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DEPARTMENT OF COMMERCE AND LABOR  
COAST AND GEODETIC SURVEY  
O. H. TITTMANN, Superintendent

# SURVEY OF OYSTER BARS

## QUEEN ANNES COUNTY MARYLAND

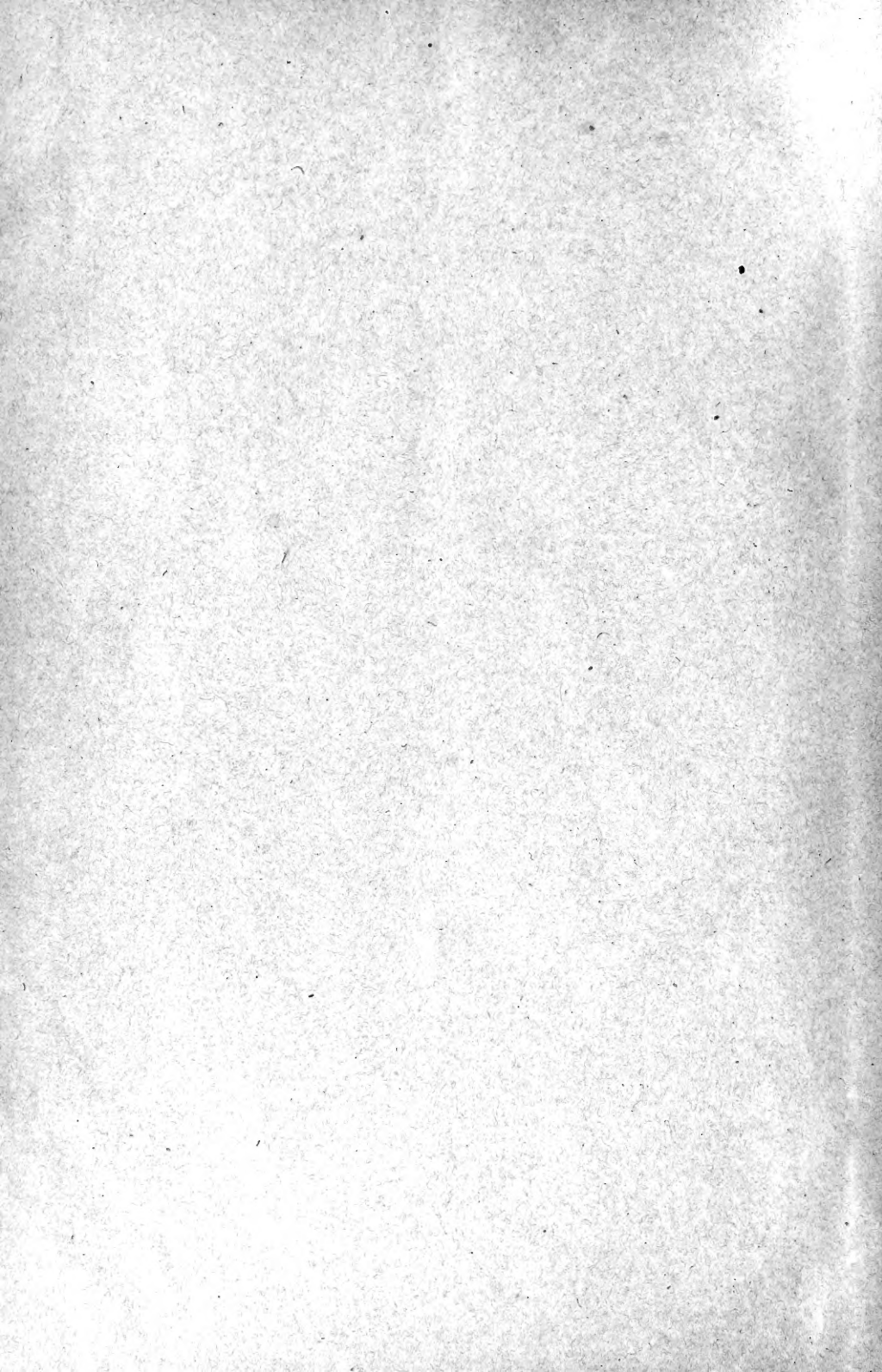
DESCRIPTION OF BOUNDARIES AND LANDMARKS AND  
REPORT OF WORK OF UNITED STATES COAST  
AND GEODETIC SURVEY IN COOPERATION  
WITH UNITED STATES BUREAU OF  
FISHERIES AND MARYLAND  
SHELL FISH COMMISSION

By C. C. YATES

CHIEF OF COAST AND GEODETIC SURVEY PARTY  
ASSISTANT, COAST AND GEODETIC SURVEY



WASHINGTON  
GOVERNMENT PRINTING OFFICE  
1912



DEPARTMENT OF COMMERCE AND LABOR

U. S. COAST AND GEODETIC SURVEY

O. H. TITTMANN, Superintendent

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WASHINGTON  
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## LETTER OF SUBMITTAL.

