnt Hill (Kennebec County, S. C. McC., 1868; 1913).—On the top of a hill in Augusta Township on land owned by a New York granite company, and about ¼ mile north of a large cemetery on a ridge about 1 mile west of the Kennebec River. The top of the hill is almost level and the station is 18 meters east of an old quarry near the remains of an observatory destroyed by fire. Several iron pipes (part of a fence) are still standing, and there are also several iron ringbolts near the station. Two of these ringbolts 2 feet 5 inches high are to the eastward of the station at a distance 8.05 and 4.69 meters, respectively. The station is marked according to note 18,¹ and a reference mark, note 12 c,¹ is 0.153 meter north of the station. Stones were piled around the station.

SUPPLEMENTARY POINTS.

Browns Hill (Knox County, C. F., 1863).—On a bare hill on the west side of the broad part of St. George River and on the south side of the narrow part which was formerly known as Warren River. The station is on the highest point of the hill and is about 130 meters from the shore of the main river and about 300 meters from the shore of the

¹ See pp. 163 and 164

narrow stream, and about $\frac{3}{8}$ mile south of Thomaston. The station is marked according to note 26 a.¹

Fishermans, east gable (Knox County, C. F., 1863).—The east gable of the most easterly smoke or fish house on the shore of the west bank of the St. George River, 816.1 meters southwest of Browns Hill triangulation station, about 4 or 5 meters west of the shore line of the St. George River.

Blank Point (Knox County, C. F., 1863).—On the east bank of St. George River, about $\frac{3}{4}$ mile below Fort St. George, and the same distance above Hitts Point. The station is on a rock close to the shore line and about 2 meters above high water. It is marked according to note 26.¹

Teal, Adam, house, center of chimney (Knox County, C. F., 1863).—The chimney of a long low white house with a red roof, on the east bank of the St. George River, about 2 miles south of The Narrows, and nearly opposite Stone Point, and 500 meters east of the shore line.

Herring Gut Island (Knox County, S. H., 1860).—On the hill located a little north of east of the center of the island formerly called Herring Gut Island and now called Hoopers Island, which lies on the western side of the passage called Herring Gut, in the eastern part of the mouth of St. George River. The station overlooks the village of Herring Gut, now called Port Clyde, and is about $\frac{1}{2}$ mile northwest by north from Herring Gut Lighthouse, now better known as Marshall Point Light. The station is marked by a wooden plug set in a hole drilled in the rock.

Stone, J., house chimney (Knox County, C. F., 1863).—The only chimney on a small white house without shutters, on a low point of land at the mouth of Maple Juice Cove on the south side, about 150 meters south of the cove, and about 165 meters east of Stone Point triangulation station.

Seavy, J., house chimney (Knox County, C. F., 1863).—The chimney of a small white house on the east bank of Maple Juice Cove and about 1 mile north of its mouth.

Hog Island (Lincoln County, F. P. W., 1859).—On the island of that name lying between Muscongus Sound and Muscongus Bay, about $\frac{3}{4}$ mile east of Muscongus Harbor. The station is about midway between east and west shores of the island and about $\frac{1}{2}$ mile from its southern point, and is at about the highest point. It is marked according to note 17.¹

Haggett 2 (Lincoln County, A. W. E., 1857).—On a high bare hill owned by John Haggett, about $\frac{3}{4}$ mile south-southeast of *Haggett 1*, described on page 237, and 33 feet 4 inches south of a stone fence running nearly east and west across the hill. The station is marked according to note 17.¹

Negusset (Sagadahoc County, A. W. E., 1856; 1913).—On land owned by J. S. Bailey, on the Meadow Road, 5 miles from Woolwich Ferry, opposite Bath, and about $1\frac{1}{4}$ miles north of the road leading from Bath to Wiscasset. The station is on a small knoll about 115 meters north of the stone fence forming the south boundary of Bailey's land. Two prominent bare ledges show on this knoll, and the station is on a bench of the southern one, on its east side and near its north end, and about 3 feet lower than its highest part. The station is marked according to note 4,¹ and a reference mark, note 12 c,¹ is 3.65 meters in a direction south 27° west from the station.

Cutting's, Drummond, barn (Sagadahoc County, B. H., 1856).—The west gable end of Drummond Cutting's barn on the road from Bath to Phippsburg, about 5 miles from Bath.

Foster (Sagadahoc County, F. P. W., 1860).—On a knoll on the north side of the Androscoggin River, about $\frac{1}{4}$ mile from the shore and about 2 miles east of Brunswick and Topsham. The land then belonged to Cyrus Flagg, of Topsham, and a house occupied by Joseph Foster was about 200 meters west of the station. The station mark was

¹ See pp. 163 and 164

a hole in the top of a stub, and four other stubs, each 3 feet from the station, surrounded it.

Swan Island 1 (Sagadahoc County, S. C. McC., 1868; 1913).—On top of a ridge on Swan Island (Kennebec River), about 2 miles south of the north end of the island and about its middle east and west, and opposite Hatch Point. The station is on a boulder with rounded top 3 square feet in area projecting 6 inches above the ground. It is 24.5 meters south of a fence, with grass land beyond. The land formerly belonged to Paul Hatch, but the name of the present owner was not ascertained. The station is marked according to note 4,¹ and a reference mark, note 12 c,¹ is 3.13 meters from the station, in azimuth 280° 30'. The other azimuths are as follows: South chimney of house $\frac{1}{6}$ mile distant, 251° 37'; cupola of barn (on the island), 333° 53'; southeast corner of cemetery $\frac{1}{4}$ mile distant, 218° 06'.

Cemetery flagstaff (Kennebec County, S. C. McC., 1868).—On a high hill near Capt. Prescott's house on the east side of Kennebec.

Lapham (Kennebec County, S. C. McC., 1868; 1913).—On a high small-topped hill on the east bank of the Kennebec River, opposite Gardiner. Several small trees and one large oak and a pile of stones are at the summit. The station is on the western slope of the hill and 25 feet from the top, on grass land, and 2 meters west of a wire fence. The land is owned by Roger Lapham, who lives on the River Road, 2 miles south of Gardiner. The station is marked according to note 4,¹ the top of the boulder being level with the ground and 10 meters from a stone fence extending east from the wire fence above mentioned. A reference mark, note 12 c,¹ is 2 feet higher than the station, on the top of the western slope of the hill, and is 7.56 meters to the eastward of the station.

Dumfry (Kennebec County, S. C. McC., 1868; 1913).—On top of the steep southern slope of a flat-topped ridge southwest of the Catholic cemetery at Gardiner, on land owned by the Episcopal Church Home. A farm road leads from the end of Deane Street across a pasture to the station. The station is between two groups of large pine trees, three in the one to the eastward and four in the one to the westward. The northernmost tree in the group of three is 14.4 meters from the station, and the westernmost of the group of four is 35 meters from the station. The station is marked according to note 4,¹ the boulder exposing about 1 square foot of bare area about level with the surface of the ground, and a reference mark, note 12 c,¹ is 4.47 meters to the northward.

CASCO BAY AND PORTLAND.

PRINCIPAL POINTS.

Burnt Ledge (Sagadahoc County, C. O. B., 1854).—On a high bare rock near the upper end of the "Burnt Ledges," near the center of Phippsburg Township and Peninsula, which lies between the Kennebec and New Meadows Rivers. The station is about $1\frac{3}{4}$ miles southwest of the village of Phippsburg and about $\frac{1}{2}$ mile southeast of New Meadows Basin. It is marked according to note 17.¹

Robinsons Rock (Cumberland County, C. O. B., 1854).—On a high bare rock on a high hill, about a mile north of Newbury Point of Small Point Harbor, on the peninsula between Casco Bay on the west and North Creek on the east. The station is on the summit and is marked according to note 17.¹

Bald Head (Sagadahoc County, C. O. B., 1854; 1911).—On the highest part of Bald Head, a bare rocky hill at the southwest end of Cape Small. The station is marked according to note 4.¹ A reference mark, note 12 c,¹ is 2.75 meters to the northward of the station. There are two iron rods set in the rock, 3.37 meters northeast and 3.96 meters south of the station, respectively.

¹ See pp. 163 and 164.

Orr (Cumberland County, C. O. B., 1854).—On the highest part of Orrs Hill on the northern part of Sebascodegan Island. This island is large and of very irregular shape and lies between New Meadows River and Harpswell Sound. The trees on the summit were all cut down except to the northward. The station is on bare rock and is about $\frac{1}{2}$ mile from the north end of the island, about a mile north of the village of East Harpswell, and about $\frac{1}{4}$ mile northeast of a fork of roads, one of which passes to the westward of the station and leads to Brunswick, which is about 6 miles distant to the northwest. The station is marked according to note 17.¹

Yarmouth (Cumberland County, C. O. B., 1854; 1911).—On a hill in the eastern part of Yarmouth Island, which lies in the deep bay in the southern part of Sebascodegan Island, between Quohog Bay and Ridleys Cove. The hill is the highest land on the island, and the station is on a bare ledge 30.33 feet northeast of the summit. It is marked according to note 4.¹ A reference mark, note 12 c,¹ is 8.75 meters southwest of the station.

Ragged Island (Cumberland County, C. O. B., 1854; 1911).—On the eastern side of the island of that name, on the ridge forming the backbone. The island lies off the mouth of Quohog Bay (Casco Bay), about 4 miles northwest by west from Bald Head of Cape Small Peninsula, and $2\frac{1}{2}$ miles east of Baileys Island. The station is about 200 meters south of the northeast point of the island on a bare ledge near the edge of the trees to the eastward and 30 meters north of the edge of the trees to the westward. It is marked according to note 4.¹ A reference mark, note 12 c,¹ is 2.78 meters to the west-northwest. Also a $\frac{3}{4}$ -inch drill hole, 2.96 meters northeast of the station, and a pine tree blazed with a triangle, 2.93 meters north of the station, serve as additional reference marks. A pile of stone is placed over the station.

Harpswell church (Cumberland County, C. O. B., 1854; 1911).—The Congregational Church at Harpswell Center on Harpswell Neck. The station was in the belfry, and the point was marked, but the large bell since installed prevents a reoccupation. The vane rod just below the vane corresponds with the station center.

Kellogg (Cumberland County, C. O. B., 1852; 1911).—On a high hill on the west shore of Harpswell Neck, Casco Bay (Middle Bay) a short distance above Wilsons Cove. The station is 15 feet westerly from and 3 feet lower than the highest point of the hill and on land now owned by Mr. Alexander, who lives $\frac{1}{4}$ mile to the eastward. It is marked by a drill hole in the rock 8 inches below the surface and within an iron cylinder 6 inches long and 6 inches in diameter, which in 1903 was surrounded by cement and covered by a layer of earth and a pile of stones. A standard disk reference mark is set in a bare ledge 1.58 meters east-southeast from the station.

Tate (Sagadahoc County, C. O. B., 1854).—On the high wooded hill of that name in Topsham Township and about 0.4 mile south of the line of Bowdoin Township. It is also about 6 miles north of Brunswick. The station is marked by a nail in a wooden stub. The land was then owned by Mr. Tate, who lived on the east side of the hill on the road from Brunswick to Litchfield.

Haskell Island (Cumberland County, C. O. B., 1854; 1911).—On the highest part of the island of that name and near its southwest end. The island is on the west side of Mericoneag Sound and in the prolongation of Harpswell Neck, and about 4 miles north-northeast of Halfway Rock Light. The south end of the island is bare of trees and the rock shows in many places, as the soil is thin. The station is marked according to note 4,¹ and a reference mark, note 12 c,¹ is in a bare ledge 4.93 meters north of the station.

Halfway Rock (Cumberland County, C. O. B., 1852).—Reported lost in 1911.

Bannock (Franklin County, C. O. B., 1866; 1907).—On a hill known as Bannock Hill about 7 miles northeast of Farmington, $1\frac{1}{2}$ miles east of Clearwater Pond, and $2\frac{1}{2}$ miles northeast of Allens Mills. The road from Farmington to Allens Mills, West

¹ See pp. 163 and 164.

Mills, and Anson passes over the southern end of the hill, and within a mile to the southeast of the station. The station is marked according to note 17,¹ and may still exist although not found in 1907.

Sebbatus (Androscoggin County, A. D. B., 1853; 1907).—Sabattus Mountain is in Wales Township and on the east side of the railroad which passes through Sabbath and Leeds Junction. It is about 2 miles to the northward and eastward of Sabbath and about 4 miles to the southward of Leeds Junction, and a fairly good road leads from the latter place to the summit. The top of the mountain is bare and the station is on the center of a large flat rock near the north brow of the summit. This outcropping rock is but slightly higher than the surface of the ground. The station is marked according to note 18.¹ Two latitude stations of 1853, each marked by a copper bolt in the rock, are, respectively, 4.616 meters north, 11.008 meters east; and 4.616 meters north and 9.081 meters east of the station.

Freeport church (Cumberland County, C. O. B., 1854).—The church has a square belfry, open, with columns, eight in number, in circular form supporting round top roof. The center is marked on a sheet of lead by an iron tack. The floor of shingles slopes in four directions from the center.

Jebeig (Cumberland County, C. O. B., 1854; 1911).—On the highest part of Great Chebeag Island (Casco Bay) and near its center, and about 100 yards from the house of A. C. Robbins. The original surface mark, a stone post, has been removed, but the subsurface mark, a buried iron cone, probably still exists, although not found in 1911. Another house has been erected 30 meters south of the station.

Green Island (U. S. E.) (Cumberland County, U. S. E., 1909).—On the bare ledge forming the highest point of Green Island. The center is marked by a $\frac{3}{4}$ -inch drill hole $1\frac{1}{2}$ inches deep in the rock surrounded by a rough triangle. The station is 15.87 meters from the Coast Survey triangulation station of the same name in azimuth $216^{\circ} 55'$. There is a slight depression in the ledge between the two stations where grass is growing.

Green Island (Cumberland County, C. O. B., 1852; 1911).—On outer Green Island, Casco Bay, about $4\frac{1}{2}$ miles east by north from Portland Head Light, about 2 miles southwest of Jewell Island, and south of Luckse Sound. The station is near the highest point and is marked according to note 18 b and 18 c.¹ A station of the United States Engineers, a drill hole within a rough triangle, is 15.87 meters southwest of the C. & G. S. station.

Deer (U. S. E.) (Cumberland County, U. S. E., 1911).—On Deer Point, the southern point of Great Chebeag Island, Casco Bay. The station is on a bare ledge just outside of the bushes and a short distance from the tree line, and is marked according to note 16,¹ and the letters U. S. E. roughly cut in the rock near by. Another drill hole ($\frac{3}{4}$ inch) within a triangle and 12.01 meters east of the station serves as a reference mark.

Chebeag (U. S. E.) (Cumberland County, U. S. E., 1909).—On the south end of Great Chebeag Island, Casco Bay, a short distance south of the edge of the woods and near the cottage of E. A. Ballard. The island is bare south of the station and a sundial is on a stump $22\frac{1}{2}$ feet back of the station, and nearly on line to a windmill in the edge of the trees. The station is marked by a hole drilled in the top of an outcropping ledge and the letters U. S. E. are roughly cut near the station.

Birch Point (Cumberland County, C. O. B., 1854).—On the southwest end of Cousins Island, on a small knoll, about 120 feet easterly of the house of Mr. John Doyle. The station is marked by four stubs with copper nails, each at 2 feet from the center, two stubs being in range with Great Jebeig triangulation station and the other two at right angles.

Long Island (Cumberland County, C. O. B., 1852; 1911).—On a hill in the northeast part of Long Island, Casco Bay, about midway between the eastern and western shores

¹ See pp. 163 and 164.

and about $\frac{1}{2}$ mile from the northern end. It is the highest hill on the island and the station is on the summit and is marked according to note 18.¹ Although the bolt was not found in 1911, there is no reason to suppose that the station is permanently lost.

Marsh (U. S. E.) (Cumberland County, U. S. E., 1909).—On the highest point of the southwesterly end of the island of the same name which lies about $\frac{1}{8}$ mile from the southeastern shore of Long Island, Casco Bay. The station is on a bare ledge and is marked according to note 16.¹ Three iron rods with holes in their tops are set in the rocks respectively 8.7 feet north, 8.9 feet east, and 3.1 feet south of the station. A pile of loose rocks is just west of the station and a small pile covers it.

Farmington (Franklin County, C. O. B., 1866).—On a ledge of rocks on the right bank of the Sandy River, directly opposite the town of Farmington which it overlooks. The road from the railroad depot up Sandy River valley passes over the western slope of the hill. The station is marked according to note 17.¹

Basket (U. S. E.) (Cumberland County, U. S. E., 1909; 1911).—On the south end of Basket Island which lies in the western part of Casco Bay, about midway between Chebeag Island and the mainland and about a mile southeast of Spruce point of Cousins Island. The station is on a bare ledge 8 feet from the edge of the bushes. It is marked according to note 16.¹ The letters "U. S. E." are also cut near the drill hole.

Bradbury (Cumberland County, C. O. B., 1852; 1912).—On Bradbury Mountain, Pownal Township, and just north of the Hallowell road. The land was owned by Rev. M. Jordan, who lived in a small white house near the foot of the mountain. The station is on the highest part of the summit ledge, and is marked according to note 18.¹ The mark was not found in 1912, but may still be there.

York (Cumberland County, C. O. B., 1852; 1911).—On a hill $2\frac{3}{4}$ miles west of Parker Point (Casco Bay), about $1\frac{1}{4}$ miles north of Princes Point, about $1\frac{5}{8}$ miles south of Yarmouth, and about $\frac{1}{4}$ mile north of the shore of the upper part of Broad Cove. The hill is the highest in the vicinity and the station is on its summit. The lower or shore road from Portland passes about 300 meters to the eastward of the station which is marked according to note 18.¹ A reference mark, note 12 c,¹ is 7.70 meters to the southwest. The land is owned by Miss Ellen York, who lives on the electric road at the foot of the hill northeast from the station. The hill is known as Yorks Hill.

Cow Island (Cumberland County, C. O. B., 1854).—Reported lost in 1911.

Cow (U. S. E.) (Cumberland County, U. S. E., 1909; 1911).—On the island of that name which lies in Casco Bay immediately to the northward of Great Diamond Island and about 3 miles east-northeast from Portland. The station was established by the United States Engineer Corps and located in about the middle of the concrete top of "Battery Abbott" and is marked by a $\frac{3}{4}$ -inch hole drilled in the concrete.

Whitehead (Cumberland County, C. O. B., 1850; 1911).—On the high bluff of the extreme northeast point of Cushing Island in the entrance to Portland. The station is on a Government reservation and several buildings connected with the fire control of the Portland Harbor fortifications are in the vicinity and a concrete house known as "F. Ingalls" is 10.7 feet to the westward. The station is marked according to note 4,¹ and a reference mark, note 12 c,¹ is 1.55 meters to the southward.

McKinley (U. S. E.) (Cumberland County, U. S. E., 1911).—On the top of a square brick tower 12 feet high, on the north end of Great Diamond Island, Casco Bay. The tower was erected as the fire-control station of Fort McKinley and the small iron pipe projecting above the center of the roof marks the station.

Diamond (U. S. E.) (Cumberland County, U. S. E., 1911).—On the south end of Little Diamond Island, on a point of rock 15 meters south of the casino and 6 meters west of the wharf, and marked according to note 16.¹ Three small iron rods are set in

¹ See pp. 163 and 164.

the rock, respectively, 0.81 meter west, 2.20 meters north, and 2.31 meters southeast of the station.

Williams (*U. S. E.*) (*Cumberland County, U. S. E., 1911*).—On the top of the right traverse of emplacement No. 1 of Battery Sullivan, Fort Williams, Portland Head. The station is 3 feet from the edge of the traverse, and opposite the ladder from the gun platform. It is marked by a copper bolt set in the concrete with its top level with the surface. A $\frac{3}{4}$ -inch eye rod set in the concrete 2 inches south of the station serves as a finder.

Fort Scammel 2 (*Cumberland County, I. W., 1911*).—On the south traverse of Fort Scammel, House Island, Portland Harbor, established in lieu of the original station *Scammel*, the marks of which had disappeared. The new station is marked by a roughly rectangular block of slate, 12 by 12 by 13 inches buried 0.55 meter below the surface and having a $\frac{3}{4}$ -inch hole drilled in the center of its top surface. A similar block of slate with a $\frac{3}{4}$ -inch hole drilled in its upper surface constitutes the surface mark.

Johns Hill (*Cumberland County, C. O. B., 1850; 1913*).—On a prominent wooded hill on the coast of Cape Elizabeth Township, about $1\frac{1}{4}$ miles to the northwestward of Cape Elizabeth Twin Lights. The hill is now locally known as Shore Acres and belongs to L. M. Layton and E. C. Reynolds, of Portland. A large water tank supported on 12 iron posts resting on cement piers has been built close to the station and an 80-foot windmill stands $11\frac{1}{2}$ meters northwest of the station. The station is marked by a copper bolt in the top of a granite post, the foot of which is in the center of a buried earthen cone. The bolt has a cross on its head. Two standard disk reference marks are set, one 46.2 meters to the southeast of the station and the other 70.63 meters east-northeast from the station.

Brothers (*Cumberland County, W. C. H., 1909; 1911*).—On the easternmost of the two small islands lying in Casco Bay about $2\frac{1}{2}$ miles to the northeastward of Portland and known as The Brothers. The station is on the highest point of the island and is marked by a hole drilled in the rock and surrounded by three other drill holes forming a triangle.

Fort Gorges (*Cumberland County, F. D. G., 1902*).—Reported lost in 1911.

Fort Gorges 2 (*Cumberland County, I. W., 1911*).—On a traverse of Fort Gorges, Diamond Id. Ledge, Portland Harbor. This mound of earth is at the angle of the fort opposite the stone wharf, and the station is at the center of its top, and is marked by a granite block 7 by 10 by 6 inches buried 2.2 feet in the ground and with a $\frac{3}{4}$ -inch hole drilled in the center of its upper surface. The surface mark is a granite block 8 by 12 by 8 inches, similarly marked and set with its top level with the ground.

Moody (*Cumberland County, C. O. B., 1852; 1911*).—On a hill on the west side of Casco Bay, about 300 meters west of the head of Mussel Cove, and about 100 meters east of the shore road from Portland to Yarmouth. It is also about $3\frac{1}{2}$ miles northeast by east from Portland. The station is on the highest part of the hill on land now belonging to John Marshall Brown estate. The house formerly occupied by Capt. Moody and that of Herbert Payson are to the southwestward of the station. The station was originally marked by an earthenware cylinder 10 inches high and 8 inches in diameter set with its top 18 inches below the surface. Over this in 1911 a 20-inch length of drain tile filled with cement and sand was placed and in its top a standard disk station marker was set, projecting 2 inches above the surface of the ground. The United States engineers in 1910 drilled three holes as reference marks, each with an arrow cut in the rock and pointing to the station. The distances and approximate directions are 72 feet north-northwest; 133.9 feet northeast by east; 101 feet east-southeast. A fourth drill hole to the southeast has no arrow.

Halfway Rock 2 (Cumberland County, W. C. H., 1909; 1911).—On the rock of that name lying in Casco Bay about $1\frac{1}{4}$ miles northeast of Portland. The rock is bare and its top is bare and 10 feet above high water. The station is not on the highest point but on a level place about the middle of the steep west face and 2 meters east of its top. It is marked according to note 17.¹ The letters "H. G." are roughly cut in the rock near the station.

Mount Misery (Cumberland County, C. O. B., 1850).—On the summit of a hill on the peninsula of Cape Elizabeth about $2\frac{1}{2}$ miles north-northwest of Cape Elizabeth Light, about 2 miles southwest of Portland Head Light, about 4 miles south of Portland, and close by the intersection of the road from Cape Elizabeth to Portland and the road to Delano Park and Portland Head. The former road is just west of the hill and the latter is just north of it. The hill is also known as Prospect Hill. The station is marked according to note 18.¹

Preble (U. S. E.) (Cumberland County, U. S. E., 1909; 1911).—On top of the old unfinished water battery at Fort Preble, Portland Harbor. The station is on a "header" stone near the first angle on the wall from the south end and is near the inner edge of the wall. It is marked by a $\frac{3}{4}$ -inch hole drilled 1 inch deep in the top of the undressed portion of the stone.

B. C. Preble (U. S. E.) (Cumberland County, U. S. E., 1909).—On an iron tower 5 feet in diameter and 25 feet high, formerly used as a fire-control station for Fort Preble, located near the flagstaff. The station is in the center of the flat iron top of the tower and is marked by a hole punched in the metal. The metal top is protected by a wooden structure supporting a roof.

Cushings Point (Cumberland County, J. A. S., 1869; 1913).—On the point of that name in South Portland, about $\frac{1}{4}$ mile south of the Portland Breakwater Light, on land belonging to Dr. Willis B. Moulton, who lives at the corner of State and Pine Streets, Portland. The station is on the end of the point and about $2\frac{1}{2}$ meters from the edge of the bluff. It is marked according to note 21.¹ A reference mark, note 12c¹, is 18.33 meters west-southwest of the station. An additional reference mark is a 1-inch hole, $\frac{1}{2}$ inch deep, drilled in the top of a small boulder 3.79 meters southwest of the station.

Bug Light (U. S. E.) (Cumberland County, U. S. E., 1909).—On the Portland Breakwater, 20 meters from the lighthouse at its end. The station is under the iron railing running along the center of the breakwater and is between the eighth and ninth posts from the lighthouse. It is marked by a copper bolt, with cross lines cut in the head, set in the granite coping and level with its surface.

Fort Allen (U. S. E.) (Cumberland County, U. S. E., 1909).—In Fort Allen Park, Portland, 10 feet outside of the circular fence guarding the lower promenade and 54 feet south of the door in the base of the band stand. The station is marked by a $\frac{3}{4}$ -inch hole drilled in the top of an outcropping ledge.

Muzzys wharf (Cumberland County, J. A. S., 1869; 1913).—The old wharf of this name, also known as Plush Wharf, is at the foot of Muzzy Street, South Portland. The station is near the northwest corner of High and Muzzy Streets on open grass land belonging to Charles N. Trefethen, who lives nearby at 237 High Street. It is marked according to note 21.¹ It is 7.4 meters from the edge of a bluff, on line to outer (west) corner of the stone wharf, and 15.4 meters from edge of bank on line to Trefethen's barn cupola.

East Deering (U. S. E.) (Cumberland County, U. S. E., 1909).—On a hill in East Deering on the north side of the entrance to Back Cove, Portland Harbor. The station is on the summit and 8 feet south of the prolongation of the south side of Chester Street and 23 meters south of a small wooden cottage. It is marked according to note 17.¹

¹ See pp. 163 and 164.

Mount Joy (Cumberland County, C. O. B., 1852).—On a hill of that name on Cape Elizabeth Peninsula about $3\frac{1}{4}$ miles south of Portland, $2\frac{1}{2}$ miles south by east from Cape Elizabeth depot, about 0.4 mile west of the Spurwink Road, and 0.6 mile north-northeast of Spurwink River. The station is on the summit of the hill and is marked by an earthenware cone whose top is 12 inches below the surface of the ground. The surface mark was a stake with a nail in its top centered in the buried cone. The surface mark has probably disappeared.

Dyers Hill (Cumberland County, C. O. B., 1852; 1913).—On a prominent hill about one-half mile west of the schoolhouse at South Portland Heights. The land is owned by Mrs. Clifford A. Dyer, who lives near the hill, and in 1913 the brick house of the former owner, Ezekiel Dyer, was still standing at the foot of the hill. The station is on a ledge at the highest point of the hill and is marked according to note 18.¹ The mark was not found in 1913, but, as the hill is covered with trees, bushes, and moss, the station probably still exists.

West Graves (Cumberland County, J. A. S., 1869; 1911).—On the ridge known as Graves Hill, about 2 miles to the northward of Portland and a short distance west of the road from Portland to Falmouth Corner and Yarmouth. The station is on the south end of the ridge and is marked according to note 4.¹ A reference mark, note 12 c,¹ is 8.97 meters to the westward on a ledge which is about 3 feet higher than the station.

Promenade (Cumberland County, J. A. S., 1869; 1911).—On the slope of the bluff above the Boston & Maine Railroad track in the city of Portland and in the park called the "Western Promenade." The station is 10 feet below and 33 meters west of the small pavilion near the statue of Thomas B. Reed, and is marked according to note 21,¹ and the letters "U. S. C. S." in the corners.

Grandy Hill (Cumberland County, C. O. B., 1850).—On the southern end of the summit of Grandy Hill on Cape Elizabeth Peninsula and on the east side of the mouth of Spurwink River opposite the north end of Scarboro Beach. The station is marked according to note 18.¹

Bramhall (Cumberland County, C. O. B., 1854).—On the highest part of Bramhall Hill, in the southwest part of Portland, and $36\frac{3}{4}$ feet from the cemetery fence. The surface mark is a stone with diagonal marks cut on it, the subsurface mark is an earthen cone buried with its top 15 inches below the surface.

Moses (Cumberland County, J. A. S., 1869; 1913).—On a narrow point of land on the north side of Fore River and back of No. 1322 Congress Street, Portland, on land belonging to Frank P. Cummings. The house is occupied by J. W. Robinson and the station is 17 meters from the rear of his barn. The station is marked according to note 21.¹ The post is sunk so that its top is level with the surface of the ground.

Pleasant Hill (Cumberland County, C. O. B., 1852).—On the summit of a hill of that name in Scarboro Township, about $2\frac{1}{2}$ miles north-northwest of the west point of the mouth of Spurwink River and upper end of Scarboro Beach, about $3\frac{1}{2}$ miles southwest by south from Portland. The upper road from Scarboro Beach intersects two other roads at points respectively $\frac{1}{4}$ mile south and $\frac{1}{8}$ mile west of the station, and the Boston & Maine Railroad (western division) passes about $\frac{1}{4}$ mile to the westward of the station. The station is marked by an earthen cone set with its top 16 inches below the surface of the ground. The original surface mark, a stake with a nail in its top and centered in the buried cone, has probably disappeared.

Mount Independence (*Blackstrap*) (Cumberland County, A. D. B., 1849; 1912).—On a high hill which is better known locally by the name of "Blackstrap," about 8 miles north of Portland and close to and on the east side of the old road to Gray. The hill is elongated in north-and-south direction and has gentle slopes on all sides except the eastern, which is rather abrupt. The sides are all under cultivation and the top is pasture land. The station is on the highest part of the summit, which is now cov-

¹ See pp. 163 and 164.

ered with clumps of small trees, particularly to the southward. It is best reached from West Falmouth Railroad station (Maine Central Road) by taking the Blackstrap Road through village of Falmouth for about 2 miles to the house occupied by Mr. Gowdy, then turn into a field through a gap in a stone wall and take a faint trail to the summit of the hill. Mr. Gowdy's house is about $\frac{1}{4}$ mile from the old road to Gray. The station is marked by a standard disk marker set in cement in an 18-inch section of terra-cotta pipe and centered over the original subsurface mark, an earthenware cone or cylinder. Around the terra-cotta pipe successive layers of cement, stone, gravel, and cement and clear cement were placed and the whole separated from the subsurface mark by a 2-inch layer of gravel. Two references were also placed as follows: (1) A standard disk witness mark set with cement in a hole drilled in a large boulder is 37.08 meters north by west of the station; (2) at a distance of 13.69 meters east by south of the station a cross was cut on a boulder which is in the line of a dismantled stone fence. Also to the south-southwest of the station the foundation of an old observing tower still remains. Its center is 104.7 feet from the station.

Blackstrap. (See Mount Independence.)

Mount Blue (Franklin County, A. D. B., 1853; 1907).—This mountain is located in Avon Township, about 7 miles south of the village of Phillips and about 11 miles northwest of Farmington. The distances by road are greater. The summit is bare and its elevation gives a commanding view of the country for 60 to 70 miles. The station is 83 feet southwest of and 3.7 feet lower than the highest point of the summit, and is marked according to note 20.¹ Three reference marks are arrows cut in the rock and pointing to the station, and located, respectively, 4.75 meters to the eastward, 5.47 meters to the southward, and 3.03 meters to the westward of the station. The azimuth station of 1907 is identical with the triangulation station.

Mount Pleasant (Oxford County, A. D. B., 1853).—On Pleasant Mountain, which is about 6 miles west of Bridgton and is between 2,000 and 3,000 feet in height. The original station was on the summit of the mountain and was marked by a copper bolt set in the rock about a foot below the surface of the ground. The erection of a new hotel on the summit cut off the line to Mount Blue and it became necessary to change the station point. The new station is 16.922 meters to the southeast of the old one, and on the line to Mount Independence, and is also marked by a copper bolt. It is under the soil made on the rock and is about 4 feet lower in elevation than the old one. The new station is also 86.16 feet from the southwest corner of the hotel and 115.67 feet from the southeast corner of the bowling alley.

SUPPLEMENTARY POINTS.

White Bull (Cumberland County, C. O. B., 1854).—On the small island of that name located in Casco Bay about $3\frac{1}{2}$ miles west northwest of Bald Head and about $\frac{1}{2}$ mile southeast of Ragged Island. The station is about 8 feet north of the highest point of the island and is marked according to note 17.¹

Orr Island (Cumberland County, C. O. B., 1854).—On Byles Point, on a high, long, rocky hill at northeast end of Orr Island, on the road to Sebascadegan, which crosses the bridge a short distance above the station. The station is marked by a hole drilled in the ledge.

Ross, Robert, house chimney (Cumberland County, C. O. B., 1854).—On the northwest side of the road from Brunswick to Mequoits Bay and about $\frac{1}{2}$ mile from the head of the bay. The house is one story, unpainted, with chimney in the center, and faces the southeast, with shed on the north side.

Mare Point (Cumberland County, C. O. B., 1854).—On a high bare rock on the eastern side of Mare Point Neck and about $\frac{3}{4}$ mile from its extreme southern point.

¹ See pp. 163 and 164.

The neck is in the northern part of Casco Bay and lies between Mare Point Bay and Mequoits Bay. The station is marked according to note 17.¹

Litchfield (Cumberland County, C. O. B., 1854).—On a hill located about $\frac{3}{4}$ mile east-southeast of Masts Landing, Freeport River, and about $1\frac{1}{2}$ miles east-southeast of Freeport. The station is on land belonging to George Litchfield, on a high bare rock, and is marked according to note 17.¹

Broken Cove (Cumberland County, C. O. B., 1854).—On the highest and southernmost of the group of rocks known as the Broken Cove Rocks. The one on which the station is located is also known as Brown Cow Island and it lies in the mouth of Broad Sound, Casco Bay, about $\frac{3}{4}$ mile northeast of Jewell Island. The station is marked according to note 17.¹

Green Island 2 (Cumberland County, C. O. B., 1854).—On the most southern of two islands. The station is marked by a hole drilled in the ledge.

Sherman (Cumberland County, C. O. B., 1854).—On a hill on the west side of Freeport River about $\frac{1}{2}$ mile east of Freeport Landing and about a mile southeast of Freeport. The station is on a high bare rock at the summit and is marked according to note 17.¹ The land was then owned by Capt. Sherman who lived north of the station.

Farmington Observatory (Franklin County, C. O. B., 1866).—Reported lost in 1907.

Farmington zenith telescope (Franklin County, C. O. B., 1866).—Reported lost in 1907.

Farmington transit instrument (Franklin County, C. O. B., 1866; 1907).—In 1866 the transit instrument was in a building, 10 by 16 feet, standing on a small knoll just back of the office of Hannibal Belcher and 760.2 meters N. $72^{\circ} 17' 10''$ E. of station Farmington. In 1907 this building was gone. The only surface mark left was the granite monument on which the zenith telescope had been mounted and this was damaged and projected only 18 inches above the ground. The side of the small hill on which it stands has been excavated for road grading and the monument is only a few feet from the edge of the excavation.

Peak (U. S. E.) (Cumberland County, U. S. E., 1911).—On the top of a wooden tower constructed for the support of a searchlight on the Government reservation on the north end of Peak's Island, Casco Bay. The station is marked by a small hole near the southeast corner of the platform. Beneath this hole a rough drill hole in the top of a ledge marks the station on the ground.

High Head Point (Cumberland County, C. O. B., 1850).—On McKenneys Point. The station is marked by a hole drilled in rock.

Lang (Cumberland County, J. A. S., 1868).—On the west side of Back Cove in Lang's pasture, in the first field southeast of Warren Brown's lot. A short distance from the shore of Back Cove there are two apple trees 32 feet apart. In range with these toward the north measure 31.4 feet from the most northerly tree and at right angles with this line in the direction of Back Cove lay off 54 feet. The station is marked by a stone monument and an iron cone, the cone being buried 20 inches below the surface of the ground.

PORLAND TO PORTSMOUTH.

PRINCIPAL POINTS.

Ossipee (York County, A. D. B., 1851; 1858).—On a high hill of that name located in Waterboro Township about 2 miles west from the village of Waterboro Center and $2\frac{1}{2}$ miles south-southwest from North Waterboro. The station is not on the highest point of the hill, another peak to the southwest of it being somewhat more elevated. The station is marked according to note 18.¹

Sand Knoll (Cumberland County, C. O. B., 1850).—On the top of a sand knoll just by a fence which runs over the top of the hill. The center is marked by a cone.

¹ See pp. 163 and 164.

Blue Point Hill (Cumberland County, C. O. B., 1850).—Reported lost in 1912.

Saco Hill (Cumberland County, C. F., 1868).—In the township of Scarboro, about 6 miles north of the village of Saco, on the land of Mr. William Leavitt, who lives about 80 meters east of the station. The station is marked by a cedar post wedged about 1 foot below the surface, with an iron nail in it.