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DEPARTMENT OF COMMERCE AND LABOR,  
COAST AND GEODETIC SURVEY,  
*Washington, November 29, 1911.*

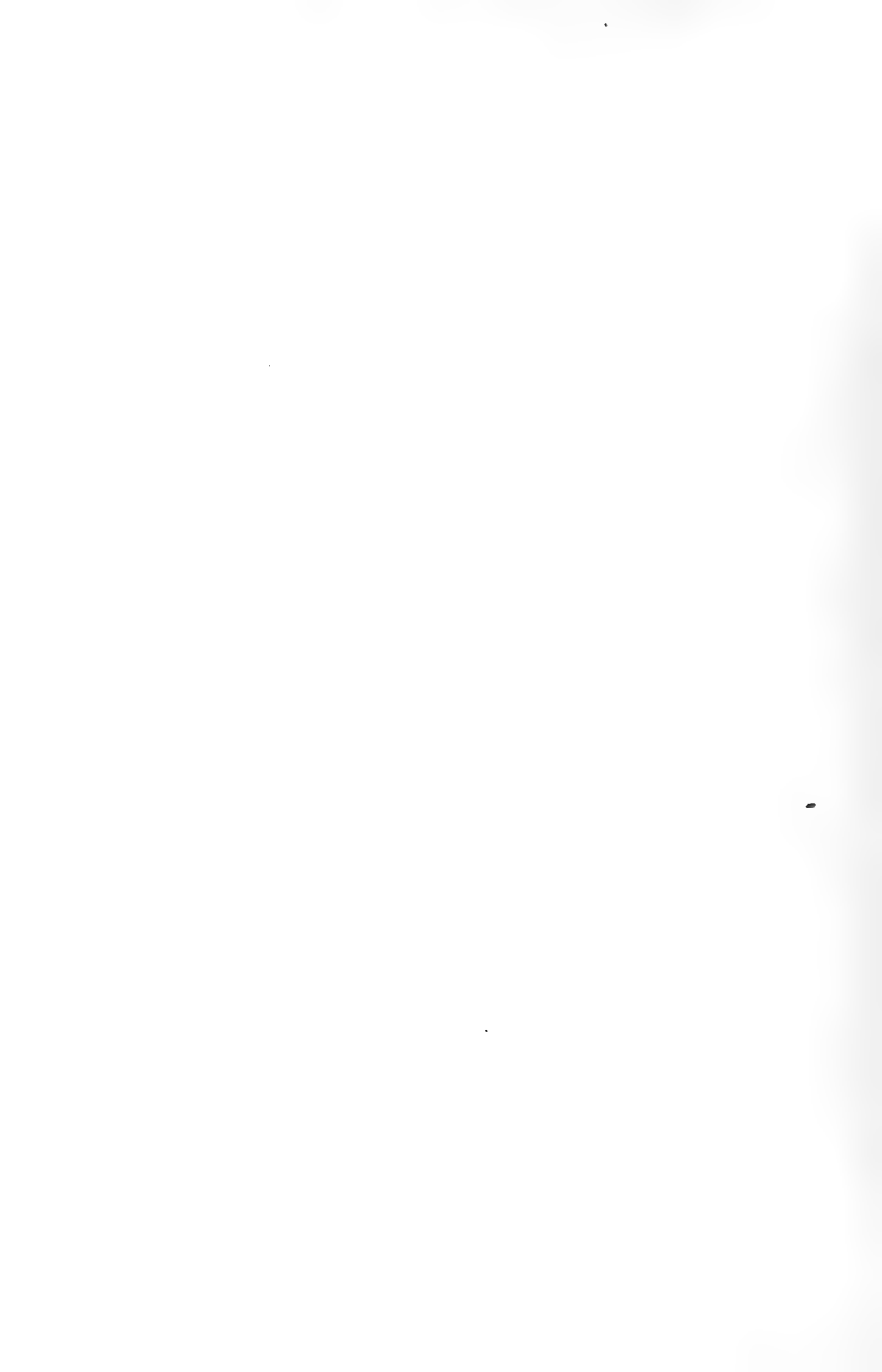
SIR: I have the honor to transmit herewith a report of the officer detailed from the Coast and Geodetic Survey to cooperate with the Bureau of Fisheries and the Maryland Shell Fish Commission in surveying the oyster bars of the State of Maryland, together with certain technical results which are necessary for the interpretation and use of the plats of the survey made by the Government.

This work has been done under the provisions of the act of Congress entitled "An act to authorize the Secretary of Commerce and Labor to cooperate, through the Bureau of the Coast and Geodetic Survey and the Bureau of Fisheries, with the shell fish commissioners of the State of Maryland in making surveys of the natural oyster beds, bars, and rocks in the waters within the State of Maryland," approved May 26, 1906, and of the acts of Congress making appropriations for sundry civil expenses of the Government for the fiscal years ending June 30, 1907, 1908, 1909, 1910, 1911, and 1912.

Respectfully,

O. H. TITTMANN, *Superintendent.*

To Hon. CHARLES NAGEL,  
*Secretary of Commerce and Labor.*



## CERTIFICATION.

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BALTIMORE, MD., *November 28, 1911.*

The following publication is certified to contain correct technical descriptions of all boundaries and landmarks established in Queen Annes County by the Maryland Shell Fish Commission in cooperation with the United States Coast and Geodetic Survey.

C. C. YATES,  
*Chief of Coast and Geodetic Survey Party,  
Assistant, Coast and Geodetic Survey.*

---

BALTIMORE, MD., *November 28, 1911.*

Examined and certified to be correct.

WALTER J. MITCHELL,  
CASWELL GRAVE,  
BENJAMIN K. GREEN,  
*Maryland Shell Fish Commission.*  
SWEPSON EARLE,  
*Hydrographic Engineer.*

NOTE.—Certified copies of this publication and of the charts of the natural oyster bars of Queen Annes County were filed in the office of the clerk of the circuit court of Queen Annes County and in the office of the Board of Shell Fish Commissioners on November 29, 1911.





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# SURVEY OF OYSTER BARS, QUEEN ANNES COUNTY, MD.

## INTRODUCTION.

### PUBLICATIONS.

The preparation of publications relating to the survey of the oyster bars of Maryland has been divided between the Government and the State in accordance with the laws<sup>1</sup> authorizing the work and the natural division of the surveying operations<sup>2</sup> of the cooperating forces.

The publications prepared and issued by the Government under the direction of the Superintendent of the Coast and Geodetic Survey consist of a series of charts and a technical report for each county surveyed.<sup>3</sup> The charts show all legal boundaries of oyster bars within the adopted boundaries of the waters opened up for leasing with each county, and the location of all landmarks (Coast and Geodetic Survey triangulation stations) used as a foundation for the delineation of these various boundaries. The technical report gives technical and legal descriptions of all oyster bar and other boundaries, and descriptions of all landmarks shown on the charts, and includes the report of the representative of the Coast and Geodetic Survey in charge of the work of that service in cooperation with the Bureau of Fisheries and the Maryland Shell Fish Commission. These charts and technical reports are prepared and certified for file with the courts and the Commission, as required by the laws of the State, and contain all information necessary to make a permanent record of the work of the Commission and the Government for all future requirements of the courts, or for any resurveys that may become necessary.<sup>4</sup>

The publications prepared and issued by the State under the direction of the Shell Fish Commission consist of annual reports<sup>5</sup> of all the operations of the Commission performed under the provisions of the laws of Maryland,<sup>6</sup> including results of biological and economic oyster investigations, methods and results of the hydrographic survey of

<sup>1</sup> See Appendix A for laws relating to the cooperation of the Coast and Geodetic Survey and Bureau of Fisheries with the Maryland Shell Fish Commission.

<sup>2</sup> See Appendix C for a summary of the particular surveying operations which constitute an "oyster survey" as now being carried on in Maryland.

<sup>3</sup> These charts and technical reports can be obtained by application to the Superintendent of the Coast and Geodetic Survey at Washington, D. C. The publications now ready for issue are those for Anne Arundel, Somerset, Wicomico, Worcester, Calvert, Charles, St. Marys, Baltimore, Kent, and Queen Annes Counties.

<sup>4</sup> The technical records and charts for each county are published separately on account of the requirements of the oyster-culture laws of the State and the practical considerations which make it desirable to have each county "opened up" for oyster culture as soon as practicable after the completion of its survey. For these reasons and the fact that these reports are each arranged for distribution and use in one county only without reference to other published records, much of the text of this publication is of necessity identical with similar previous publications for other counties.

<sup>5</sup> These reports can be obtained by application to the Shell Fish Commission, Marine Bank Building, Baltimore, Md. They are issued annually in October, and the first, second, and third reports are now available for distribution.

<sup>6</sup> See Appendix B for an extract from the "Second Report of the Maryland Shell Fish Commission," giving a concise summary of the "Haman oyster culture law."

the boundaries of oyster bars and crab bottoms, the administrative report and financial statement of the Commission, information relating to oyster culture, methods of surveying and leasing of oyster lots, and much other important matter of legal and scientific value.

These two sets of publications are planned and arranged to supplement each other without unnecessary duplication, and when combined they form a complete report of operations, methods, and results of the work of both the Government and State.<sup>1</sup>

#### COOPERATION OF THE COAST AND GEODETIC SURVEY.

The work of the Coast and Geodetic Survey, as the name of the service indicates, includes a survey of the coasts of the United States made on a geodetic basis. This has involved the gradual construction of a great framework of interstate triangulation for use as a foundation for detail hydrographic and topographic surveys, from which there has been compiled and published a complete set of charts of the coasts of the United States, including all waters of Maryland where oysters grow. This existing triangulation, hydrography, and topography is essential as a foundation for a correct and practical survey of natural oyster bars; and it being one of the fundamental functions of the Coast and Geodetic Survey to furnish such data, the cooperation of the Coast and Geodetic Survey with the Bureau of Fisheries and the Maryland Shell Fish Commission is a practical and natural development of Government work leading to the conservation and increase of the supply of food.

#### COOPERATION OF THE BUREAU OF FISHERIES.

The Bureau of Fisheries has cooperated with the Coast and Geodetic Survey and the Maryland Shell Fish Commission principally as an adviser in matters relating to the biological and economic survey of oyster bars and the methods to be employed for that purpose.<sup>2</sup> A steam launch, rowing boat, and certain apparatus have also been furnished.

The primary function of the Bureau of Fisheries is to increase the productiveness of marine and fresh waters by such measures as may be best suited to the purpose, and the services rendered in connection with the survey of the oyster bars of Maryland are strictly in line with the fundamental law under which it acts. In certain States other than Maryland similar work has been conducted by the bureau acting independently, the same ends being attained at greater expense to the Government.

#### GENERAL STATEMENT OF WORK OF COAST AND GEODETIC SURVEY.<sup>3</sup>

The results obtained from the work of the Coast and Geodetic Survey in cooperation with the Bureau of Fisheries and the Maryland Shell Fish Commission need very little other summary than is indicated by the published "Charts of Natural Oyster Bars" and the index of hydrographic projections and triangulation stations shown on the county progress maps attached to each report.

<sup>1</sup> See Appendix D of this publication for "Statistics of results of combined operations of the Government and State."