Richmond Island (Cumberland County, C. O. B., 1850).—On the island of that name which lies about $1\frac{3}{8}$ miles southwest of Cape Elizabeth. The station is on a knoll about 150 meters from the shore and about 500 meters from the western end. It is marked by an earthen cone set with its top 14 inches below the surface. The surface mark was a nail in the top of a stake centered in the cone; but this has probably now disappeared.

Gunstock (Belknap County, N. H., A. D. B., 1860; 1878).—In the township of Guilford, about 5 miles in an easterly direction from Laconia, on the land owned by Col. Benjamin F. Weeks, about 2,440 feet above the mean sea level. The ascent of the mountain is quite steep on all sides, but the least steep on the western slope where a road was constructed in the fall of 1859. The station is marked by a copper bolt in the rock at the summit of the mountain. The astronomical observatory was placed about 100 feet to the northward on a bare rock. In 1878 another bolt was placed 0.635 meter from the station in azimuth $271^{\circ} 15'$.

Prouty (Cumberland County, R. B. D., 1905).—On the highest part of the south side of Prouts Neck, a small peninsula at the northern limit of Saco Bay. The station is on a granite boulder about 100 meters from high-water mark. The boulder is about 5 feet in diameter and projects about 3 feet above the ground. It is about $\frac{1}{3}$ way between the path along the top of the rocks and a large gray cottage, the first cottage east of the hotel. The station mark is a cross cut in the top of the boulder.

Stratton Island (York County, C. O. B., 1850).—About the middle of the island. Prouts Neck shows through a natural gap in the woods on the neck. The station is marked by a copper bolt in a hole drilled in the rock.

Jordans Island (York County, C. F., 1868).—Reported lost in 1905.

Jordans Island 2 (York County, R. B. D., 1905).—On Stratton Island which lies about 3 miles southeasterly from Old Orchard Beach and $1\frac{1}{2}$ miles south of Prouts Neck. The station is on a small exposed ledge on the summit of a small knoll in the southern part of Stratton Island and is marked by a cross within a circle cut in the rock. The station is 175 feet from the gateway at the end of a stone fence, and the east end of the hotel on Prouts Neck shows just clear of the back of Mr. Jordan's house.

Holman Point (York County, C. F., 1868).—On land of Mrs. Bunker, in a rocky pasture field and within a radius of 10 meters of position of triangulation station *Fletchers Neck*. The center is marked by a broad flat rock, about 2 feet square, sunk in the soil, and marked by a hole drilled in the surface.

Stage Island (York County, T. J. C., 1851; 1912).—On the highest point of the small island of that name which lies immediately off Cape Porpoise, and about 3 miles east of Kennebunk Port. The station is toward the northeast part of the island and is marked according to note 18.¹ Two reference marks, note 12c,¹ are, respectively, 137.1 feet south-southwest and 91.9 feet west from the station. At low water the flat between the island and the mainland is bare and the station can be reached on foot or by wagon. At other stages of the tide boats can be secured at Cape Porpoise village.

Fairfield Hill (York County, T. J. C., 1851; 1912).—On the hill of that name about $2\frac{1}{2}$ miles north by east from Kennebunk Port, and formerly owned by Nahum Fairfield, whose house stood about 200 meters south of the summit. The ruins and cellar of this house are still visible. To reach the station proceed from Kennebunk Port along the road to Biddeford for about 2 miles and then to the right at Williams, and thence to Fairfield's house. The hill is in a dense wood, and considerable cutting would be

¹ See pp. 163 and 164.

required to reopen the lines to other points. The station is marked according to note 18.¹ The mark was not found in 1912, but probably still exists.

Biddeford (York County, T. J. C., 1851; 1870).—On the coast near the lower end of Fletcher Neck, about $\frac{3}{4}$ mile north-northeast of Fortune Rock, $1\frac{1}{4}$ miles south of mouth of Saco River, $2\frac{1}{2}$ miles east-southeast of Oak Ridge, and about 0.3 mile from the south point of Biddeford Pool. The station is on the east side of the road from Biddeford and about 300 meters from the shore. It is marked according to note 24.¹

Boothbay (York County, T. J. C., 1851; 1912).—On a high knoll at Kennebunk Beach, on a lot fronting on Ridge Avenue, and about $1\frac{1}{2}$ miles west-southwest from Kennebunk Port. The station is marked according to note 18,¹ the rock being about 6 inches below the surface of the ground. A standard disk reference mark is set in an outcrop of rock, at the highest point of the hill, 25.62 meters west by north from the station.

Coles Hill (York County, T. J. C., 1851; 1912).—On the hill of that name about 3 miles southwest of Kennebunk, $1\frac{1}{2}$ miles northeast by north from Wells, and $\frac{1}{2}$ mile northwest from Coles Corner. The station is on the northernmost of three knolls forming approximately an isosceles triangle, and about 0.6 mile west of the point where the Boston & Maine Railroad crosses the road to Kennebunk. It was marked originally according to note 24,¹ but in 1912 a standard disk marker was substituted for the surface mark. It is set in cement in a terra-cotta pipe placed directly over the old subsurface mark. Two reference marks, note 12c¹, are, respectively, 42.45 meters southeast by south and 50.29 meters east-northeast of the station.

Butland Island (York County, H. A., 1867).—On the highest part of Butland Island, 59 paces from a small house bearing northwest from the station and 80 paces from an old building bearing south. The station is marked by a bottle, bottom up, sunk in the ground 2 feet below the surface. A pile of stones was left on the station.

Wells Neck (York County, T. J. C., 1851).—On the outer coast between Wells Beach and Ogunquit Beach, about $2\frac{1}{2}$ miles south of Wells and 1 mile southeast of Webhanet. The station is inside of the triangular space formed by two roads leading to the main road to Kennebunk and the road leading along Wells Beach. It is marked according to note 24.¹

Butland (York County, H. A., 1867).—On Wells Neck, on the south side of the road between Daniel Butland's house and the ocean, 80 paces from the house and 9 paces from the road. The station is marked by a bottle sunk in the ground about 2 feet below the surface.

Donnell (York County, H. A., 1867).—On the west side of the road leading from Ogunquit to Wells village, on the highest part of the highest hill in Henry Donnell's pasture. The station is marked by a black bottle buried about even with the surface of the ground. A pile of stones is placed around it.

Maxwell (York County, H. A., 1867).—Between an old discontinued road and a new road leading to North village from the Ogunquit and Wells road. On the first steep ridge you come to on the south side of the old road. It is 10 paces from a Norway pine bearing west and 38 paces from a spotted white pine bearing northeast. The station is marked by a black bottle sunk 8 inches below the surface. A pile of stones covers the station.

Ogunquit (York County, T. J. C., 1851).—On the east side of a hill about $\frac{1}{2}$ mile north of Ogunquit Beach, $\frac{3}{8}$ mile west of the water separating Ogunquit Beach from the mainland, about a mile south of Ogunquit River, and about 250 meters west of the A. S. L. electric railway to Kennebunk. The station is marked according to note 24.¹ The feet of the braces of the pole signal also had piles of stone about them.

Agamenticus (York County, A. D. B., 1847; 1908).—On a mountain of that name about $10\frac{1}{2}$ miles northeast of Portsmouth, N. H., and about $5\frac{1}{2}$ miles northwest by

¹ See pp. 163 and 164.

north from York Beach, Me. The station is on the highest part of the mountain and is marked according to note 18.¹ When visited, in 1908, it was found that owing to the growth of timber on the summit a considerable amount of cutting or building up would be required to again utilize this station, and hence a new station was established. For its description see *Agamenticus* (2).

Bald Head Cliff (York County, T. J. C., 1851).—In the town of York, on Bald Head Cliff. The station is marked according to note 24.¹ In 1912 it was reported that the station was not found, but it might be recovered by establishing an auxiliary station.

Agamenticus 2 (York County, O. B. F., 1908).—Established in 1908 as a substitute for the original station described above. It is on the southwest side of the mountain and 196.9 meters southwest of the original station and about 25 or 30 feet lower in elevation, but is in a clear space from which a clear view from southeast to southwest is obtained. It is on the northwest half of a large split rock, and is marked according to note 17.¹ An arrow 8 inches long cut in the rock at a distance of 18 inches to the southward of the station serves as a reference mark. Also a large rounded boulder about 50 feet north by east of the station, and with a $\frac{1}{2}$ -inch drill hole in its top, serves as an additional reference mark. A prominent forked pine tree about 8 feet northwest of the station is also useful as a finder. A pine tree and a drill hole in a boulder are, respectively, from the station in azimuth $125^{\circ} 38'$ and $183^{\circ} 03'$.

Dover (Strafford County, N. H., O. B. F., 1908).—On a very prominent bare hill, about a mile south of the center of the town of Dover, and just west of the main road from Dover to Dover Point. There is another road, almost as well used, on the west side of the hill, but the two join just south of the hill on which the station is located. The station is on the highest point of the hill, and is marked by a $\frac{1}{2}$ -inch drill hole in solid rock which is just about flush with the top of the ground. There is a large pine tree about 100 feet southeast, and a grove of pines about 100 yards west of the station. Several large boulders are just south of the station. A large farmhouse with barn is just across the road east of the station. Several houses are on the other road about southwest of the station and beyond the pine grove.

Cape Neddick (York County, T. J. C., 1851).—On the peninsula of that name about $\frac{3}{8}$ mile from its extreme eastern point and about 300 meters from its southern shore. The Cape Neddick Lighthouse is on a small island, known as the Knubble, which lies immediately off the east point of the peninsula. The station is about $\frac{5}{8}$ mile southeast by south from the Ocean House of York Beach and is marked according to note 24.¹ The slim rod projecting above the ground probably no longer exists.

Frost's Hill (York County, T. J. C., 1851).—On the high hill of that name located about $1\frac{1}{2}$ miles east of Piscataqua River, 6 miles north of Portsmouth, 5 miles southeast of Dover, and $\frac{3}{4}$ mile northeast by east of Eliot station of the Boston & Maine Railroad. The station is on the summit of the hill and is marked according to note 24.¹ The road from Kittery to Dover passes about $\frac{1}{4}$ mile to the westward of the station.

Frost (York County, O. B. F., 1908).—On the top of the high hill just north of Rosemary Junction of A. S. L. Ry. (electric) on the road from Portsmouth to Dover and South Berwick, just north of the Boston & Maine Railroad station Eliot. The triangulation station is marked by a $\frac{1}{2}$ -inch drill hole in a rock some 10 feet or more south of the highest part of the hill and 14 meters (paced) east of a fence which crosses the top of the hill. This rock is just flush with the surface of the ground and the drill hole is on the northwest edge and not easily seen. This is the only rock in the immediate neighborhood, hence will be easily found. There is a pine grove on the west side of the hill cutting out all objects in that direction. The south and east sides of the hill and the summit are entirely free from brush and timber. The station is reached best by going almost directly up from the electric railway station; keep to the right of the first house and to the left of the second, going through an orchard after

¹ See pp. 163 and 164.

crossing the east and west road thence to the ridge on the left and up this ridge along a well-worn trail to the summit. A wagon can be driven onto this ridge by coming in from the west side.

School (York County, O. B. F., 1908).—On a ridge about midway between Frosts Hill and Dover Point. To reach station take road south from Eliot railroad station on the Boston & Maine Railroad to first road turning to right, then follow this road and up a small hill with schoolhouse on left just at top of hill, about $\frac{1}{6}$ mile from the main road. The station is marked by a nail in a 2 by 3 inch stake driven 18 inches in the ground and nearly flush with the surface of the ground. The references are as follows: Frye burying ground stone post 103.97 meters from the station, in azimuth $132^{\circ} 22'$; large nail in apple tree northeast 33.77 meters from the station, in azimuth $211^{\circ} 26'$; nail in apple tree southeast 46.55 meters from the station, in azimuth $282^{\circ} 19'$.

Fort (Strafford County, N. H., O. B. F., 1908).—On a very prominent hill on the main road from Dover to Dover Point and about $1\frac{1}{2}$ or 2 miles from Dover Point. On the north side of an old embankment shaped like a fort, on an inclosure preserved by the Daughters of the American Revolution. There is a stone retaining wall along the road and an iron fence around the embankment. The station is marked by a stake, but the reference measurements to the centers of the corner posts of the iron fence will enable any one to redetermine the station as long as the fence remains in position. Beginning with the post southwest from the station and reading around clockwise, the references are as follows: A, 25.52 meters from the station, in azimuth $313^{\circ} 00'$; B, 23.42 meters from the station, in azimuth $4^{\circ} 22'$; C, 9.06 meters from the station, in azimuth $48^{\circ} 02'$; D, 12.44 meters from the station, in azimuth $55^{\circ} 30'$; E, 13.91 meters from the station, in azimuth $105^{\circ} 48'$; F, 3.67 meters from the station, in azimuth $155^{\circ} 05'$; G, 7.32 meters from the station, in azimuth $159^{\circ} 14'$; H, 20.96 meters from the station, in azimuth $244^{\circ} 01'$.

York (York County, T. J. C., 1851).—In the town of York. Going down from York on the north side of the harbor, the station is on a high hill near to and back of a house. The station is marked according to note 24.¹

Went (Rockingham County, N. H., O. B. F., 1908).—About 1 mile from Great Bay, and about $1\frac{1}{4}$ meters from the stone wall bordering the road from Dover to the point just across Great Bay from Fox Point, about 5 meters south of the summit of the highest hill on this road. This is the only prominent hill overlooking all the country and Great Bay to the southward. The station is marked by a $\frac{1}{2}$ -inch drill hole in a small rock face (rough). Two reference marks were cut in the perpendicular faces of very large rocks in the wall bordering the road. The northern one, a cross with lines about 4 inches in length, is 2 meters from the station, in azimuth $206^{\circ} 45'$, the other, a shallow hole, is 1.30 meters from the station, in azimuth $261^{\circ} 30'$.

Leighton (York County, W. B. F., 1900).—Reported lost in 1908.

Leighton 2 (York County, O. B. F., 1908).—On Leighton Point, a rocky point just at the edge of high water. The station is marked by a $\frac{1}{2}$ -inch drill hole in a boulder at the foot of the bank at the high-water line on the most northern point of an eroded bank just across the river from Dover Point. There are two very large boulders nearly down to low-water mark, the larger being very nearly in line between the station and the draw in the railroad bridge over Great Bay entrance. Each boulder has a drill hole about $\frac{3}{4}$ inch in diameter in it. The following are the references: Large boulder, hole, 14.51 meters from the station, in azimuth $38^{\circ} 31'$; small hole 14.55 meters from the station, in azimuth $54^{\circ} 21'$.

Dover Point (Rockingham County, N. H., W. B. F., 1900; 1908).—On Dover Point on the landing or old earth wharf in front of Dover Point Hotel. The station is marked by a granite rock 18 by 6 by 7 inches with a hole drilled in the top, buried in the

¹ See pp. 163 and 164.

ground with its top level with the surface. The edge of the stone wall that makes the north side of the wharf is 12 meters, the edge of the wall on the east side is 8.39 meters, and the edge on the south side of the wharf is 5.84 meters from the station. In 1908 it was reported the station was probably lost.

Patuccawa (Rockingham County, N. H., A. D. B., 1851; 1908).—On the Patuccawa Mountain, which is in the towns of North Deerfield and Nottingham, about 800 feet above the level of the sea. The station is on the highest point of the mountain and on a large rock having a greater slope to the northwest. The station is marked by a $\frac{1}{2}$ -inch iron bolt firmly embedded in the rock at the highest point. The bolt projects about 4 inches from the rock. The nearest railroad station is Lee. About 2 miles from the station is an old and little used road which turns to the left up a steep hill from the main road. This road leads to a farmhouse just south of the mountain. It is about a ten-minute walk from the station to the farmhouse, the foot of the steep part being about $\frac{1}{4}$ mile from the house. It is best to go northeast from the farmhouse to a rock fence at the foot of the steep part. Follow this fence until a little rocky gully is reached (about 100 yards from beginning of steep climb), then follow up this gully. This leads to the summit of the ridge about 100 yards to the eastward of the station. The following are references: Four $\frac{1}{2}$ -inch drill holes are, respectively, 0.51 meter from the station, in azimuth $48^{\circ} 40'$; 0.445 meter from the station, in azimuth $169^{\circ} 40'$; 0.600 meter from the station, in azimuth $284^{\circ} 40'$; 0.605 meter from the station, in azimuth $289^{\circ} 40'$. Three $\frac{1}{2}$ -inch bolts (bent) are, respectively, 1.81 meters from the station, in azimuth $32^{\circ} 20'$; 1.93 meters from the station, in azimuth $160^{\circ} 00'$; 3.015 meters from the station, in azimuth $265^{\circ} 20'$.

Sweats Point (York County, T. J. C., 1851).—On Seal Head Point, about $\frac{1}{4}$ mile west of its extreme eastern point. It is about $\frac{3}{4}$ mile south of York, $\frac{1}{2}$ mile southwest of Sweats or Western Point, and a short distance from the north shore of Godfrey Cove. The station is marked according to note 24.¹ A lone elm tree which is visible from a great distance is near the station.

Upper Birch (Rockingham County, N. H., W. B. F., 1900; 1908).—On Birch Point, the first point below the railroad bridge of the P. & D. R. R., over the branch of the river that goes to Berwick. On a large boulder well embedded in gravel just below high tide on the farthest point down the Piscataqua River (west bank) below the entrance of Great Bay. There is a deep bay just north of the point extending back almost to the railroad. The station is marked by a $\frac{1}{2}$ -inch drill hole in the boulder. There is a higher and apparently larger boulder just back of the one upon which the station is located. It is almost midway between the station and the bank, the latter being 15 feet from the station. There is a large clump of boulders at the extreme sharpest point of the bluff distant 30 feet from the station and toward the north.

Greenacre (York County, W. B. F., 1900).—On the grassy knoll that is just west of the stone wall on the west side of the Greenacre property. It is not on the highest part of hill, but about 50 feet nearer the river bank. The station is marked by a drill hole in large rock sunk 18 inches in the ground, the top being level with the surface. The Greenacre Hotel is about 300 yards from the triangulation station.

Rollins (Rockingham County, N. H., W. B. F., 1900).—On the extreme rocky point of Rollins Point. Station is marked by a drill hole in solid ledge just above high water mark.

Hill (Rockingham County, N. H., O. B. F., 1908).—On the northeast point of most prominent ridge or bare hill just east of the mouth of Great Bay and across the bay and south from Dover Point. To reach the station go west on Fox Point road to first road beyond the main road between Newington and Newington railroad station. This road is a cut-off road from Fox Point to Newington. Enter the yard of the farm just

¹ See pp. 163 and 164.

across the Fox Point road from where this cut-off begins and go some 300 meters to the north at right angles to Fox Point Road, then to the top of the ridge to east or right. The station is at the northeast of the high part of the hill. The station is marked by a $\frac{1}{4}$ -inch drill hole in a rock just visible above the surface of the ground. It is some 10 feet east of a small flat of ground some 6 inches higher. It is 48.02 meters from a stone fence east of the station and 45 meters south of a dilapidated stone fence.