<sup>2</sup> Hon. George M. Bowers, Commissioner of Fisheries, has detailed for this service Dr. H. F. Moore, Assistant, Bureau of Fisheries.

<sup>3</sup> For a detail statement of the very large amount of excellent oyster survey work of the Maryland Shell Fish Commission see the "Annual Reports of the Maryland Shell Fish Commission."

The triangulation has been carried on in accordance with the standard methods of the Coast and Geodetic Survey, making this work and that of the "Descriptions of Triangulation Stations" of permanent value, not only to the State of Maryland in the survey of her oyster bars, but also to the Government for any future work it may do in the regions covered by the oyster-survey operations.

The hydrographic projections and published charts are prepared with all the accuracy permitted by their large scale, especially as to the boundaries of the various shell-fish bottoms in relation to landmarks, but this accuracy of location on the charts is further added to and permanently fixed by published technical descriptions, which should minimize the probability of any future dispute as to either landmarks or boundaries.

Stated another way, and quoting from the report of the "Survey of Oyster Bars of Anne Arundel County":

The geographic positions of the permanent landmarks and signals have been determined with the usual precision of a trigonometric survey, and their locations at all points necessary to provide ample foundation for the surveying and charting operations permitted great accuracy of definition and location for the natural oyster bar and other boundaries established. At the same time, the very important element of permanency of the positions of boundaries has been secured, as the relocation of geodetic positions can always be accomplished by a competent surveyor, even though the original landmarks and monuments have been washed away, as has been the fate of hundreds of such points established by the Coast and Geodetic Survey on the shores of the Chesapeake Bay during the last 65 years.

REPORT OF THE WORK OF THE COAST AND GEODETIC SURVEY IN  
QUEEN ANNES COUNTY.

INSTRUCTIONS.

The following letters, together with the laws<sup>1</sup> of the United States relating to the subject, constitute the "instructions" received by the chief of the Coast and Geodetic Survey party engaged on work in connection with the Maryland Shell Fish Commission. They are short and definite, but furnish ample authority and leeway for all legitimate development of the cooperation of the Government and the State in the survey of oyster bars. The "free hand" permitted by these orders, together with the aid and many valuable suggestions received from the officers of the survey at Washington, have proved very beneficial to the work and are greatly appreciated.

DEPARTMENT OF COMMERCE AND LABOR,  
OFFICE OF THE SECRETARY,  
*Washington, June 2, 1906.*

SIR: In reply to your letter of May 28, requesting me to designate officers of the Coast and Geodetic Survey and of the Bureau of Fisheries to cooperate with the State of Maryland in making survey of and locating the natural oyster beds, I have the honor to inform you that Mr. C. C. Yates will be designated to cooperate on the part of the Coast and Geodetic Survey as soon as Congress makes the provisions of the act effective by providing an appropriation for the purpose.

Respectfully,

LAWRENCE O. MURRAY, *Assistant Secretary.*

His Excellency Hon. EDWIN WARFIELD,  
*Governor of Maryland, Annapolis, Md.*

DEPARTMENT OF COMMERCE AND LABOR,  
COAST AND GEODETIC SURVEY,  
*Washington, July 3, 1906.*

SIR: Upon the receipt of these instructions you will surrender the command, accounts, etc., of the steamer *Endeavor* to the Hydrographic Inspector. \* \* \*

As soon as this transfer is completed you will enter upon the duties of Coast Survey representative on the Shell Fish Commission of Maryland.

You will consult the commissioners, prepare a program of work, and submit estimates in the usual form.

You are authorized to come to Washington for consultation from time to time as may be necessary.

\* \* \* \* \*

Very respectfully,

O. H. TITTMANN, *Superintendent.*

Capt. C. C. YATES,  
*U. S. C. and G. S. Steamer Endeavor, Baltimore, Md.*

ORGANIZATION AND EQUIPMENT.

The personnel and occupation of the party of the Coast and Geodetic Survey have remained practically unchanged since the beginning of the "oyster survey." Besides

<sup>1</sup> For these laws see Appendix A.

the chief of party, it consists of the necessary triangulators, computers, draftsmen, and temporary employees required to carry on both the surveying operations in the field and the preparation for publication of oyster charts and technical records in the office at Washington.

The equipment for the work of the party has been ample and satisfactory. The large living and office quarters furnished the Government on the Maryland Shell Fish Commission house boat *Oyster* have been very convenient for the work, besides facilitating efficient cooperation with the surveying and oyster investigation parties of the State. In addition to the accommodations on the *Oyster*, the Coast and Geodetic Survey party has had the constant use of the large steam launch *Inspector* and several other boats furnished by its own service, and the occasional use of the Bureau of Fisheries launch *Canvasback*<sup>1</sup> and the steamer *Governor McLane*<sup>2</sup> of the State fishery force.

The greater part of the equipment of instruments for the operations of both the Government and State has been furnished by the Coast and Geodetic Survey and consists of all necessary theodolites, levels, sextants, drafting instruments, hydrometers, etc., required for all field and office work.

#### CHRONOLOGICAL STATEMENT OF WORK.

The field work of the Coast and Geodetic Survey in Queen Annes County<sup>3</sup> dates from April 14, 1909, when the Maryland Shell Fish Commission house boat *Oyster* was moved from her winter quarters at Baltimore to an anchorage off Rockhall Landing in Kent County. The surveying operations carried on from this harbor covered a period of about six weeks, in which practically all triangulation was completed on the Chesapeake Bay shores of both Kent and Baltimore counties as well as a considerable part of the same class of work in the mouth of Chester River in both Queen Annes and Kent counties.