Brooks (York County, T. J. C., 1851).—In the town of Eliot, Me., on the left bank of the Piscataqua arm of the sea, on the ground of Dr. Brooks, who keeps an apothecary and other store in Eliot. It is in his orchard. The station is marked by a brick drilled and sunk deep in the ground. To reach the station go from Portsmouth across the Portsmouth bridge into Eliot and keep the road that hugs the bank of the Piscataqua and follow on until you come into the neighborhood of the highest shipyard on that bank of the Piscataqua, and you will be near Brooks's establishment, and near his house will the station be found.

Huntress (Rockingham County, N. H., W. B. F., 1900).—On Huntress Point, just opposite Boiling Rock, on top of the grassy point. On the ground of W. H. Fay, and just back from a large double pine tree. The station is marked by a drill hole in rock, set in the ground, the top level with the surface. A stub with nail in it is 18 inches below the surface, just under the hole in rock.

Boiling Rock (York County, W. B. F., 1900; 1903).—On the extreme point of Boiling Rock Point, on the land of Capt. E. Paul. The station is just above high-water mark, and is marked by a drill hole in the solid ledge. Just back from the station the rock forms a cliff that is about 30 feet high, with pine trees growing close to the edge. In 1903 the center was recovered, but owing to decomposition of the rock the mark was not easily recognized.

Newington (Rockingham County, N. H., T. J. C., 1851).—In the town of Newington, not far from the meeting houses and on the town lands, in a pasture. The station is marked by a brick, drilled and sunk deep, with a rod coming up to the surface.

Durham (Strafford County, N. H., T. J. C., 1851).—On the west of the Great Bay in the town of Durham, N. H. The station is a high rock up in the pasture belonging to a man named Lightfoot. The station is marked by a copper bolt in the rock. The best way to reach the station is to go from Greenland through Stratham station and Newmarket station; go on to Lamprey River village, cross the river, and take the first right-hand road that leads down toward the bay. Keep that road which will bear around to the left and would carry you on to Durham meeting house. It is on the left-hand side, back in the pasture, high up, and difficult of access.

Cutts (Rockingham County, N. H., W. B. F., 1900).—On Cutts Point, a rounding grassy point making out into the river just opposite the Widow Cole's house in South Eliot. The station is marked by a drill hole in solid rock.

Jones (Rockingham County, N. H., W. B. F., 1900).—On the first rocky point up the river from Freeman Point and on the land of Frank Jones. The station is at the foot of rocky bluff, and marked by a drill hole in the solid rock.

Cole (York County, W. B. F., 1900, 1903).—In the township of South Eliot, on the old earth and stone wharf in front of the house of Mr. Eph Cole, of Kittery, occupied by Mr. Staple. The station is marked by a large stone with drill hole in it, top of stone being level with the surface of the ground. The station is 2.73 meters from high-water line, 5.20 meters from the nearest fence post of the wire fence dividing the Cole property from that of Mrs. Dickson, 16.41 meters from the southwest corner of Coles's house, and 7.93 meters from the sea wall on the east side of the wharf.

Cliff (Rockingham County, N. H., W. B. F., 1900).—On a rocky point on solid ledge just opposite to the lower boat landing in South Eliot. The rock projects out giving a good view up and down the river. The station is marked by a drill hole in solid ledge.

Jake (York County, W. B. F., 1900).—In the township of South Eliot, at the first rocky point down the river from Boiling Rock Point. The station is marked by a drill hole in the solid projecting ledge and is about 7 feet above high water.

Paper (Rockingham County, N. H., O. B. F., 1908).—The center of the large water tank on top of the large paper mill between the river and the Dover branch of the Boston & Maine Railroad just outside of the town of Portsmouth. The tank is very prominent, being about 100 feet above the ground. The mark is an iron form which projects above the roof of the highest building in the mill.

Bridge (York County, W. B. F., 1900, 1903).—On the railroad and carriage bridge across the river between Portsmouth and Kittery, about 150 feet from the draw, toward the Portsmouth side. As the bridge was soon to be repaired this station will be gone. The eccentric station, which is 0.405 meter from the station, was marked by a nail in the plank of the sidewalk.

Toll (Rockingham County, N. H., W. B. F., 1900).—On the point just east of Toll House and on opposite side of Boston & Maine Railroad track. The station is marked by a drill hole in solid ledge 18 inches below the surface of the ground. Above this is a stone with drill hole in top, the top of stone being level with the surface of the ground.

Hurd (York County, W. B. F., 1900, 1903).—On Hurd Point, extreme rocky point, on solid ledge about $2\frac{1}{2}$ feet above high water. The station is marked by a drill hole in solid ledge. There is another sharp rocky point about 100 yards up the river, on the Hurd property.

Kittery Second Methodist Episcopal Church (York County, W. B. F., 1900).—The cupola of the church. The eccentric station was marked by a nail in the floor of the cupola, and is 0.477 meter from the center.

Pepperell (York County, W. B. F., 1900).—The flagstaff on the tower of western cupola of the Pepperell Hotel at Kittery Point.

False (York County, W. B. F., 1900).—On Gerrish Island on the first point north from Billings Point on the inside or northern side of the island, and some 300 yards south of the Whitney cottage, on solid rock ledge. The station is marked by a drill hole 1 inch in diameter and $1\frac{1}{2}$ inches deep.

Newcastle 2 (Rockingham County, N. H., P. A. W., 1898, 1912).—On the highest point of Great Island about 12 feet from the edge of the cliff and some distance south of a bunch of paper birch bushes, on the ledge of rock which forms the top of the hill. The station is marked by a brass standard disk station mark in a drilled hole 2 inches in diameter, triangular in shape, and 4 inches deep. Lead was poured around the mark.

Mark (Rockingham County, N. H., O. B. F., 1908).—On the top of the highest hill about a half mile south of the town of New Market and on the west side of the main road between New Market and Newfields and Exeter. The hill is covered with a dense growth of brush, mostly oak. A large iron water tank is on the spur of the hill about 50 meters east of the station and 40 feet below it. There are trails up the hill from various directions, but from the southeast is a wagon track winding to the water tank. It is grown up with brush, but is the easiest way to walk up. The station is on the top of a large flat rock face, practically a part of the top of the hill, and the highest part large enough to mount an instrument on, and not more than 4 meters west of a rocky ledge. The station is marked by a $\frac{1}{2}$ -inch drill hole in a triangle with 4-inch sides. The reference marks, $\frac{1}{2}$ -inch drill holes, two in pointed rocks a little higher than the station, the other (eastern one) in the rock of the ledge over which one must climb in going directly to the station, are, respectively, 3.825 meters from the station, in azimuth $24^\circ 39'$; 5.785 meters from the station, in azimuth $151^\circ 49'$; 3.255 meters from the station, in azimuth $265^\circ 49'$. There is a stone fence 15 or 20 meters west of the station.

Wood Island (York County, H. S., 1842; 1898).—On the southern end of the island. The station is marked by a hole drilled in the rock.

New Castle (Rockingham County, N. H., H. S., 1842; 1878).—In the town of New Castle, on the highest rock on the island near Mr. Mathew's house. A lone tree is near the rock. The station is marked by a hole drilled in the rock.

Portsmouth Harbor southeast base (Rockingham County, N. H., S. H., 1842; 1912).—On a large rock, 6 feet high, northeast of C. F. Eastman's house. The station in 1898 was marked by a drill hole in the highest point of the rock. In 1912 a standard United States Coast and Geodetic Survey disk station mark was placed in the hole and surrounded by lead. The hole was 2 inches in diameter and 5 inches deep. A standard disk witness mark is set in stone 28.74 meters from the station, in azimuth 208° 37'. A cross cut in the barn foundation is 10.50 meters from the station, in azimuth 18° 39'. The northwest corner of the barn is 10.48 meters and the northeast corner 14.14 meters from the station.

White Island (York County, — 1842; 1898).—On seaward side of large crack in the rock, on the highest part of the island. The station is marked by a hole drilled in solid rock 1½ inches in diameter and 4 inches deep.

Terrace (Rockingham County, N. H., P. A. W., 1898; 1900).—On crest of Jerrys Point battery. The station is marked by stake with tack in center sunk in ground, over which is placed small rock 12 by 14 by 8 inches with hole drilled in upper surface, sunk until level with surface of ground.

Stratham (Rockingham County, N. H., T. J. C., 1851; 1908).—On the east end of the highest part of the summit of Stratham Hill. The Portsmouth and Exeter electric cars pass along the road just north of the hill. The station is marked by a ½-inch drill hole in solid rock which projects a few inches above the ground. A ½-inch iron bolt, the top bent over, is sunk in a large rock just over the top of the hill toward the north. Just west of the station is an old circular summerhouse with a post inside having a brass plate with numerous directions marked upon it. Still farther west is a large flagpole with top mast and well guyed with heavy wire. It is set in solid concrete foundation and is 18 inches in diameter. The following are references: A flagpole 29.68 meters from the station, in azimuth 113° 35'; center of summerhouse 17.30 meters from the station, in azimuth 116° 04'; an iron bolt in rock 8.14 meters from the station, in azimuth 172° 03'.

Pulpit Rock (Rockingham County, N. H., T. J. C., 1851; 1912).—Near the upper watch house belonging to Willis Sands Life Saving Station. The station is marked by a hole drilled in solid rock.

Bunker (Rockingham County, N. H., O. B. F., 1908).—On the summit of the hill known as Bunker Hill some 3 miles north of the town of Exeter and near the town of Stratham. The station is marked by a half-inch drill hole (shallow) in a triangle in a large rock just about flush with the top of the ground and about on the west side of the highest part of the hill. A large split boulder is about 60 feet northeast of the station and a very tall one about southeast.

Isle of Shoals (York County, T. J. C., 1851).—On Appledore Island, the largest and most northern of the Isles of Shoals group. The island in shape resembles a figure 8 and the station is a short distance northwest of the center of its lower section, and about 100 yards west-northwest of the life-saving station. It is marked according to note 18.¹

Appledore (York County, P. A. W., 1898; 1912).—On a large flat rock on the southern side of Appledore Island west of Appledore Windmill triangulation station. The station is marked by a hole drilled in solid rock, 1¼ inches in diameter and 3 inches deep. In 1912 a standard disk station mark was placed in the hole and melted lead poured around it.

¹ See pp. 163 and 164.

Jennis Ledge (Rockingham County, N. H., T. J. C., 1851; 1912).—In the town of Rye, near Jennis Ledge, in a pasture not far from the Farragut Hotel. The station is marked by a hole drilled in a stone, which is sunk in the ground. A rod placed in this hole comes to the surface. In 1912 no surface mark could be found. The field was in grass and it is possible that the underground mark is intact.

Hampton Falls (Rockingham County, N. H., T. J. C., 1851; 1912).—In the town of Hampton Falls on the top of Great Hill. The station is marked by a bolt of copper in a rock. The following are references: Outcropping boulder 87.8 feet from the station, in azimuth $41^{\circ} 03'$; spruce tree on north side of fence 216.3 feet from the station, in azimuth $255^{\circ} 46'$; small boulder rock with arrowhead cut with drill 125.8 feet from the station, in azimuth $291^{\circ} 13'$. Two witness marks are as follows: No. 1, disk witness mark set in stone on north side of stone fence 102.1 feet from the station, in azimuth $163^{\circ} 27' 52''$; No. 2, disk witness mark in large boulder, 183.4 feet from the station, in azimuth $226^{\circ} 18' 42''$.

SUPPLEMENTARY POINTS.

Nason (York County, T. J. C., 1851; 1913).—On a hill about $2\frac{1}{2}$ miles south of Biddeford, about $1\frac{1}{4}$ miles north-northwest of Oak Ridge and about $3\frac{1}{4}$ miles west of the mouth of the Saco River. The road, connecting the Biddeford-Kennebunk Road with that to Kennebunk Port, passes about 200 meters to the westward of the station and joins the latter at a point about 0.3 mile southeast of the station. The station is marked according to note 18.¹ The mark was not found in 1913 owing to the thickly wooded condition, but probably still exists. Considerable cutting or building up would be required to make this station available for future work.

Hoyts Neck (York County, T. J. C., 1851; 1912).—On the neck so named, on a high flat ledge about $\frac{1}{2}$ mile south-southwest of Fortune Rock and the same distance east of Curtis Cove. The station was marked according to note 18.¹ The copper bolt was not found in 1912, but a drill hole $\frac{1}{2}$ inch deep was found near-by and a standard disk reference mark was set therein pending a further search for the bolt.

Prout Neck, Libby house chimney (Cumberland County, C. O. B., 1850).—On Prout Neck, in the pasture of Mr. Thomas Libby, who keeps the hotel.

Curtis Cove (York County, C. F., 1868).—On Curtis Neck, about 1 mile north of Timber Island, directly opposite Curtis Cove, on the east side of Little River. The station is marked by a nail in the center of a wooden post wedged about 2 feet below the surface of the ground.

Ber (York County, O. B. F., 1908).—On the top of the prominent bare hill just southeast of the town of South Berwick, about 100 meters almost due east of the reservoir, which is on the west side of the hill. The station is near the east side of the large flat top of the hill, but on the highest part. The station is marked by a $\frac{1}{2}$ -inch drill hole in a large rock just visible above the surface of the ground. A higher rock projects above the station mark about $1\frac{1}{2}$ feet northwest of it. Two rocks barely visible are, respectively, 4.85 meters from the station, in azimuth $268^{\circ} 01'$, and 6.31 meters from the station, in azimuth $318^{\circ} 41'$. The large stone building of South Berwick Academy is just southwest of the hill. A prominent tree on the south edge of the flat top of the hill is about midway between the lines to Dover and Fort triangulation stations.

Champernowne Hotel cupola (York County, P. A. W., 1898; 1900).—The eastern cupola of Champernowne Hotel.

Woodmans Point (Rockingham County, N. H., T. J. C., 1851).—In the town of Newington, on Woodmans Point jutting into Great Bay, on a ridge little elevated. The station is marked by a brick, drilled and sunk deep, with a slender rod coming up to the surface.

¹ See pp. 163 and 164.

Apex (York County, P. A. W., 1898).—The center of peak of red roofed magazine building near old Fort McClary, about halfway between the Champernowne and Parkfield Hotels.

New Market (Rockingham County, N. H., T. J. C., 1850).—In the town of New Market. The station is marked according to note 24.¹ To reach the station, go to New Market Junction, follow the road to New Market for about a mile, and on the right side will be seen a schoolhouse. Back of this in the pine grove is the station. In 1908 the station was not found, and was reported as probably lost.

Frost Point 2 (Rockingham County, N. H., P. A. W., 1898; 1912).—On Frost Point. The station is marked by a hole drilled in the top of a small rock 4 by 6 feet and 2 feet high back of the shore end of breakwater.

Odiornes Point cupola, Eastman's house (Rockingham County, N. H., P. A. W., 1898; 1912).—The cupola of a red-roofed house belonging to C. F. Eastman. In 1912 the roof of this house was painted gray. There was a red-roofed house about 1 mile from this house, but it had no cupola.

Appledore windmill (York County, P. A. W., 1898).—The windmill on a high tower on northern part of Appledore Island, west of Appledore triangulation station.

Appledore flagstaff (York County, P. A. W., 1898).—The tall flagstaff near the center of Appledore Island, and on highest point of same about 12 feet north of old "John Smith Cairn."

EXPLANATION OF THE SKETCHES.

On the following sketches there are shown the location of all the points whose positions are given in this publication, except those established by the United States and Canada Boundary Survey along the St. Croix River above the International bridge and those in the table of lost positions and the reference marks whose positions are computed, so that the names of all the stations in any locality, except as noted above, may be secured simply by the inspection of a sketch, and then from the index their positions may readily be found in the table of positions. A line of the main scheme is shown as a full line when observed over in both directions and is broken at one end when not observed over from the station at that end of the line. The stations that were occupied are shown by a triangle and the unoccupied stations by a circle. The measured bases are indicated by heavy lines.

On the first of the sketches is shown the general location in the United States of the areas covered by published triangulation which has been rigidly computed on the North American datum. The second is an index map for the sketches which show the triangulation in detail.

If it is desired to locate a station with reference to the topography, its position can be plotted on the United States Coast and Geodetic Survey chart noted at the bottom of the sketch on which the station is shown.

¹ See pp. 163 and 164.

Special Put

1307



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FIG. 2

1, Appendix
Annual
1911; 13,
Special
sewage

INDEX.