On May 26, 1909, the *Oyster* was moved from Rockhall Landing to an anchorage in the upper part of Chester River near Cliffs Landing, where she was used as the headquarters for all the oyster-surveying operations in that region for a little over a month.

On June 30, 1909, the house boat was moved to a temporary anchorage off Queens-town. This date marked the practical completion of the work in Chester River, the triangulation of which was especially notable for the month of June on account of there having been 92 triangulation stations established, these stations all being marked by monuments and signals and their locations described, besides being occupied for theodolite observations.

On July 1, 1909, the house boat *Oyster* was towed by the State steamer *Governor McLane* to Baltimore Harbor, where the following four days, which included a Sunday and a holiday, were spent in taking on coal, water, and other supplies.

On July 6, 1909, the *Governor McLane* again moved the *Oyster*, this time from Baltimore to an anchorage in Queen Annes County in the northern part of Prospect Bay and near the southern entrance to Kent Narrows. From this harbor as headquarters a few additional triangulation observations were made in Kent County, although the greater part of the work was confined to Queen Annes and Talbot counties.

<sup>1</sup> By courtesy of Dr. H. F. Moore, United States Bureau of Fisheries.

<sup>2</sup> By courtesy of Capt. James A. Turner, commanding.

<sup>3</sup> The field work of Queen Annes County was so intermixed with that of Kent and Talbot Counties that the chronological statement of the work in one of these counties necessarily includes a considerable part of the work of the other two counties.

On July 22, 1909, the house boat was again moved to the vicinity of Rockhall Landing to complete certain oyster-survey operations not finished when the *Oyster* was there in the spring. And it was not until August 13, 1909, when the house boat was shifted back to Eastern Bay, near the southern entrance to Kent Narrows, that the work in Queen Annes County was resumed. The *Oyster* remained at this latter anchorage as headquarters for the field work for only two weeks, during which period Governor Crothers, of Maryland, and party visited the house boat and thoroughly examined into the manner and methods by which the work was being conducted.

On August 28, 1909, the *Oyster* was towed to Haddaway Cove, in Talbot County, and work was not resumed in Queen Annes County until October 16, 1909, when the house boat was towed back to Eastern Bay and tied up at the railway wharf at Claiborne. From this latter point as headquarters the triangulation of Eastern Bay and its northern tributaries to the west of Kent Narrows was practically completed.

On October 29, 1909, the *Oyster* moved to an anchorage in a branch of lower Miles River called Tilghmans Creek and the next day completed a month's field work, which was notable as far as triangulation was concerned on account of there having been established, marked, described, and located by theodolite observations over 100 tertiary triangulation stations. Two small parties were engaged on this work during this month, one living on the house boat at Claiborne and the other on shore at Cambridge.

On December 1, 1909, the house boat *Oyster* was moved from Tilghmans Creek to an anchorage off the town of St. Michaels, and from this harbor the remaining triangulation of Wye and Miles rivers was practically completed.

On December 21, 1909, active field work of the Maryland Shell Fish Commission was closed at St. Michaels, but a triangulation signal building party continued work from quarters on shore at Oxford for two days longer.

On December 24, 1909, the field season for the Coast and Geodetic Survey parties was officially closed, the monthly employees remaining on the house boat *Oyster* at Baltimore preparing to lay up the launches and small boats for the winter, and all the officers being on leave from the 25th to 31st.

No further field work was done in Queen Annes County until March 14, 1910, when a small party was put in the field to complete certain necessary details of triangulation in Queen Annes and Talbot counties. This party first went to St. Michaels and then to Oxford, where it joined the main party on the house boat about the end of April.

The next and last field work in Queen Annes County covered only a few days' period, commencing November 7, 1911, when an officer was detailed to check up and obtain certain details relating to the description of triangulation stations required for the technical publication covering the survey of oyster bars of Queen Annes and Talbot counties.

The office work connected with the oyster survey of Queen Annes County, including compilations of geographic information and drafting necessary for the preparation for publication of the oyster charts and the technical records of that county, was continued intermittently with the office work of other counties from the beginning of the field work in Queen Annes County to the time of filing of the certified oyster charts and technical publications in the archives of the Maryland Shell Fish Commission and with the clerk of the circuit court of Queen Annes County on November 28, 1911.

STATISTICS.<sup>1</sup>

Landmarks and triangulation signals erected.....	186
Monuments planted to mark triangulation stations.....	183
Triangulation stations occupied for observations of horizontal angles.....	178
Old triangulation stations recovered.....	15
New triangulation stations established.....	184
Total old and new triangulation stations marked and described.....	199
Linear miles of shore line covered by triangulation (approximate).....	240
Square miles covered by triangulation (approximate).....	500
Hydrographic projections prepared and completed as records of oyster boundaries.....	12
Triangles computed.....	380
Geographic positions computed.....	190
Corners of oyster boundaries established by computation.....	540
Back azimuths and distances computed from corners of boundaries to triangulation stations.....	1,620
Descriptions of triangulation stations prepared for publication.....	199
Descriptions of oyster boundaries prepared for publication.....	98
"Charts of Natural Oyster Bars" prepared for publication.....	4
Progress map prepared for publication.....	1

GENERAL REMARKS.