Station.	Position.	Description.	Sketch.	Station.	Position.	Description.	Sketch.
A, Monroe Island, steel beacon.	Page. 77	Page. 223	No. 12	B, 1894.	Page. 38	No. 7, 8	
A, 1894.	38		7, 8	B, 1908.	144	22	
A, 1908.	139		22	B, 1911.	76	12	
Aaron.	160			B. C. Preble (U. S. E.).	119	249	19
Abagadasset Point, back range light.	112		17	Babbidges Island, flag in tree.	154		
Abagadasset Point, front range light.	101		17	Babbidges Island, house northeast gable.	88	12	
Abraham's Height.	161			Back Cove.	160		
Abutment (U. S. and C. B. S.).	46	193		Back flag, Quoddy Range.	150		8
Academy, 1884.	83	230	14	Back range light, Abagadasset Point.			
Academy dome spire, Greenland.	148		22	Back River.	112	17	
Academy, large square stone cupola, South Berwick.	142		22	Badgers Island.	100	238	16
Academy spire, Exeter.	149		22	Baggaduce.	161		
Ackley.	55	202	9	Bailey (U. S. and C. B. S.).	43	188	
Ackley's house chimney.	60	210	9	Baileys Island, flag.	158		
Adam.	151		8	Baileys Island, flagstaff.	125	16, 18	
Adams, flag in tree.	161			Bakemans Hill.	80	227	13
Addison Point church spire.	65	214	10	Baker.	82	230	14
Addison Point, west of, easternmost of three trees.	152			Baker Island Lighthouse.	59		11
Adkin's barn, south gable.	113		17	Balcolm (U. S. and C. B. S.).	44		
Agamemtus.	135	254	6, 21	Bald Head.	114	244	16
Agamemtus 2.	135	255	21	Bald Head Cliff.	136	255	
Alder (U. S. and C. B. S.).	32	179	8	Bald Head Cliff, house cupola.	143		21
Algonquin hotel tower.	41	186	7	Bald Hill.	82	230	14
Allan's pine, flag.	150			Bald Island.	79		12, 13
Allen.	104		15	Bangor:			
Allen's flag, 1854.	153			Brick church.	83		6, 14
Allen's flag, 1857.	156			Unitarian Church spire.	95		14
Alley.	56	204	10	Bank.	159		
Alley Island, house northeast chimney.	73		11, 13	Bank's, Job, house chimney.	154		
American House, flagstaff, Portland.	131		19	Bannock.	116	245	6
Ames.	78	224	12	Baptist.	24	166	8, 9
Ames Ledge Lighthouse.	101		17	Baptist Church, Calais.	50		4, 7
Anderson.	43	188	4	Baptist Church, chimney, Crabtree Neck.	72		11
Anderson's, Wm., house chimney, center.	124		16, 18	Baptist Church, Hampden.	95		14
Anley.	27	170	7	Baptist Church, Peaks Island.	128		19
Ant.	101		16, 17	Baptist Church, Pembroke.	37		8
Antoine's chimney.	38	184	8	Baptist Church, southwest spire, Trenton Point.	72		11
Apex.	146	262	21	Baptist Church spire, Augusta.	113		17
Apple Point (U. S. and C. B. S.).	42		7	Baptist Church spire, Bath.	111		16
Appledore.	139	260	21	Baptist Church spire, Biddeford.	140		20
Appledore:				Baptist Church spire, Isleboro.	90		13
Flagstaff.	149	262	21	Baptist Church spire, Kennebunk Port.	141		20
Hotel cupola.	149		21	Baptist Church spire, Milltown (U. S. and C. B. S.).	47		
Windmill.	149	262	21	Baptist Church spire, Rockland.	87		12
Arcus.	26	168	5, 8	Baptist Church, West Harpswell.	125		18
Argyle Hotel.	41		7	Baptist Church, yellow spire, Kittery Point.	146		21
Ariss.	98	238	15, 17	Baptist tower, Portland.	131		19
Arrowseag, red and black flag.	157			Bar (U. S. E.).	116		18
Arrowseag, white flag.	157			Bar Harbor church.	68		11
Arrowseag, Wm. Wetmore's house chimney.	111		16	Bar Island, 1861-1913.	27		7, 8
Arsenal.	159		19	Bar Island, 1863.	70	219	13
Ash.	59	209	11	Barbour.	159		18
Ash Point, flag in tree.	154			Baring School cupola.	28	171	4
Ash Point Island, flag in tree.	154			Barley Ledge Spindle.	91		13
Atlantic House cupola.	142		21	Barley Hill, flag.	154		
Atwell (U. S. E.). (<i>See</i> Otwell.)				Barn.	77		12
Augusta:				Barn cupola.	123		16
Baptist Church spire.	113		17	Barn cupola, double windows with green slats.	143		22
Capitol flagstaff.	113		17	Barn, north gable.	107		15
Congregational Church spire.	113		17	Barn, north gable, Perry.	38		8
Free Will Baptist Church spire.	113		17	Barnard (U. S. and C. B. S.).	51	197	7
Auld.	98		15	Barnes Point.	115		16, 18
Aurora.	52	199	4	Barnes's white house, chimney in center.	124		16, 18
Avery Rock Lighthouse.	55		9				

Station.	Position.	Description.	Sketch.	Station.	Position.	Description.	Sketch.
Barns, flag	151			Bind. (<i>See Bird.</i>)			
Barrack	159		19	Birch	36	183	8
Barrack Chapel spire, Portland (Barracle Chaple on sketch)	131		19	Birch Hill (U. S. and C. B. S.)	44		
Bartlett, 1851	161			Birch Island, flag	158		
Bartlett, 1863	70	219	13	Birch Point, 1854	117	246	18
Bartoe	99	237	16	Birch Point, 1882	61		9, 10
Barton (U. S. and C. B. S.)	48			Birch Point, 1890	29	174	4
Basin, 1866	114		16	Birch, two-hundred-foot hill	152		
Basin, 1868	85	232	12	Bird (Bind on sketch)	80	227	13
Basket (U. S. E.)	117	247	18	Birkmore's barn, south apex	106		15
Basket, flag	159			Birkmore's house, center of chimney	106		- 15
Bass Harbor	70	218	11	Bishop	150		
Bass Harbor Head Lighthouse	70		11	Black beacon	68		11
Bates Island, house chimney	126		18	Black can buoy No. 5 (U. S. and C. B. S.)	33		8
Bath:				Black can buoy No. 9 (U. S. and C. B. S.)	34		8
Baptist Church spire	111		16	Black flag	150		8
Calvinist Church spire	111		16	Black Island	153		11
Central Church spire	111		16	Black, S., house chimney, Lit- tle Deer Island	90		13
Episcopal Church spire	111		16	Black spar buoy No. 1 (U. S. and C. B. S.)	31		8
North Methodist Church spire	111		16	Blackstrap (Mount Independ- ence)	122	250	{ 6, 18
South Methodist Church spire	111		16	Blair	101		17
Universalist Church spire	111		16	Blake Point	80	226	6, 13
Winter Street Church spire	101		16	Blank Point	103	243	15
Batson's house, west chimney	65	214	10	Blin	99	237	6, 17
Battery (U. S. and C. B. S.)	33		8	Blockhouse	41		
Battie Mountain, flag in tree	155			Blockhouse chimney, Fort Scammel	129		
Bayside schoolhouse	44		7	Blue Hill	81	228	5, 6, 13
Beacon	68		11	Blue Hill Bay Lighthouse	74		13
Beacon No. 1	40		7	Blue Hill Congregational Church spire	92		13
Beacon on pier, mouth of Saco River	140		20	Blue Hill Falls, white house, north chimney	75		13
Beacon, St. Andrews west side	40		7	Blue Point Hill	134	253	18, 20
Beale's house chimney	84		12	Blue Point Hill, flag	160		
Beals	57	205	10	Blue Point Hill, south chimney	139		20
Beals:				Bluff, 1869-1913	159		
North church spire	64	213	10	Bluff, 1871	112		17
School cupola	64	213	10	Bluff, 1900	160		
South church spire	64	213	10	Bluff (Capt. Cram's signal 1854)	153		
Beal's, Sam, chimney	110		16	Bluff (St. Croix River)	53	190	4
Bear Hill	78	224	6, 12	Bluff Head Point (U. S. and C. B. S.)	45		7
Bear Island, flag	157			Bluff Point	70	219	13
Bear Island, house chimney	89		13	Blunt's Island	162		
Bear Island Lighthouse, 1870	153			Boathouse Cove	161		
Bear Island Lighthouse, 1902	72		11	Boathouse (Mrs. Dickson's), south gable	145		22
Beck	162			Boathouse, southwest gable	147		22
Bee	58	208	11	Boatswain Hill	162		
Beech	108		15, 17	Bodge	157		
Beech, flag	151			Bog Brook church spire (U. S. and C. B. S.)	45		
Beech Hill, lone tree	154			Bog Creek	54	200	8, 9
Belfast:				Boiling Rock	137	258	22
Methodist Church spire	92			Bois Hubert	58	207	10
Steel ledge monument	92		13	Bolias, John, house chimney	94		14
Wharf cupola	92		13	Boon Island	136		21
Belfry	94		14	Boon Island Lighthouse, 1851	136		21
Belfry dome with clock face, Hampden	95		14	Boon Island Lighthouse, 1900-3	137		21
Bell	152			Boot Head	30	177	8, 9
Bell buoy (U. S. and C. B. S.)	31		8, 9	Boothbay, center brown spire	109		16
Bell house, Pond Island	110		16	Boothbay, center white spire	109		16
Bell tower, Cherry Island	36	183	8	Boothbay Harbor, standpipe	109		16
Bello (U. S. and C. B. S.)	31		8, 9	Boothbay, Hodgdon's house	109		16
Bells Mountain	150			Boothbay	135	254	20, 21
Bens Island, northwest point	123		16	Boulder, opposite Great Spruce Head	90		13
Bennett's house	133		19	Bowden's red house chimney	94		13
Ber	136	261		Bowdoinham brown spire	123		17
Berry's, Gen., house chimney, Parkers Island	110		16	Bowdoinham white spire	123		17
Bibbers Island, flag	158			Bowdoin College Chapel, north turret	125		18
Biddeford	134	254	20	Bowdoin College Chapel, south turret	125		18
Biddeford:				Bowker	100	238	16
Baptist Church spire	140		20				
Congregational Church spire	140		20				
Orthodox Church spire	140		20				
Big Trees (U. S. and C. B. S.)	49	196	7				
Billings	80	226	13				
Billings Hill	162						
Billings Mountain, flag in tree	155						
Billings Point	162						
Billy	53		4				

Station.	Position.	Description.	Sketch.	Station.	Position.	Description.	Sketch.
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Bowker's, Ellis, house.....	111	16		Bull Road bridge, southeast king post.....	157	16	
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Box (U. S. and C. B. S.).....	51	197	7	Bunker, 1908.....	139	260	22
Brackett's cottage, flagpole.....	89	233	12, 13	Bunker Ledge Monument.....	68		11
Bradbury.....	117	247	6, 18	Burke.....	59	208	5, (10, 11)
Bradbury Island, flag in tree.....	155			Burnham, Capt., house chimney.....	62	211	9, 10
Bradley.....	25	167	8, 9	Burns, flag in tree.....	156		
Bragdon.....	69	216	11	Burnt Coat.....	70	219	12
Bragdon Castle.....	95			Burnt Coat Lighthouse.....	74		12
Bramhall.....	122	250	18	Burnt Coat Harbor Lighthouse (same as Burnt Coat L. H.).....			12
Brandy Hill.....	29	174	4, 5	Burnt Cove.....	78	224	12, 13
Breakfast Hill.....	162			Burnt Hill.....	102	242	6, 17
Breakheart Hill, flag.....	156			Burnt Island.....	104		15
Breakwater (U. S. and C. B. S.).....	33	180	8	Burnt Island Life-Saving station.....	104		15
Breakwater, flag.....	152			Burnt Island Light, 1857.....	99		16
Bremen.....	97			Burnt Island Lighthouse, 1902.....	99		16
Bremo.....	97	235	15	Burnt Ledge.....	114	244	16
Brewers belfry.....	95			Burnt Ledge, Jr.....	114		16
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Brick.....				Burton's Hill.....	96	234	15
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Brick house, east chimney.....	105			Bush, 1909.....	129		18
Brick Kilm Cove, flag.....	157			Bush Island, flag.....	157		
Brick spire, Portland.....	133			Bushy top pine.....	160		
Brickyard.....	121			Bushy top tree.....	150		
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Bridge girder southeast corner (U. S. and C. B. S.).....	49			Butland Island.....	135	254	21
Bridge, Portland.....	159			Butland's house, middle chimney.....			
Bridgestone (U. S. and C. B. S.).....	50	197		Butler, 1863.....	142		21
Brig Ledge.....	83			Butler, 1866.....	39	185	7, 8
Bright yellow house, center of chimney.....	107			Butler, 1866.....	114		16
Brimstone Hill.....	105			Butlers Point barn, southwest gable.....	72	221	11
Brimstone Island.....	84	232	12	Butler, red house chimney, near.....			
Brimstone Island, flag in tree.....	154			Butter Island, dead top tree.....	155		
Bristol, red flag.....	156			Byles Point, flag.....	158		
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Brooks.....	137	258	22	C. E. chapel, white cupola, Portland.....	133		
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Brown cupola, Damariscotta.....	112			Grammar School flagstaff (cupola) (U. S. and C. B. S.).....	50		4
Brown Memorial Church.....	108			Milltown church flagstaff (U. S. and C. B. S.).....	50		7
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Comery	97	235	15	Cranberry Island church, spire	72		11
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Gray barn cupola.....	143	22		Hallowell white spire.....	113	17
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Great Duck Island.....	68	216	11	Hampden:			
Great Duck Island Lighthouse.....	68	11		Baptist Church.....	95	14
Great Hill, 1842.....	145	21		Belfrey dome with clock face.....	95	14
Great Hill (Kennebec).....	100	239	16	Church tower No. 1.....	94	14
Great Hill, flag.....	157		Church tower No. 3.....	95	14
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Great Island, flag.....	157		Hampton Falls.....	139	261	21
Great Spool Island.....	71	220	12	Hancock.....	72	221
Great Spruce, flag.....	152		Hancock Union Church spire.....	68	11
Great Spruce head, bowdider opposite.....	90	13		Hannabury.....	26	169	8
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Green, diamond-shaped gable.....	90	13		Hannan.....	52	198	4
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Green Island, 1861.....	151		Hardwood.....	39	185	7, 8
Green Island 2.....	126	252	18	Hardwood flag.....	152	
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Greenland Lake Mountaintain.....	29	4		Harrison (U. S. and C. B. S.).....	47	194
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Green's barn ventilator.....	53	4		Hat Island.....	71	220	12
Gretna Green.....	162		Hatch.....	67	11
Griffiths Head.....	99	238	16	Hatchet Cove, north of, red house chimney.....	104	15
Grindel Point Lighthouse.....	90	13		Hatchet Cove, west shore, white house chimney.....	105	15
Grindstone.....	67	215	11	Hatchet Hill.....	97	15
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Gristmill, 1909 (U. S. and C. B. S.).....	48		Hathorn.....	101	240	17
Grove Street.....	160		Hathorn Hill.....	96	235	15
Grover.....	115	16		Hathorne Hill.....	101	241	17
Gull.....	97	236	15	Hathorn's barn, southeast gable.....	112	17
Gull Rock.....	53	4		Havener's house, center of chimney.....	106	15
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Haycock.....	30	219	13	Hotel cupola, Appledore.....	149	21
Haynes.....	70	181	8	Hotel flagstaff, Ottawa.....	129	19
Head (U. S. and C. B. S.).....	34	177	13	Hotel flagstaff, Sullivan.....	71	220	11
Head Harbor, flag.....	152	177	15	Hotel tower, Algonquin.....	41	186	7
Head of tide church spire.....	93	177	8, 9	Hotel tower apex, Peaks Island.....	128	18
Heath, 1886.....	97	177	15	Houdlette.....	101	240	17
Heath, 1883.....	30	177	15	Houdlette house, red chimney.....	156	—
Heath's house, west chimney.....	106	177	15	House.....	160	—
Hedge.....	53	199	4	House, chimney in center.....	112	17
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Heron Island tree.....	157	199	—	House cupola, Atlantic.....	142	21
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Herring Gut church.....	103	243	15	House with red trimmings, chimney.....	158	7, 8
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Hewets Island, flag in tree.....	154	218	7, 8	Howard's red store, center of chimney.....	106	15
Hibernia Cove.....	27	218	11, 13	Howland.....	52	199	—
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High Head.....	83	231	11	Hovts Ridge.....	61	9
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High Street, tall dark tower, Portland.....	132	239	19	Humphries's barn, apex of ventilator.....	124	16
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Hill (Kennebec).....	100	239	16	Hunting Island, Cape Newages, flag.....	156	—
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Hodgkin's, D., house, east chimney.....	72	185	11	Indian Island, 1888.....	29	174	12, 13
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Holman Point.....	123	253	16	Initial (U. S. and C. B. S.).....	41	185	7
Holmes Bay church spire.....	134	210	9	Initial Monument (U. S. and C. B. S.).....	30	176	4, 5
Holway, 1883.....	55	201	9	Inner ledges spindle.....	89	12, 13
Holway, 1888.....	62	201	10	Inner north beacon.....	86	232	—
Hooper.....	104	210	15	Inner north beacon, eccentric.....	86	12
Hope Island flag.....	159	219	13	Inner north beacon, top.....	86	12
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Hopkins, flag in tree.....	155	219	—	Inner south beacon, top.....	85	12
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Iron Works Mountain.	38	184	7, 8	Kendall Bluff, signal	37		8
Ironbound Island, house chimney.	67		11	Kendall fish house	37		8
Island, 1879.	69	216	11	Kendall Head	37		8
Island, 1909 (U. S. and C. B. S.).	48			Kendall Head Monument	150		8
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Isle au Haut.	76	223	{ 5, 6, 12, 17	Kennebunk Orthodox Church spire.	140		20
Isle au Haut church spire.	85		12	Kennebunk Port	160		
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Isleboro Baptist Church spire.	90		13	Lighthouse.	141		20, 21
Isleboro, prominent tree.	155			Observatory	141		20
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Jameson Point, white house chimney.	87		12	Kittery Point.	161		
Jamison Ledge Beacon.	123		16	Kittery Point Baptist Church, yellow spire.	146		21
Jebaskadiggin, flag.	158			Kittery Point Congregational Church spire.	146		21
Jebeig.	116	246		Kittery Second Methodist Episcopal Church cupola.	138	259	21, 22
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Jennys Nubble.	157		16	Knowlton (1), flag in tree.	155		
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Joes Point.	41		7	Lambs Bluff (U. S. and C. B. S.).	42	186	7
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John B's Mount.	91	233	13	Lanes Island, flag.	159		
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Johns Island, flag, 1859.	156			Lapham.	113	244	17
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Johnson's house, east chimney.	140		20	Large house, north chimney.	84		12
Johnston.	98	236	6, 15	Large house, west chimney.	108		15, 17
Jones, 1863.	93		13	Large standpipe, North Berwick.	142		
Jones, 1900.	137	258	22	Large unpainted house, west chimney.	157		16
Jones, Frank, standpipe.	147		22	Large white house, center of chimney.	86		12
Jonesport church spire.	64	213	10	Large white house, green blinds, west chimney.	87		12
Jordan.	160			Larrabee (U. S. and C. B. S.).	31	178	8, 9
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Kedears Hill.	81	227	13	Ledge (Kennebec).	100	239	16
Keg.	53		4	Ledge (St. Croix). (U. S. and C. B. S.).	49		7
Keg on boulder.	155						
Kehoe.	38	184	8				
Kel.	56	204	10				
Kelley (east of Mount Desert).	57	205	10				
Kelley (St. Croix) (U. S. and C. B. S.).	45	192					
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Kellogg.	115	245	16, 18				
Kendall.	26		8				

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Little Torry Island.....	155	McFarland's, Thomas, house chimney.....	107	15
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Lollys Hill.....	161	McKinley (U. S. E.).....	118	247	19
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Long Cove, coaltower.....	93	234	13	McKinney.....	114
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McMahans pine, flag.	151			Methodist Church.	60	210	9
Macias:				Methodist Church chimney.	156		
Seal Island Northwest Light-house.	60			Methodist Church chimney, Surry.	74		13
Seal Island Southeast Light-house.	54		9	Methodist Church spire, clock, Richmond.	112		17
Town hall cupola.	62	211	9, 10	Methodist Church conical spire, horizontal stripes, St. Johns, Dover.			
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Mackiasport:				Methodist Church, spire, Belfast.	87		12
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Maguerewoc.	28	172	4, 5	Metinic Island, house chimney.	84		12, 15
Mahais Spruce, flag.	150			Middle Street Church, near Willow Street, Portland.	131		
Maker's house, chimney.	60	210	9	Middlemiss.	28	173	19
Mam (U. S. and C. B. S.).	31	178	8	Midrip (U. S. and C. B. S.).	43	188	4
Maple Hill.	96			Mill Cove.	157		16
Mare Point.	125	251	18	Mill Cove, east entrance.	124		16
Marine hospital flag.	130		19	Mill Hill.	161		
Marine Point.	161			Mill River church.	65	215	10
Marine Railway (U. S. E.).	120		19	Millbridge church No. 1.	66	215	10
Mark, 1862.	63	212	10	Millbridge church No. 2.	66	215	10
Mark, 1894.	78	224	12, 13	Miller (U. S. and C. B. S.).	45	192	7
Mark, 1908.	138	259	22	Millers Island.	97		15
Mark Island, 1907.	78	224		Milltown:			
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Mark Island, flag, 1854.	157			Church flagstaff, Calais (U. S. and C. B. S.).	50		7
Mark Island, flag, 1861.	150			Congregational Church spire (U. S. and C. B. S.).	47	196	7
Mark Island, flag in tree, 1861.	154			Cotton mill chimney.	47	196	4
Mark Island, flag in tree, 1868.	153			Grammar school cupola.	47	195	4
Mark Island No. 2.	80		13	Public school brick chimney (U. S. and C. B. S.).	47		
Mark Island Point, spindle.	88		12, 13	Waterworks, chimney.	47	198	4
Mark Island, stone beacon.	126		18	Mine Hill.	24	166	8, 9
Marks Point Lighthouse (U. S. and C. B. S.).	48		7	Minister Island, barn, west end.	151		7
Marks Point Lighthouse, finial (U. S. and C. B. S.).	48		7	Ministerial Island, flag.	158		
Marsh, 1859.	106		15	Mink, flag.	151		
Marsh, 1908.	147		22	Miss Craser's observatory, Portland.	132		19
Marsh (U. S. E.).	117	247	18	Mitchell.	36	183	8
Marshall Island.	71	220	12	Mitchell, flag.	152		
Marshall Point, 1911.	81	227	13	Mitten Mount.	57	205	5, 10
Marshall Point (Herring Gut) Lighthouse.	103		15	Moges.	116		
Marshfield church.	62	212	9, 10	Mohannas.	28	171	4, 5
Martin.	56	203	9, 10	Mohannas Ridge, house chimney (U. S. and C. B. S.).	44		
Martins Point flag.	156			Monhegan.	98		6, 15
Marval.	150			Monhegan fog bell.	104		15
Mascabbin.	151		7, 8	Monhegan Light.	104		15
Mathews.	40	185	7	Monroe Island, flag in tree.	154		
Mathews Hill, flag.	156			Monroe Island, steel beacon (A).	77		12
Matinicus Island, tall scraggy tree.	154			Montseag.	110		16
Matinicus Rock Lighthouse, north.	75		12	Monument, Eastport.	36	182	8
Matinicus Rock Lighthouse, south.	75		12	Monument, Joes Point.	40		7
Maxwell, 1860.	101	240	17	Monument on river bank near Rideout (U. S. and C. B. S.).	43		
Maxwell, 1867.	135	254	21	Moody.	119	248	18, 19
May.	31	179	8	Moose, 1862.	57	205	10
Mayhew's steam sawmill chimney.	95		14	Moose, 1883.	24	165	8, 9
Meadow (U. S. and C. B. S.).	46	193	7	Moose Peak Lighthouse.	63		10
Mediumcook Hill.	97		15	Moose Point, 1862.	155		
Meetinghouse, cupola.	106		15	Moose Point (2), 1911.	81	228	13
Meetinghouse Hill.	120		19				
Mercer's, A., house chimney.	72		11				
Merchant's, H., barn, north gable.	73		11				
Merchants Island, flag.	154						
Meridian.	160						
Meridian mark.	52	198	4, 7				
Merrill.	134		20				
Merryman, flag.	158						

Station.	Position.	Description.	Sketch.	Station.	Position.	Description.	Sketch.
Moose Point barn, southeast gable.....	93	Page. 13		Navy Yard office building, flagstaff, Portsmouth.....	145	Page. 21	
Moose Rock Tripod.....	63	212	10	Navy Yard Prison, tall black chimney, Portsmouth.....	146	21	
Moose-a-bee.....	56	204	5, 10	Neal.....	28	173	4, 5
Moose-a-bee Reach Light.....	66	10	Neck.....	129	18, 19
Morgan.....	71	220	13	Negro Island Lighthouse, 1861.....	155	
Morong.....	34	181	8	Negro Island Lighthouse, 1904.....	79	12, 13	
Morrison.....	30	177	8, 9	Neguasset.....	110	243	16, 17
Morse.....	100	238	16	New barn, north gable.....	62	211	9, 10
Mortons Lookout.....	150	8	New Brunswick, white house, chimney at east end.....	44	
Moseley's, W. F., house chimney.....	72	11	New Castle.....	138	260	21
Moses.....	122	250	19	New Castle 2.....	138	259	21
Moses's house, west chimney.....	150		New Castle:	
Mosquito Harbor (Winter Harbor) Lighthouse.....	67	11	Church, brown cupola.....	108	15	
Mosquito Island.....	96	234	15	Church spire.....	147	21	
Mosquito Island, flag in tree.....	155		Schoolhouse cupola.....	108	15	
Mound (U. S. and C. B. S.).....	46	198	7	Windmill, two tanks.....	147	21	
Mount Battle, hotel cupola.....	89	12, 13	New Meadow Church spire.....	124	16	
Mount Blue.....	122	251	6	New Meadow River No. 1.....	114	16	
Mount Desert.....	59	209	5, 11	New Meadow River No. 2.....	114	16	
Mount Desert, old Congregational Church.....	73	11, 13	New Meadow River No. 3.....	114	16	
Mount Desert Rock Lighthouse.....	67		New Meadow River No. 4.....	114	16, 17	
Mount Ephraim.....	82	229	6, 13	New Meadow spire.....	158	
Mount Harris.....	82	230	6	New North Taby (U. S. E.).....	121	19	
Mount Head. (<i>See</i> Mountain Head).		New South Taby (U. S. E.).....	121	19	
Mount Henry.....	29	175	4, 5	Newbury Neck:	
Mount Independence (Black-strap).....	122	250	6, 18	House, east chimney.....	74	13	
Mount Joy.....	120	250	18	Union Church.....	74	13	
Mount Merritt.....	114	16	White house, south chimney.....	74	13	
Mount Misery.....	119	249	18	Newfields:	
Mount Pisgah.....	99	237	16	Foundry chimney.....	148	22	
Mount Pleasant.....	122	251	6	Methodist Episcopal Church spire.....	148	22	
Mountain Head.....	61	210	9, 10	Universalist Church spire, tall and slender.....	148	22	
Mouse Island Ledge Spindle.....	89	12, 13	Newington:	
Mouth of Saco River, beacon on pier.....	140	20	Railroad station, northwest chimney.....	143	22	
Mowatt.....	38	184	7, 8	Railroad station, southeast chimney.....	137	22	
Mowe, flag.....	151		Square church spire.....	144	22	
Mowes Mountain.....	25	167	8, 9	Windmill, white square base.....	147	22	
Mulholland Point Light (Lubec Narrows Light).....	32	8	Newman.....	58	208	11
Munjoy.....	159		Newmarket.....	148	262	22
Munjoy Hill Observatory, 1852.....	130	19	Newmarket:	
Munjoy Hill Observatory, 1911.....	130	19	High school, white cupola.....	147	22	
Murchie (U. S. and C. B. S.).....	44	190	Large high tank.....	146	22	
Muscongus.....	98	236	15	Northeast chimney.....	146	22	
Muscongus Island, white chimney.....	107	15	Southwest chimney.....	146	22	
Musquash barn, south gable.....	53	199	4	Newport.....	68	218	11
Musquash Mountain.....	52	198	4	Nichols, 1860.....	98	236	15
Muzzy's Wharf.....	120	249	19	Nichols, 1864.....	83	230	14
Narraguagus Lighthouse.....	65	10	Nipps Island.....	150	
Narraguagus River Half-tide Ledge Beacon.....	66	10	No Mans Land.....	75	221	12
Narrows, 1863.....	103	15	Normal School spire, Castine.....	92	233	13
Narrows, 1879.....	59	11	North.....	145	22
Narrows, 1909 (U. S. and C. B. S.).....	46	192	7	North Beacon (U. S. and C. B. S.).....	40	7	
Narrows Mountain.....	62	9, 10	North Berwick:	
Nash Island Lighthouse (old), 1861.....	57	10	Large standpipe.....	142	
Nash Island Lighthouse, 1873 (same as 1902).....	Prominent tall square church spire.....	142		
Nash Island Lighthouse (new), 1902.....	57	10	Small standpipe.....	142	
Naskeag Point.....	153		North buoy.....	86	12	
Nason.....	140	261	North Castine flagstaff.....	92	13	
National flagstaff, Weather Bureau, Eastport.....	35	8	North Church spire, Portsmouth.....	145	22	
Navy Bar Lighthouse.....	40	7	North of Dickey Bluff, house, east gable.....	91	13	
Navy Island.....	27	170	7	North End, north church spire, Deer Isle.....	89	13	
Navy Island barn, southwest gable.....	39	7	North End, south church spire, Deer Isle.....	89	13	
Navy Island Beacon.....	39	7	North fish house, southwest corner.....	124	16	
Navy, North.....	40	7	North Fishing Island.....	161	
Navy, South.....	39	7	North Fox.....	79	225	6, 12, 13
Navy Yard derrick, flagstaff, Portsmouth.....	145	21	North Fox, fish pole.....	154	
				North Haven water tower.....	88	13	
				North Head.....	27	170	7, 8
				North Isleboro, north tank.....	91	

Station.	Position.	Description.	Sketch.	Station.	Position.	Description.	Sketch.
North Isleboro, south tank.....	Page. 91	Page. 35	No. 8	Oldest house in town, tall chimney, Castine.....	Page. 92	Page. 223	No. 13
North Lubec Hotel chimney.....				Oliver's, Widow, house, Parkers Island.....	110	147	16
North Methodist Church, spire, Bath.....	111		16	One, 1903.....	76	103	12
North Navy.....	40		7	One, 1908.....	147		22
North Rock.....	60		9	One-story octagonal cupola.....	103		12
North tank, North Isleboro.....	91			One-story white house chimney, 1860.....	105		15
North Thomaston. (<i>See</i> Thomaston.)				One-story white house chimney, 1835.....	73		11
Northeast fish house, east of unpainted house, west chimney.....	157		16	One-story white house chimney, 1866.....	105		15
Northeast fish house, northwest corner.....	123		16	Orchard.....	160		
Northeast Point Ledges Spindle.....	89		12, 13	Oriant church.....	53	200	
Northport wharf cupola.....	91		13	Orland church spire.....	94		
North's house chimney.....	86		12	Orr.....	115	245	16
Northwest Beacon, west entrance, St. Andrews.....	40		7	Orr Island.....	125	251	16, 18
Northwest Harbor church spire, Deer Isle.....	89		12, 13	Orrington.....	83	230	14
Northwest Harbor parsonage, Deer Isle.....	89		12, 13	Orrington church spire.....	95		14
Northwest Head, Cross Island.....	55	202	9	Orr's, Chas., house, south chimney.....	124		16
Northwest point, white house chimney.....	105		15	Orrs Cove, east entrance.....	123		16
Norton.....	57	204	10	Orrs Cove, head of, flag.....	157		
Norton Island.....	76	222	12	Orrs Hill.....	80	227	13
Norton Island Beacon.....	65		10	Orr's house, center chimney.....	158		16
Norton Island, flag.....	154			Orrs Island, observatory.....	125		16, 18
Norwood.....	98	236	15, 17	Orthodox Church spire, Biddeford.....	140		20
Nubble.....	151			Orthodox Church spire, Castine.....	91		13
No. 3.....	62		9, 10	Orthodox Church spire, Kennebunk.....	140		20
Nut Grove.....	161			Orthodox Church spire, Kennebunk Port.....	141		20
Nut Hill.....	161			Orthodox Church spire, Rye.....	149		21
Oak, 1869.....	180			Orthodox Church spire, Saco.....	140		20
Oak (lower St. Croix).....	26	169	8	Orthodox tall church spire, Greenland.....	148		22
Oak (upper St. Croix).....	28	173	4, 5	Ossipee.....	133	253	6, 20
Oak Head, flag.....	151			Otis, flag in tree.....	155		
Oak Island, flag.....	158			Ottawa Hotel, flagstaff.....	129		19
Oak Point, 1864.....	94	234	14	Otter Cove.....	152		
Oak Point (Blue Hill Bay).....	70	219	13	Otter Island.....	105		15
Oak Point (St. Croix) (U. S. and C. B. S.).....	49		7	Otter Island, black spindle on ledge.....	84		12
Oak Point, red house, west chimney.....	73		13	Otter Island, house chimney.....	105		15
Oakridge.....	140		20	Otwell (U. S. E.) (Atwell on sketch).....	121		19
Oar, flag in tree.....	156			Outer Heron Island, flag.....	156		
Observatory, Calais.....	28	173	4, 5	Outer North Beacon.....	86	232	12
Observatory, Farmington.....	127	252		Outer North Beacon, top.....	77		12
Observatory flagstaff, Dickey Bluff.....	91	233	13	Outer Sand, flag.....	152		
Observatory, Kennebunk Port.....	141		20	Outer South Beacon.....	85	232	12
Observatory, Miss Craser's, Portland.....				Outer South Beacon, top.....	77		12
Observatory, Munjoy Hill.....	132		19	Owen.....	150		
Observatory, Orrs Island.....	130			Owens, flag.....	151		
Observatory, South Isleboro.....	125		16, 18	Owl Head Lighthouse.....	77		12
Observatory, South Portland.....	80			Ox Pasture, flag.....	151		
Observatory, Thomas Hill.....	129		19	Oyster River, flagstaff.....	144		22
Ocean Wave Hotel cupola.....	95	234	14	P. H.	86	232	12
Odens (Ondons) Ledge Beacon.....	148		21	Page.....	26	169	8
Odiorne Point, cupola Eastman's house.....	94		13	Paper.....	137	250	22
Old English Church, Pembroke.....	61		9, 10	Paper Mill, large chimney, Portsmouth.....	145		22
Old house, center of chimney.....	38		8	Park Street Unitarian Church, Portland.....	132		19
Old man.....	107		15	Parker.....	69	218	11
Old normal schoolhouse, Castine.....	60		9	Parker, flag.....	151		
Old Proprietor Spindle.....	92		13	Parker Point.....	94	234	14
Old Road, 1869.....	54	200	9	Parkers Head, flag.....	157		
Old Road, 1885.....	122		19	Parkers Hill.....	160		
Old Road, 1885.....	62		9, 10	Parkers Island.....	99	238	16
Old wharf, west corner spire.....	145		22	Parkers Island, flag.....	157		
				Parkers Island, Gen. Berry's house chimney.....	110		16
				Parkers Island, highest part, flag.....	157		
				Parkers Island, house, chimney, center.....	110		16

Station.	Position.	Description.	Sketch.	Station.	Position.	Description.	Sketch.
Parkers Island, new house, chimney.	Page. 110	Page. 16	No. 16	Pine tree on lower end of island below Hanson Island (U. S. and C. B. S.).	Page. 44	Page. 190	No. -----
Parkers Island, Widow P. Oliver's house.	110	-----	16	Pineo (U. S. and C. B. S.).	44	190	-----
Parkers Point, 1854.	127	-----	18	Pinkham, flag.	153	-----	22
Parkfield Hotel cupola.	146	-----	21	Pinkham's barn, two gables.	143	-----	22
Parkins, (<i>See</i> Perkins.)	-----	-----	-----	Pipe in cairn. (<i>See</i> iron pipe in cairn.)	-----	-----	-----
Parsons Hill, flag.	156	-----	21	Pirington (U. S. and C. B. S.).	46	193	7
Passaconaway Inn, cupola.	143	-----	21	Pittston, spire.	113	-----	17
Patershal Hill.	81	228	13	Placentia Island.	70	218	{ 11, 12, 13
Pattens Bay, white house, east chimney.	74	-----	13	Plains.	162	-----	-----
Patterson.	81	227	6, 13	Plaster Mill chimney, 1860.	33	-----	8
Patterson 2.	91	227	13	Plaster Mill chimney, 1866.	42	-----	7
Patuccawa.	137	257	6	Plaster Point, flag.	152	-----	-----
Payson cottage chimney.	133	-----	18, 19	Pleasant Hill.	122	250	18, 20
Pea Point, flag.	151	-----	-----	Pleasant Island, flag in tree.	154	-----	-----
Peak.	59	-----	11	Pleasant Point.	151	-----	8
Peaked Mount.	71	-----	5, 6	Pleasant Point:	-----	-----	-----
Peaks (U. S. E.)	127	252	19	Church.	37	-----	8
Peaks island:	-----	-----	-----	Church spire.	37	184	8
Baptist Church.	128	-----	19	Flagstaff.	151	-----	8
Hotel tower apex.	128	-----	18	Windmill.	37	184	8
Standpipe (U. S. E.).	127	-----	19	Plummer.	64	214	10
Stirling's barn, west end.	128	-----	19	Plush mill wharf (U. S. E.).	120	-----	19
Pearl.	67	215	11	Point.	147	-----	22
Peekaboo Mountain.	29	175	4, 5	Point A on waste weir (U. S. and C. B. S.).	48	-----	-----
Pemberton Ridge.	29	175	4	Point Esperance.	161	-----	-----
Pembroke.	38	-----	8	Point Leighton.	34	181	8
Pembroke:	-----	-----	-----	Point of Main.	62	-----	9, 10
Baptist Church.	37	-----	8	Pokesheine.	46	193	4
Old English Church.	38	-----	8	Pole Hill.	30	176	4, 5
Schoolhouse belfry.	37	-----	8	Pole Island, flag.	158	-----	-----
Washington Hall.	37	-----	8	Pole near Case.	34	-----	8, 9
Pennsquid.	93	-----	15	Pole on hill.	150	-----	-----
Pennsquid Lighthouse.	107	-----	15	Pomeroy.	119	-----	19
Pendleton.	39	185	7, 8	Pomp.	57	205	10
Pennell's house, north chimney.	124	-----	16, 18	Pomps Ledge Beacon.	64	-----	10
Penobscot.	81	228	13	Pond, 1883.	60	210	8, 9
Pepperell.	138	259	21	Pond, 1913 (U. S. and C. B. S.).	31	179	8
Perkins (Parkins on sketch).	102	242	17	Pond Island, 1854.	125	-----	16, 18
Perkins Island Light.	100	-----	16	Pond Island, 1875.	153	-----	12
Perry.	82	229	13	Pond Island bellhouse.	110	-----	16
Perry:	-----	-----	-----	Pond Island house cupola, flag-staff.	65	215	10
Barn, north gable.	38	-----	8	Pond Island Lighthouse, new.	99	-----	16
Fish house, south gable.	151	-----	7, 8	Pond Island Lighthouse, old.	100	-----	16
House with red door, chimney.	38	-----	7, 8	Pond Island, lone spruce.	90	-----	13
Yellow house, southeast gable, 1863.	39	185	7, 8	Pond Island, north end, white house, north chimney.	153	-----	-----
Yellow house with dormer windows, south chimney.	38	-----	7, 8	Pool, cupola of old warehouse.	140	-----	20
Whitechurch spire.	38	184	7, 8	Poordick church.	130	-----	19
White house on point, chimney.	151	-----	7, 8	Poorhouse (U. S. and C. B. S.).	48	195	8
Perry Pigeon.	151	-----	7, 8	Pope (U. S. and C. B. S.).	33	180	-----
Peterson.	56	203	9, 10	Pope Folly.	151	-----	-----
Pettit, flag.	153	-----	-----	Pope Folly Monument.	150	-----	-----
Petit Manan Lighthouse.	58	-----	10, 11	Poplar, 1871.	112	-----	17
Phippsburg spire.	111	-----	16	Poplar tree.	73	-----	11, 13
Pickering, D., barn, north gable.	144	-----	22	Poppemill (U. S. and C. B. S.).	42	187	-----
Pickering Island, flag in tree.	155	-----	-----	Porcupine.	24	166	8, 9
Pigeon.	58	208	5, 10, 11	Porter.	62	211	9, 10
Pigeon Hill (Penobscot Bay).	78	224	12	Porterfield Ledge Beacon.	78	-----	12, 13
Pigeon Hill Bay:	-----	-----	-----	Portland.	160	-----	-----
East side of two-story house, chimney.	153	-----	-----	American House, flagstaff.	131	-----	19
Head of house, white chimney.	66	215	10	Baptist tower.	131	-----	19
West side of house, chimney.	66	215	10	Barrack (Barracle) Chapel spire.	131	-----	19
Pike (U. S. and C. B. S.).	42	186	7	Brick spire.	133	-----	19
Pine, 1870.	113	-----	17	Bridge.	159	-----	19
Pine, 1871.	111	-----	16, 17	Brown spire.	130	-----	-----
Pine, 1890.	53	-----	4	C. E. Chapel, white cupola.	133	-----	19
Pine, flag, 1854.	157	-----	-----	Casco Church spire.	132	-----	19
Pine, flag in tree, 1859.	156	-----	-----	Casco Street green spire.	132	-----	19
Pine Hill.	161	-----	-----	Cathedral spire.	159	-----	19
Pine Point (U. S. and C. B. S.).	46	-----	-----	Catholic Cathedral.	131	-----	19
Pine Street Methodist Church, Portland.	133	-----	19	Central Church tower.	132	-----	19
				Chestnut Street Church, west spire.	132	-----	19
				City Hall, 1869.	131	-----	19