Before ending this report the representative of the Coast and Geodetic Survey wishes to renew his statement of appreciation of the courteous assistance received from various Government and State officials and others interested in the oyster industry of Maryland, especially to the following:

To his colleague from the Department of Commerce and Labor, Dr. H. F. Moore, of the Bureau of Fisheries, whose well-known scientific knowledge of all matters relating to oysters has been of great value to the work.

To Mr. Walter J. Mitchell, chairman of the Maryland Shell Fish Commission, who, by his administrative ability in carrying out the complicated requirements of the oyster laws and by his unfailing tact, has made the cooperation of the various services engaged on the work both agreeable and effective.

To Dr. Caswell Grave, secretary of the Commission, who, as editor of the Commission's annual report and commissioner in charge of the biological and economic oyster investigations, has been brought into constant contact with the Government work and aided its operations in every way.

To Mr. Benjamin K. Green, treasurer of the Commission, who has looked after the equipment and commissary of the house boat in such a way as to add greatly to the comfort and convenience of the party of the Coast and Geodetic Survey.

To Mr. Swepson Earle, hydrographic engineer to the Commission, whose knowledge of the work from former service in the Coast and Geodetic Survey has greatly facilitated his practical use of the technical data furnished by the Government.

And to the many others connected with the Commission or who as residents in the locality where the work was being carried on have greatly assisted by furnishing important information or willing services.

<sup>1</sup> These statistics only include field and office work directly performed by the party of the Coast and Geodetic Survey in connection with the oyster survey of this county, and do not include the many thousands of soundings and examinations of the character of the bottom made by the engineers of the commission, which are of considerable value to the Coast and Geodetic Survey as hydrographic records for future use in connection with the preparation of new editions of charts of the waters of Maryland. See Appendix D of this publication for "Statistics of results of combined operations of the Government and the State."

## CHARTS AND MAPS.<sup>1</sup>

### CHARTS OF NATURAL OYSTER BARS.

The charts of the natural oyster bars of Queen Annes County published by the Coast and Geodetic Survey from results of the surveys of the Government in cooperation with the Maryland Shell Fish Commission consist of four sheets covering all the oyster-producing waters of that county. They are published on the large scale of 1 part in 20,000 (approximately  $3\frac{1}{16}$  inches to a statute mile) and are constructed on polyconic projections; and all information shown on them is based on the United States standard datum of the Coast and Geodetic Survey.

These charts show all oyster bars and other boundaries established by the Commission, and are certified for the purpose of filing in the office of the clerk of the circuit court of Queen Annes County and in the office of the Maryland Shell Fish Commission, as required by the oyster laws of Maryland.

In addition to the oyster bar and other boundaries, the charts show the location and name of all landmarks (United States Coast and Geodetic Survey triangulation stations) used in making the survey, together with the hydrography and topography<sup>2</sup> necessary to make the technical definitions and delineations of boundaries readily understandable both by the people engaged in the oyster industry and the general public who may become interested through leasing of barren bottoms for oyster culture.

The names of the oyster bars are those used locally, as nearly as could be ascertained by the hydrographic engineer of the Commission. When there was no local name in common use, a name was selected from one of the prominent features of the vicinity. By the use of recognized names or those that would naturally suggest certain sections of water, it is believed that much confusion will be avoided in the location on the charts of the oyster bars, especially by those not familiar with the use of maps.

The corners of the oyster bars are numbered from 1 to the total number of corners in each area under consideration. Where boundaries adjoin, making one point a corner of two or more oyster bars, these points have two or more numbers, each number corresponding to the bar in which the figure is located. The numbers of the corners correspond with the technical and legal descriptions of this publication under the heading "Boundaries of natural oyster bars."

The landmarks and oyster bars have been grouped in the "Contents" of this publication in accordance with the charts upon which they are shown. To find a particular oyster bar or landmark which is only known by name, consult the "Contents" and the desired chart and general location will be indicated. To find the name of a bar or

<sup>1</sup> These charts can be obtained by application to the Superintendent of the Coast and Geodetic Survey, at Washington, D. C.

<sup>2</sup> Much of the detail of the inshore topography was obtained from the excellent map of Queen Annes County, prepared and published by the Maryland Geological Survey under the direction of Dr. William Bullock Clark from surveys of the Maryland Geological Survey in cooperation with the United States Geological Survey.



landmark which is only known by location, consult the progress map at the end of this publication for the number of the chart on which it is to be found, and then examine the known locality on the chart for the name of the bar or landmark in question.

The contours on the charts showing the depth of water at mean low tide have been taken from the hydrographic sheets of former work of the Coast and Geodetic Survey. Four curves were selected as being the most convenient for taking off from the original hydrographic sheets and the ones of greatest value to those interested in shell fish industries. The 1-fathom contour (6 feet) and the 5-fathom curve (30 feet) correspond in a general way to the inner and outer limits of all the oyster bars surveyed. The 3-fathom contour (18 feet) furnishes the curve of about the average depth of water on the oyster bars, and the 10-fathom contour (60 feet) serves in a general way to indicate the outer limits of probable oyster culture.

The boundaries of the waters within the "territorial limits of the county" and the boundaries of the "waters contiguous to the county" opened up for the leasing with Queen Annes County are plainly indicated on the charts. A full technical description of these boundaries is given in this publication under the heading "Boundaries of county waters."

The areas in acres of the oyster bars were determined under the direction of the hydrographic engineer of the Commission by two independent planimeter measurements of the areas as delineated on the smooth projections of the Coast and Geodetic Survey. These areas are given in small figures in parentheses on the face of the chart within the boundaries of the different shell fish bottoms.