Station.	Position.	Description.	Sketch.	Station.	Position.	Description.	Sketch.
Portland—Continued:				Prospect Harbor Lighthouse.	Page. 59	No. 11
City Hall, 1911.	131	19	Prospect Hill.	119	
Congress Street, square spire.	132	19	Prout Neck, Libby house chimney.	139	261	20
Congress Street, stone spire.	132	19	Prouty.	134	253	18, 20
Congress Street, Third Parish Church, dark spire.	132	19	Public school, brick chimney, Milltown (U. S. and C. B. S.).	47	
Customhouse, flagstaff.	131	19	Pulp mill, new chimney, Woodland (U. S. and C. B. S.).	45	
Engine house, cupola.	131	19	Pulpit Harbor, church spire.	88	12
Episcopal residence, cupola.	131	19	Purp Rock.	139	260	21
Federal Street Baptist Church, low tower.	131	19	Pumping station (U. S. and C. B. S.).	47	194
Fidelity Building.	131	19	Pumping-station building, northwest corner (U. S. and C. B. S.).	48	
First Parish Church spire.	132	19	Pumpkin Island Lighthouse.	90	13
Free Street spire (Thee Street spire on sketch).	132	19	Quaker, flagstaff.	55	202	9
High Street, tall dark tower.	132	19	Quarantine (U. S. and C. B. S.).	49	195	7
Jail, west gable.	131	19	Quarantine pier, northeast corner (U. S. and C. B. S.).	47	7
Middle Street Church, near Willow Street.	131	19	Quarantine pier, northwest corner (U. S. and C. B. S.).	47	7
Miss Craser's observatory.	132	19	Quarantine pier, southeast corner (U. S. and C. B. S.).	47	7
Park Street Unitarian Church.	132	19	Quarantine pier, southwest corner (U. S. and C. B. S.).	47	7
Pine Street Methodist Church.	133	19	Quarry, 1872.	155	
R. C. Chapel spire.	131	19	Quarry, 1879.	69	216	11
R. C. Reform School.	131	19	Quarry, flag in tree.	155	
St. Dominic's Church.	132	19	Quoddy.	24	166	8, 9
St. Dominic's spire.	132	19	Quoddy range, back flag.	150	8
St. Luke's spire.	132	19	Quoddy range, front flag.	150	8
St. Stephen's tower.	133	19	R. C. Chapel spire, Portland.	131	19
Standpipe, 1911.	131	19	R. C. Reform School, Portland.	131	19
State Street, tall dark spire... Thee Street spire. (See Free Street spire.)	133	19	Raccoon.	96	235	15
Wireless telegraph mast.	128	19	Raccoon Hill.	26	168	8
Portland Breakwater Light-house.	119	18, 19	Rackleys Island.	84	231	12
Portland Head Lighthouse.	119	18, 19	Rackleys Island, flag in tree.	154	
Portland Junction (U. S. E.).	119	19	Ragged Island, 1854.	115	245	16, 18
Portsmouth:				Ragged Island, 1913.	75	221	12
Brewery flagstaff, clock tower	146	22	Ragged Island, northernmost windmill.	83	12
Catholic Church spire.	146	22	Ragged Mountain.	79	225	{ 12, 13 }
Electric Light and Power Works, water tank top.	145	22	Railroad, 1869.	160	
Franklin schoolhouse cupola.	145	22	Railroad, 1909 (U. S. and C. B. S.).	48	
Navy Yard derrick, flagstaff.	145	21	Railroad crossing post (U. S. and C. B. S.).	44	
Navy Yard office building, flagstaff.	145	21	Railroad girder, southwest corner (U. S. and C. B. S.).	43	
Navy yard prison, tall black chimney.	146	21	Railroad station, northwest chimney, Newington.	143	22
North Church spire.	145	22	Railroad station, southeast chimney, Newington.	137	22
Paper mill, large chimney.	145	22	Rake.	63	213	10
St. John's Church, spire.	145	22	Ram Island flag, 1850.	160	
Standpipe.	146	22	Ram Island flag, 1852.	159	
Portsmouth & Exeter Electric Ry., large high tank.	146	22	Ram Island flag, 1854.	160	
Portsmouth Harbor Light-house, 1878.	147	21	Ram Island flag, 1854.	158	
Portsmouth Harbor (New Castle) Lighthouse, 1850-1878.	138	21	Ram Island Ledge Lighthouse.	127	18, 19
Portsmouth Harbor, northwest base.	139	21	Ram Island Lighthouse.	98	16
Portsmouth Harbor, southeast base.	139	260	21	Ramsdell.	55	201	9
Post Hill.	77	223	12	Ramsdell's house chimney, 1883.	61	210	9
Post Hill, flag in tree near.	154	12	Ramsdell's house chimney, 1886.	31	178	8, 9
Pothenot.	54	9	Ranch (U. S. and C. B. S.).	51	197
Poverty Height.	146	22	Randall.	116	18
Powder house.	162	22	Ravens Head, flag.	152	
Power house (U. S. E.).	121	19	Ravine, 1842.	161	
Powers Spruce.	53	4	Ravine, 1863.	54	200	9
Pratt (U. S. and C. B. S.).	42	187	Razor Island.	35	181	8
Pray.	101	17	Recess, flag.	155	
Preble (U. S. E.).	119	249	19	Red.	152	
Prescott's house chimney.	113	17	Red and green hotel cupola.	91	13
Presumpscot.	159	17	Red and white windmill.	91	13
Prince Regents barn, north gable.	36	8	Red beacon.	68	11
Prince Regents Monument.	150	5, 8	Red chimney.	110	16
Prince Regents Redoubt.	26	169	5, 8	Red flag near monument on river (U. S. and C. B. S.).	43	
Prince Bluff, flag.	158	16, 18	Red Hill.	161	
Princess Point.	115	16, 18				
Princess Point, flag.	158	17				
Promenade.	122	250	19				
Prominent tall church spire, North Berwick.	142	19				

Station.	Position.	Page.	Description.	Sketch.	Station.	Position.	Page.	Description.	Sketch.
Red house (U. S. and C. B. S.).	50	50	No.		Rockport:		Page.	Page.	No.
Red house, center of chimney.	107	107	15		Congregational Church, square spire.		88	88	12, 13
Red house chimney, 1866.	105	105	15		Schoolhouse clock tower.		88	88	12, 13
Red house chimney, 1872.	91	91	13		Universalist Church.		88	88	12, 13
Red Island.	36	183	8		Rocky Point.		100	100	16
Red Island, flag.	150				Roduck, flag.		158	174	4
Red Nun Buoy No. 2 (U. S. and C. B. S.)	31		8, 9		Roger.		25		8, 9
Red Nun Buoy No. 4 (U. S. and C. B. S.)	32		8		Rogers.		63	212	10
Red schoolhouse, chimney.	85		12		Rogers, flag.		151		
Red top barn cupola, Dover Point.	144		22		Rogers Point, west chimney of house.		66		11
Red, white, and black flag.	152				Rogue Island, flag.		157		
Redmans Hill.	90	233	13		Rolling Mills.		122		19
Red-roofed house, south chimney.	107		15		Rollins.		137	257	22
Reed.	98		15		Roque.		63	212	10
Reed's, Arthur, house chimney, center.	124		16		Ross, Robert, house chimney.		125	251	16, 18
Reed's, David, house chimney.	112		17		Rotunda Hill.		100	238	16
Reed's chimney.	73		12, 13		Rotunda Hill, flag.		157		
Rich Mountain, flag No. 2.	157				Round (pavilion near Spruce Head).		90	233	13
Richards.	69	217	11		Round Island.		55	202	9
Richardson (near Mount Desert).	69,	217	11		Round Pond, brown church spire.		107		15
Richardson (St. Croix).	34	181	8		Round Pond, white church spire.		107		15
Richmond.	101	240	17		Round Rock (U. S. and C. B. S.).		31	178	8, 9
Richmond:					Russ Island.		88	233	12
Brown church spire, F. W. B. Congregational Church spire.	112		17		Russells Hill, flag in tree.		155		
Methodist Church clock spire.	112		17		Rutherfords Island, flag.		156		
Richmond Island.	112		17		Rye.		27	171	4, 5
Richmond Island, Dr. Cummings's house, chimney.	134	253	18, 20		Baptist Church spire.		148		21
Richmond Island, house cupola.	130		20		Orthodox Church spire.		149		21
Richs Cove, east end.	124		16		Tall church spire.		149		21
Richs Cove, head of.	157		16		Ryefield (Ryefield on sketch).		56	204	10
Richs Mount.	114		16		Saco Hill.		134	253	18, 20
Richs Mount flag.	157				Saco Orthodox Church spire.		140		20
Rideout (U. S. and C. B. S.).	43	189			Saco River, mouth of, beacon on pier.		140		20
Rideout, monument near, on river bank (U. S. and C. B. S.).	43				Saddleback Island.		84		12
Ridge.	159		19		Saddleback Ledge Lighthouse.		76		12
Ridge cupola.	143		22		Sail Rock (U. S. and C. B. S.).		30	178	
Ridge, flag in tree.	158				Sail Rock, highest point (U. S. and C. B. S.).		30		8, 9
Rigby (U. S. and C. B. S.).	42		7		Saint Andrews:				
Right tangent to right corner of pier in stream (U. S. and C. B. S.).					Flagstaff.		151		7
Ripfield. (<i>See</i> Ryefield.)	44				Gray church spire.		41		7
Ripley 2.	58	206	10		House on bluff, chimney.		41		7
Ripley, flag.	152				Short white spire.		40		7
River's house, north chimney.	103		15		Tallest spire, brown.		40		7
Road.	59		11		Saint Andrews Beacon, west side.		40		7
Robbinston (U. S. and C. B. S.).	41	185	7		Saint Andrews Lighthouse.		40		7
Robbinston:					Saint Andrews, west entrance, northwest beacon.		40		7
Spire.	41		7		Saint Bernard.		67	216	11
Two-story yellow house chimney.	39		7		Saint David.		28	173	4, 5
Wharf tide gauge.	41		7		Saint Dominic spire, Portland.		40		7
Robinson Mountain.	69	217	11		Saint Dominic's Church, Portland.		132		19
Robinson Point Lighthouse, 1910.	76		12		Saint George church.		132		19
Robinson's house cupola.	62	211	9, 10		Saint Helena.		96		{ 12, 15
Robinsons Rock.	114	244	16		Saint Helena Island.		38	184	7, 8
Rochester.	160		19		Saint John's Church spire, Portsmouth.		87	232	12
Rock, 1909 (U. S. and C. B. S.).	42	186			Saint John's Methodist, conical church spire, Dover.		142		22
Rockland:					Saint Luke's spire, Portland.		132		19
Baptist Church spire.	87		12		Saint Mary's Catholic, large square church spire, Dover.		142		22
Breakwater Lighthouse.	78		12		Saint Stephens (Saint Stevens): Catholic Church spire (U. S. and C. B. S.).		51		7
Catholic Church.	86		12		Catholic Church spire (U. S. and C. B. S.).		50		4, 7
Church cupola.	87		12		English Church.		12		
Congregational Church.	87		12						
Episcopal Church.	154		12						
First Baptist Church, clock tower.	87		12						
Methodist Church.	87		12						
Steam mill, tall chimney.	87		12						
Universalist Church spire.	87		12						

Station.	Position.	Description.	Sketch.	Station.	Position.	Description.	Sketch.
Saint Stephens (Saint Stevens)—Continued.				Seal Island, pole.....	Page. 155	Page.	No.
Methodist spire (U. S. and C. B. S.).....	Page. 50	Page.	No. 7	Seal Island Southeast Light-house, Machias.....	54	9
Scotch Presbyterian Church (kirk spire) (U. S. and C. B. S.).....	50	7	Sears house, west chimney.....	93	13
Saint Stephen's tower, Portland.....	133	19	Sears house, west chimney, 1862.....	155
Salamander Point.....	147	21	Searspoint church spire.....	104	243	13
Salmon-colored two-story house chimney.....	66	10	Seavey's J., house chimney.....	155	15
Salt Island.....	61	210	9, 10	Seavey's Hill, flag in tree.....	65	10
Salt Works brick chimney, Eastport.....	35	8	Seavey's house, chimney.....	161
Salters Island.....	162	Seabatts.....	116	246	6
Salters Island, tree.....	157	Second Methodist Episcopal Church spire, Kittery Point.....	138	259	21, 22
Samoset Hotel, cupola pole.....	87	Scerip (U. S. and C. B. S.).....	43	188
Sand Knoll.....	134	252	18, 20	Sedgeley.....	112	17
Sand Point (U. S. and C. B. S.).....	43	7	Seguin Lighthouse.....	99	6, 16
Sand Reef Lighthouse.....	40	7	Selwood Factory stack, Eastport.....	36	8
Sands.....	154	Seminary ball spire, Exeter.....	149	22
Sands Point.....	69	216	11	Senter.....	101	17
Sandy Head, flag in tree.....	155	Senter's chimney.....	112	17
Sandy Island, house chimney.....	151	Seven-hundred-acre Island house, west gable.....	89	13
Sandy Point (Machias).....	54	201	9	Seward.....	161
Sandy Point (Penobscot Bay).....	82	228	13	Seward's Neck, tall pine.....	150
Sandy Point:				Seward's summerhouse, center.....	161
East church (Congregational) spire.....	94	13	Shackford.....	150
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Saunders.....	82	229	5, 6	Sharp Top.....	156
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Sawyer.....	63	212	10	Shaws Ridge, tree.....	152
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School flag pole, Lubec (U. S. and C. B. S.).....	32	8	Sheepscot, east side square, barn center.....	109	17
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Schoolhouse cupola, Trenton Point.....	72	11	Silo.....	148	22
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Schoolhouse, Machiasport.....	152	Simpson's J., barn, west gable.....	155
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Scofield, C., house, north end chimney.....	125	16, 18	Sisters Point.....	162
Scotch Ridge church steeple.....	52	198	4	Slope (U. S. and C. B. S.).....	51
Scottaway, L., water house.....	139	20	Slough (U. S. and C. B. S.).....	49	196
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Eculpin (U. S. and C. B. S.).....	33	180	8	Small brown house, chimney.....	65	214	10
Sea Hill.....	161	Small stand pipe, North Berwick.....	142
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Seacoast Co.'s iron stack, Eastport.....	35	8	Small yellow house, center of chimney.....	108	15
Seacoast Factory No. 2, chimney, Eastport.....	35	8	Smalley's Hill, flag in tree.....	155
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Seal Cove.....	70	219	11, 13	Smarts Mountain, flag.....	152
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Seal Island East Lighthouse (old).....	60	Smith (Lower St. Croix).....	34	181	8
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				Smith, John, barn cupola.....	146	22
				Smith, John, house cupola.....	146	22
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				Smiths Mount, flag in tree.....	155
				Smutty Nose Island.....	149	21

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Snows Island, northeast point.	123			16	Square church spire, Newington.	144	22
Snows Island, northwest point.	123			16	Square church spire, prominent, tall, North Berwick.	142	
Snows Rock Beacon.	63			10	Square church spire, Stratnair.	148	22
Somerville church spire.	73			11	Square house.	107	15
South Beacon (U. S. and C. B. S.).	40			7	Square house, south chimney.	67	11
South Berwick:					Square tower church, Deer Isle.	154	
Academy, large square stone cupola.	142				Square unpainted house, chimney.	124	16, 18
Large black tank.	142				Square yellow house, chimney, 1860.	105	15
South Brewer.	95			14	Square yellow house, chimney, 1866.	157	16
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South chimney, house off Kit- tery Junction railroad station.	145			22	Squirrel Island, cupola pole.	109	16
South church spire, Islesboro.	90			13	Squirrel Island, flag.	156	
South Congregational Church spire.	142			21	Squirrel Point (U. S. and C. B. S.).	43	
South Eliot Schoolhouse No. 7, flagstaff.	144			22	Squirrel Point Light.	110	16
South Islesboro Observatory.	80			13	Stable (U. S. and C. B. S.).	51	
South Long Reach, flag.	158				Stage Island.	135	253
South Methodist Church spire, Bath.	111			16	Stage Island Monument, 1850.	160	
South Navy.	39			7	Stage Island Monument, 1895.	134	
South Ortington church spire.	94			14	Stahl.	97	235
South Portland Observatory.	129			19	Standpipe, Boothbay Harbor.	109	16
South Portland standpipe.	130			19	Standpipe, Eastport.	35	8
South Seal Island, pole.	155			13	Standpipe, Exeter.	149	22
South tank, North Islesboro.	91				Standpipe, Frank Jones.	147	22
South Thomaston, white spire.	85			12	Standpipe, large, North Ber-		
South Waldoboro.	97			15	Standpipe, Llubec.	142	
Southeast base, Portsmouth Harbor.	139			21	Standpipe, Peaks Island (U. S. E.).	32	8
Southeast corner beacon (St. Croix River) (U. S. and C. B. S.).	47				Standpipe, Portland, 1911.	127	19
Southeast corner brick pier below Todds Mill (U. S. and C. B. S.).	50				Standpipe, Portsmouth.	131	19
Southeast corner bridge girder (U. S. and C. B. S.).	49				Standpipe, small, North Ber-	146	22
Southeast fish house, south- west corner.	123			16	wick.	142	
Southeast pier in bridge, south- east corner (U. S. and C. B. S.).	48				Standpipe, South Portland.	130	19
Southport Lodge.	99	237		16	Stanley.	153	
Southport, Martin's house.	109			16	Staple's boarding house, chim-		
Southwest corner railroad gir- der (U. S. and C. B. S.).	43				ney.	139	20
Southwest Harbor:					Staple's cupola.	140	20
Church spire.	73			11	Staples Point, flag.	159	
Schoolhouse.	73			11	Star Island.	149	21
Southwest Head (Cross Island).	61	210			Star Island church spire.	149	21
Sparks' house chimney.	94	234		13	Star Island Hotel, flagstaff.	149	21
Spectacle Island.	80	226		13	Starboard.	56	202
Spectacle Island, flag.	151				Starboard Rock.	78	223
Spindle.	159			19	Starwood, flag.	158	
Spinney's, Ephraim, house.	110			16	State Reform School, east tower.	133	
Spinney's, Richard, house.	110			16	State Street.	159	
Spoon, flag.	153				State Street, tall dark spire,		
Sprague (Kennebec).	101	239		17	Portland.	133	19
Sprague (Pleasant River).	152				State Island, flag.	158	
Sprague, flag.	152				Stave, pole with flag in spruce.	153	
Spread Eagle, tree.	158				Steam mill, tall chimney,		
Spring Hill.	29	176	4, 5		Rockland.	87	12
Spring, Point Ledge Light- house.	118		18, 19		Steel beacon A, Monroe Island.	77	12
Springer.	69	217	11		Steel beacon, Crescent Beach.	85	12
Sprout, flag.	156				Steel peacon, Sheep Island.	85	12
Spruce.	53		4		Steel Ledge Beacon, Penobscot Bay.		13
Spruce Head.	155				Steel Ledge Monument, Bel-	93	
Spruce Head 2.	79	225	12, 13		fast.	92	13
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Spruce Point Lighthouse (U. S. and C. B. S.).	46		7		Stinson Point, flag in tree.	154	
Spruce Point Lighthouse, finial (U. S. and C. B. S.).	46		7		Sturgess house. (<i>See</i> Sturgess house.)		
Spurwink church.	130		18		Stirling's barn, west end Peaks Island.		

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Stoddarts Island, tree.....	154	9, 10	Telegraph (U. S. and C. B. S.).....	33	179	8
Stone.....	61	13	Telegraph Hill (Kennebec River).....	102	242	17
Stone beacon.....	91	20	Telegraph Hill (Portsmouth Harbor).....	161
Stone Haven Inn, flagstaff.....	141	20	Telline (U. S. and C. B. S.).....	45	191
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Stone Island Ledge Beacon.....	61	9, 10	Ten.....	154	12
Stone pile, flag.....	156	15	Ten 2.....	76	223	12
Stone Point.....	96	15	Tenants Harbor church.....	96	15
Stone yard.....	159	20	Tenants Harbor Lighthouse.....	95	12, 15
Stone's, C., house, middle chimney.....	141	20	Tenants Harbor spire.....	103
Stone's, Capt. John, barn, east end.....	103	15	Terrace.....	138	260	21
Stone's, J., house chimney.....	104	243	15	Terrace, Portland.....	130	19
Stonington water tower.....	88	12, 13	Thaxton's house, south chimney.....	62	9, 10
Stonyfield (U. S. and C. B. S.).....	41	189	The Cuckolds Lighthouse.....	99	16
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Tall church spire.....	148	22	Thomas Hill.....	83	231	6, 14
Stratton Island.....	134	253	20	Thomas Hill, house cupola.....	95	14
Stroud (U. S. and C. B. S.).....	46	7	Thomas Hill Observatory.....	95	234	14
Stroudwater.....	160	7	Thomas Island, dead tree.....	153
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Stubbs (St. Croix River) (U. S. and C. B. S.).....	47	194	Church No. 5.....	102	15
Sturdivant Island.....	127	18	Church No. 8.....	102	15
Sturgeon Hill.....	161	Low spire of small church.....	102	12
Sturgess's house.....	34	181	8	Low spire with dome roof, clock-faced.....	102
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Sullivan:				Tall white spire.....	102	12
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Sunset (U. S. E.).....	117	18	Thornton Hill, flag.....	160	6
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Surry Methodist Church, chimney.....	74	13	63	213	10	
Sutton Island, flag on barn.....	153	11	Three Islands.....	114	16
Swan Island.....	153	12	Thumcap, flag in tree.....	156	8
Swan Island 1.....	112	244	17	Thumcap Monument.....	150
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Switch lever (U. S. and C. B. S.).....	46	Todd, 1866.....	152	4
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Tall.....	128	19	Todds Mountain, reservoir chimney.....	48	4
Tall chimney, Exeter.....	149	22	Todds Point (U. S. and C. B. S.).....	46	194	7
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Tall church spire, Stratham.....	148	22	Tomah Mountain.....	28	173	4, 5
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Tank, windmill.....	143	22	Townsend Gut, flag.....	156
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Tate.....	115	245	6				
Taylor.....	38	184	7, 8				
Teal's, Adam, house, center of chimney.....	103	243	15				
Tel.....	117	18, 19				
Traf.....							

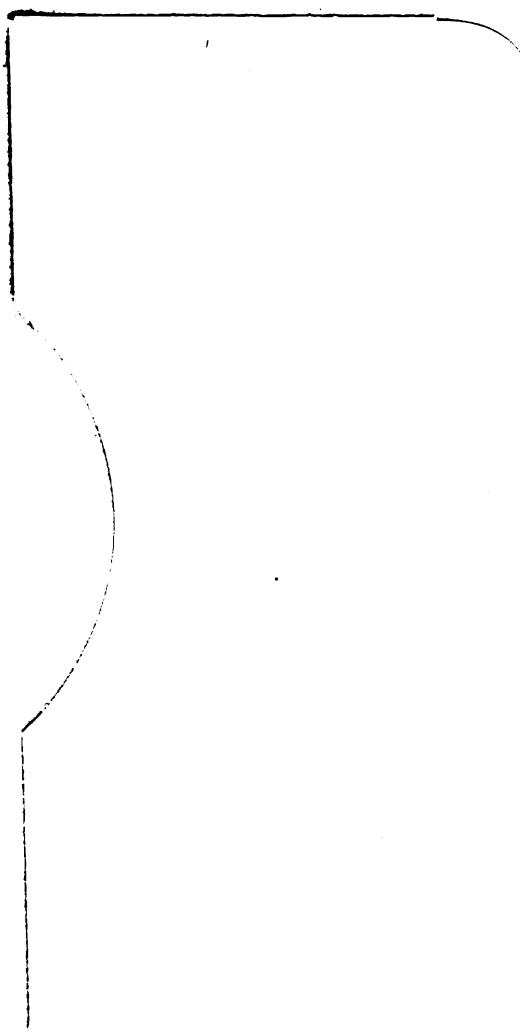
Station.	Position.	Page.	Description.	Sketch.	Station.	Position.	Page.	Description.	Sketch.
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Transit instrument, Farmington	127	252			W (U. S. E.)	122			19
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Treat 2 (U. S. and C. B. S.)	25	167		8, 9	Wadsworth Cove boulder	92	233	13	
Treats	82	229		13, 14	Wainwright	91			13
Tree	158				Waldo	82	229	{ 6, 13, 14	
Tree with tuft, near Fox Rocks	154				Waldoboro:				
Trenton Point	69	217		11	Church spire No. 1	106			15
Trenton Point:					Church spire No. 2	106			15
Baptist Church, southwest spire	72			11	Cupola	106			15
Schoolhouse cupola	72			11	Short spire	106			15
Trescott Rock	24	165		5, 8, 9	Tall white spire	106			15
Trevets	82	229		14	Wallace, 1861	58	207	10	
Trial Hill	161				Wallace, 1883	30	177	8, 9	
Trial Point, flag	154				Wallace's H., barn, west gable.	124			16
Tripod	77			12	Willis Sands Life Saving Station cupola. (<i>See</i> Willis Sands Life Saving Station cupola.)				
Trott	27	170		8	Walls Hill	29	175	4, 5	
Trotts Rock Beacon	127			19	Walls Hill North	29	175	4	
Tucker	59	209		11	Walnut Hill, flag	159			
Tucker 2	59	209		11	Ward	58	206	10	
Tunk (Tunk Mt.)	59	209		5, 11	Wards	160			
Turkey Church	96			6, 15	Warehouse	159			
Turner	66	215		10	Warwig (U. S. and C. B. S.)	49			7
Turner's house chimney, 1861	88			12, 13	Washington Hall, Pembroke	37			8
Turner's house chimney, 1883	60	210		9	Wass	57	206	10	
Turners Island	159			19	Wassons Hill	155			
Turtle Head 2	92			13	Waste Weir Point A (U. S. and C. B. S.)	48			
Twice, pole in spruce	153				Watertank (U. S. and C. B. S.)	49			
Two	147				Water tank finial, Woodland (U. S. and C. B. S.)	45			
Two Bush Island Lighthouse	75			12	Water tower (Portland Harbor)	128			19
Two-story house, ends painted red, chimney, Dyer Bay					Water tower, Cape Small	122			16
Two-story octagonal spire with pillars, Thomaston	153				Water tower, Cushing Island	129			19
Ultima Thule					Water tower, North Haven	88			12
Underwood cannery factory, chimney	64	213		10	Water tower, Stonington	88			12, 13
Union (U. S. and C. B. S.)	49				Water tower, Vinalhaven	85			12
Union Church, Newbury Neck	74			13	Waterhouse, L. Scottaway	139			20
Union Church spire	64	213		10	Waterworks chimney, Mill town	47	196	4	
Union Church spire, Hancock	72	221			Watts, flag in tree	155			
Union Church, Vanceboro	52	198		4	Waukeag Silver Mining Co., barn, red roofed, cupola flagstaff, Sullivan	71	220	11	
Union Church, West Trenton	73			11, 13	Weather Bureau, black signal pole, Eastport	35			8
Unitarian Church spire, Bangor	95			14	Weather Bureau, flagstaff, Eastport	35			8
Unitarian Church spire, Castine	92			13	Weather Bureau, national flagstaff, Eastport	35			8
Unitarian Church spire, Eastport	36	182		8	Webster	81	228	13	
Unitarian Church spire, Kennebunk	140			20	Wells church spire	142			20, 21
United States customhouse, flagstaff, Vanceboro	52	198		4	Wells Neck	135	234	21	
Universalist Church, Rockport	88			12, 13	Wellstown	142			21
Universalist Church spire, Bath	111			16	Welsh's house, Gott Island	73			11
Universalist Church spire, Gardiners					Went	136	256	22	
Universalist Church spire, Rockland	113			17	Wentworth	160			22
Universalist Church spire, tall and slender, Newfields	87			22	Wentworth Height	162			
Unpainted house chimney, Clarks Point	148				Wentworth Hotel, highest cupola, old building	147			21
Upper Basket Island Ledge Beacon (U. S. E.)	42			7	Wentworth's cupola	141			20, 21
Upper Birch	159			18	West Bank	160			
Upper Flag Island, flag	137	257		22	West Bay	115			16
Upper Long Island, flag in tree	158				West Beacon	32			8
V (U. S. E.)	121			19	West Bliss, flag	151			
Vanceboro	52			4	West Church (Universalist), Sandy Point	94			13
Vanceboro:					West Cove wharf, southeast corner				
Union Church spire	52	198		4	West Ear Island, flag	158			16
United States customhouse, flagstaff	52	198		4	West end of barn	130			20
Vance Mountain	29	174		4, 5	West flag, courthouse (U. S. and C. B. S.)	51			7
Vane on tree	158				West gable end of barn (Dyer Bay)	66			11
Vaughn's bridge	122			19	West Graves	121	250		19
Ventilator west gable, Eastport	36			8					

Station.	Position.	Description.	Sketch.	Station.	Position.	Description.	Sketch.
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West Harpewell Baptist Church	125	18		White spire, Bowdoinham	123	17	
West Highfield	160		White spire, center, Boothbay	109	16	
West Lubec church spire (U. S. and C. B. S.)	31	8, 9		White spire, Damariscotta	108	15	
West Point	121	19		White spire, Hallowell	113	17	
West Quoddy Head Light (U. S. and C. B. S.)	31	8, 9		White spire, Machias	82	211, 9, 10	
West Quoddy Light	31	8, 9		White spire, tall, Durham	144	22	
West side of river, house chimney	94	13, 14		White spire, Townsend Harbor	109	16	
West side of St. Andrews, beacon	40	7		White spire, vane, heart and arrows	86	12	
West Sister	162		White spire, Wiscasset	109	17	
West Stockton, white church spire	93	13		White spire, Yarmouth	128	18	
West Stonington church spire	88	12, 13		Whitehead	118	247	18, 19
West telegraph pole	111		Whitehead (Admiral Owens)	151	
West Trenton Union Church	73	11, 13		Whitehead Island, house, east chimney	154	12	
Westbrook spire	160	19		Whitehead Ledge Beacon	128	19	
Western Drunker Ledge Beacon	125	18		Whitehead Lighthouse	76	12, 15	
Western Island	80	226		Whiting, flagstaff	152	8, 9	
Weston Methodist Church	53	199	4	Whitmore	124	16	
Westport flag	156		Whitmore Harbor church spire, Deer Isle	154	
Westport, flag, near schoolhouse	156		Whitmore's house, east chimney	94	234	13
Westport, tall hemlock, flag	156		Whorthy's house, Tower Hill	52	198
Wetmore's, Wm., house chimney, Arrowsag	111	16		Widows Hill	101	241	17
Weymouth Point, marked tree	73	13		Widows Island, hospital cupola	87	12	
Whaleback, 1842	162		Wilbur	35	182	8
Whaleback Lighthouse, 1851	161		Wiley (U. S. and C. B. S.)	44	7	
Whaleback Lighthouse, 1878-98	148	21		William L	37	183	8
Wheeler	68	216	11	Williams	53	200	4
Whidden (U. S. E.)	120	19		Williams (U. S. E.)	118	248	18, 19
Whiddens Derrick	45	7		Williams Island flag	158	
Whipples Hill	161		Willis Sands Life Saving station cupola	148	21	
White (Damariscotta River)	98	236	15, 17	Wilson (Kennebec)	157	241
White (East of Mount Desert)	57	206	10	Wilson (St. Croix River) (U. S. and C. B. S.)	42	187	7
White (St. Croix) (U. S. and C. B. S.)	45		Wilson's Hill	161	
White barn cupola	90	13		Win	108	16	
White barn cupola, 1908	144	22		Wind, 1890	52	199	4
White Bull	124	251	16	Wind, 1911	85	232	12
White can buoy (marked F. H.) (U. S. and C. B. S.)	34	8		Windmill, Appledore	149	262	21
White church spire, Perry	38	184	7, 8	Windmill Rock	161	
White church spire, West Stockton	93	13		Windmill, two tanks, Newcastle	147	21	
White church spire, York Village	143	21		Windmill, white square base, Newington	147	22	
White Congregational spire, Gardiners	113	17		Windmill, yellow, Castine	92	13	
White, flagstaff	143	22		Winslow, Morse	122	16	
White Horse	133		Winter Harbor church	67	11	
White Horse (lower St. Croix)	27	170	7, 8	Winter Harbor (Mosquito Harbor) Lighthouse	67	11	
White house	127	18		Winter Harbor light-keeper's house, chimney	67	11	
White house chimney	105	15		Winter Street Church, Bath	101	16	
White house cupola	105	15		Winterport church clock spire	94	14	
White house on point, chimney, Perry	151	7, 8		Winters Hill	102	242	17
White house, one story, chimney	73	13		Wire Cove Mount	80	226	13
White house, west chimney	62	211	9, 10	Wireless telegraph mast, Portland	128	19	
White house with long L, south chimney	65	214	10	Wireless telegraph pole, east	128	18	
White house with red end, chimney	75	13	Wireless telegraph pole, west	128	18	
White house with red roof, chimney	107	15	Wiscasset, yellow house, on high ground, north of, chimney	109	17	
White house with white roof, chimney	41	7		Wolf	26	169	8
White Island	138	260	21	Wood	71	220	13
White Island (Kennebec)	98	237	15, 16	Wood Island, 1842-1898	138	260	21
White Island (West Penobscot Bay)	85	232	12	Wood Island, flag	157	
White Island Ledge	151	221	12	Wood Island Lighthouse, 1850	134	20	
White Point tower	147	21	Wood Island Lighthouse, 1868-1903	140	20	
White schoolhouse, north chimney	92	13	Woodard	63	212	10
White spire	133	19	Woodbury, John, house, north chimney	130	221	18
				Woodenball	75	6, 12	

Station.	Position.	Description.	Sketch.	Station.	Position.	Description.	Sketch.
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Woodland (U. S. and C. B. S.)	45	191	Yellow Head, 1882	61	9
Woodland:				Yellow house chimney, Clarks Point	42	7
Pulp mill, new chimney (U. S. and C. B. S.)	45		Yellow house chimney, near Foster	37	8
Water tank, finial (U. S. and C. B. S.)	45		Yellow house, east chimney (painted whitish gray in 1913)	62	211	9, 10
Woodmans Point	147	261	22	Yellow house, flagstaff	143	22
Wood's, G. J., house, west chimney	74	13	Yellow house, north chimney	91	13
Woodside, flag	158		Yellow house, southeast gable, Perry	39	185	7, 8
Woodward	102	241	17	Yellow house with dormer windows, south chimney, Perry	38	7, 8
Woodward's barn, ventilator	157	16	Yellow ledge	54	200	9
Woodward's house, cupola	157	16	Yellow red-top cupola	142	
Woodwards Point	150	8	Yellow spire, Yarmouth	128	18
Wooster's, Charles, house chimney	152		Yellow tank, west side Stockton Harbor	93	13
Wooster's, J., house, south chimney	72	11	Yellow windmill, Castine	92	13
Wreck, Long Ledge, off Cape Rosier	91		York, 1851	136	256	21
X (U. S. E.)	121	19	York, 1852	117	247	18
Y (U. S. and C. B. S.)	43	245	16	York church spire	143	21
Yarmouth	115	245	16	York Island, 1868	77	223	12
Yarmouth, white spire	128	18	York village, white church spire	143	21
Yarmouth, yellow spire	128	18	Young (east of Mount Desert)	68	11
Yel.	129	18, 19	Young (St. Croix River) (U. S. and C. B. S.)	50	196	7
Yellow barn cupola	93	13	Young's house, finial on cupola (U. S. and C. B. S.)	50	
Yellow barn cupola, 1908	147	22	Young's, Juddy, house chimney	83	12
Yellow cupola, horizontal stripes	143	22	Zenith telescope, Farmington	127	252
Yellow Head, 1866	98	15				



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