The symbols used on the charts for the different kinds of boundaries, triangulation stations, contours of depth of water, etc., require no other explanation than that given in the legend and other notes on the face of the charts.

#### LEASING CHARTS.

The leasing charts of Queen Annes County, like those for Anne Arundel, Somerset, Wicomico, Worcester, Calvert, Charles, St. Marys, Baltimore, and Kent counties, have been prepared under the direction of the hydrographic engineer of the Commission. They are constructed on polyconic projections on the scales of 1 part in 5,000 or 1 part in 10,000 as the needs of oyster culture may require, and the information shown on them is based on the United States standard datum of the Coast and Geodetic Survey.

These charts show all the oyster bars, crab bottoms, and clam beds and other boundaries established by the Commission, and also all boundaries of oyster lots leased for the purpose of oyster culture, thus making them comprehensive and valuable records of the results of the operations of the oyster-culture laws.

The lots leased under the provision of the "old 5-acre law" are frequently of irregular shape, but the lots leased under the provision of the new oyster law must be of rectangular shape by the terms of that act. For this latter purpose the leasing charts have been divided by parallels of latitude and meridians of longitude into small rectangles of 1 acre or 5 acres, as may be best suited to the area under consideration, and prospective leaseholders by the rules of the Commission are compelled to select whole rectangles as far as possible.

For reasons of the present changeable nature of the number of lots leased and the large number of charts required, the leasing charts are not likely to be published for some years, but they can be seen at any time on file at the offices of the Commission, in the Marine Bank Building at Baltimore.

#### PROJECTIONS.

The polyconic projections<sup>1</sup> covering Queen Annes County waters are 12 in number and on the scale of 1 part in 10,000. They were constructed by draftsmen of the Coast and Geodetic Survey, but the sextant positions which determine the location of the legal boundaries of the oyster bars as delineated by the Shell Fish Commission were plotted by the draftsman of the Commission.

A copy of each of these projections, with all the plotted positions of triangulation stations, shore line, sextant positions, and boundaries of oyster bars, was made under the direction of the hydrographic engineer of the Commission by pricking through with a sharp needle the intersections of the projection lines and all other points as plotted on the original sheets.

These projections (in duplicate) are the original records of all oyster bar and other boundaries established by the Commission, one set being filed in the archives of the Coast and Geodetic Survey, at Washington, and the other set in the archives of the Shell Fish Commission.

#### PROGRESS MAPS.

The progress map to be found at the end of this publication is on a scale of 1 part in 100,000, and shows in outline the work accomplished by the United States Coast and Geodetic Survey in Queen Annes County and contiguous waters. It gives the scheme of all the charts and smooth projections constructed in connection with the survey, the location and names of all triangulation stations used as a basis for the surveying work, and the "boundaries of county waters" established by the Commission for the purpose of carrying out the laws of Maryland relating to oyster culture.

Besides indicating the amount of work done by the Coast and Geodetic Survey in connection with the work of the Shell Fish Commission, this progress map will be of special value for index purposes to engineers and others searching for the particular chart or projection covering the locality of the oyster bars or landmarks that may be under consideration.

The progress maps<sup>2</sup> accompanying the first and second annual reports of the Maryland Shell Fish Commission were prepared under the direction of the hydrographic engineer of the Commission. They are on the scale of 1 part in 400,000, and show the outline of the tide-water counties of Maryland, with shaded areas to indicate the waters already covered by the operations of the oyster survey.

<sup>1</sup> For the scheme of these projections see the progress map at the end of this publication.

<sup>2</sup> These maps and reports can be obtained by application to Maryland Shell Fish Commission, Marine Bank Building, Baltimore, Md.

## BOUNDARIES OF THE COUNTY WATERS.<sup>1</sup>

### WATERS WITHIN TERRITORIAL LIMITS OF COUNTY.

The laws of Maryland relating to oyster culture provide that "no person shall be permitted, by lease, assignment, or in any other manner, to acquire a greater amount of land than 10 acres situated within the territorial limits of any of the counties, or 100 acres in any other place."

The boundary line<sup>2</sup> between the waters "within the territorial limits" of Queen Annes County and the waters in "any other place," as established by the Shell Fish Commission for the purpose of carrying out the oyster laws, and delineated on the "oyster" charts and the smooth projections of the Coast and Geodetic Survey, is technically described and defined as follows:

Commencing at the intersection of the State boundary line between Maryland and Delaware which is the boundary line between Queen Annes County and Kent County; thence following the boundary between Queen Annes and Kent counties and down the channel boundary of the upper part of Chester River; thence continuing down the channel of Chester River following the boundary line between Kent County and Queen Annes County as laid down on "Charts Nos. 29 and 30, Natural Oyster Bars, Maryland," to a point in the mouth of Chester River defined by the intersection of this channel boundary line with a straight line across the mouth of Chester River defined at its western end by a point on Love Point on the western side of Chester River in latitude  $39^{\circ} 02' 25.5''$  and longitude  $76^{\circ} 18' 10.0''$ , and defined at its eastern end by a point on the eastern side of Chester River in latitude  $39^{\circ} 02' 45.3''$  and longitude  $76^{\circ} 14' 05.3''$ ; thence in a straight line ending at a point situated on Love Point on the western side of Chester River defined by latitude  $39^{\circ} 02' 25.5''$  and longitude  $76^{\circ} 18' 10.0''$ ; thence along the mean low water line or across the mouth of all inlets less than 100 yards in width, as the case may be, of the eastern shore of Chesapeake Bay, around Bloody Point to a point situated on Kent Point on the southern extremity of Kent Island defined by latitude  $38^{\circ} 50' 05.1''$  and longitude  $76^{\circ} 22' 06.2''$ ; thence in a straight line ending at a point situated on Wades Point on the eastern side of the entrance of Eastern Bay, defined by latitude  $38^{\circ} 49' 34.2''$  and longitude  $76^{\circ} 18' 04.5''$  to a point on this straight line defined by its intersection with the boundary line in Eastern Bay between Queen Annes County and Talbot County as laid down on "Chart No. 31, Natural Oyster Bars, Maryland;" thence along the boundary line between Queen Annes County and Talbot County in Eastern Bay, around Tilghmans Point, up Miles River, turning between Bennett Point and Herring Island into the mouth of Wye River, and up the channel boundary line of that branch of Wye River to the south of Wye Island to the point off the eastern end of Wye Island, all as laid down on "Charts Nos. 31 and 32, Natural Oyster Bars, Maryland;" thence continuing up the channel boundary line of Wye River between Queen Annes County and Talbot County to the head of the oyster-producing waters.<sup>3</sup>

<sup>1</sup> For a complete historical and legal description of the boundaries of the counties of Maryland, the valuable publication entitled "The Counties of Maryland—Their Origin, Boundaries, and Election Districts," prepared by Dr. Edward B. Mathews and published by the Maryland Geological Survey under the direction of Dr. William Bullock Clark, Superintendent, should be consulted, as the boundaries described in this publication have been established and technically defined for the purpose of carrying out the oyster laws of the State, and may or may not be correct for other purposes.

<sup>2</sup> See "Charts of Natural Oyster Bars," published by the Coast and Geodetic Survey, and the progress map at the end of this publication.

<sup>3</sup> Latitudes and longitudes based on the United States standard datum of the United States Coast and Geodetic Survey.

## WATERS CONTIGUOUS TO COUNTY.

The oyster laws of Maryland provide that a true and accurate delineation of all natural oyster bars shall be made on copies of charts of the United States Coast and Geodetic Survey, "which said copies shall be filed in the office of the said Commissioners in the city of Baltimore," and "in the office of the clerks of the circuit courts for the respective counties wherein the grounds so designated may lie."

For the purpose of carrying out the latter part of this section of the law and for the purpose of establishing the limits of the oyster-culture area to be opened up for leasing with each county surveyed, it is necessary for the Shell Fish Commission to establish a boundary line between the waters contiguous to but not within the territorial limits of each county and the waters contiguous to but not within the territorial limits of adjacent counties.

This boundary line has been delineated on the "Charts of Natural Oyster Bars," published by the Coast and Geodetic Survey, and is technically described and defined as follows:

Commencing at a point defined by the intersection of the boundary line between Queen Annes County and Kent County as laid down on "Chart No. 29, Natural Oyster Bars, Maryland," with a straight line across the mouth of Chester River, defined at its eastern end by a point on the eastern side of Chester River in latitude  $39^{\circ} 02' 45.3''$  and longitude  $76^{\circ} 14' 05.3''$ , and defined at its western end by a point on Love Point on the western side of Chester River in latitude  $39^{\circ} 02' 25.5''$  and longitude  $76^{\circ} 18' 10.0''$ ; thence following the boundary line between Queen Annes County and Kent County, passing around and about 1 mile to the northeast of Love Point Light, as laid down on "Chart No. 29, Natural Oyster Bars, Maryland," to a point in Chesapeake Bay about  $2\frac{3}{8}$  miles east of Baltimore Light and  $3\frac{3}{8}$  miles west of Love Point Light, defined by latitude  $39^{\circ} 03' 30.0''$  and longitude  $76^{\circ} 21' 00.0''$ ; thence in a straight line with Chesapeake Bay to a point in Chesapeake Bay about  $1\frac{3}{8}$  miles east of Sandy Point Light and defined by latitude  $39^{\circ} 00' 57.2''$  and longitude  $76^{\circ} 21' 34.00''$ ; thence in a straight line with Chesapeake Bay to a point in Chesapeake Bay about  $1\frac{3}{8}$  miles east of Thomas Point Light, defined by latitude  $38^{\circ} 53' 56.2''$  and longitude  $76^{\circ} 24' 50.2''$ ; thence in a straight line with Chesapeake Bay to a point in Chesapeake Bay about  $2\frac{1}{2}$  miles west of Bloody Point Bar Light defined by latitude  $38^{\circ} 50' 01.1''$  and longitude  $76^{\circ} 26' 15.0''$ ; thence in a straight line with Chesapeake Bay to a point in Chesapeake Bay about  $3\frac{1}{2}$  miles southwest of Bloody Point Bar Light defined by latitude  $38^{\circ} 48' 06.6''$  and longitude  $76^{\circ} 26' 37.1''$ ; thence following the boundary line between Queen Annes County and Talbot County passing between Bloody Point Bar Light and Poplar Island, as laid down on "Chart No. 31, Natural Oyster Bars, Maryland," to a point defined by the intersection of this boundary line with a straight line across the entrance of Eastern Bay defined at its western end by a point situated on Kent Point on the southern extremity of Kent Island in latitude  $38^{\circ} 50' 05.1''$  and longitude  $76^{\circ} 22' 06.2''$  and defined at its eastern end by a point situated on Wades Point on the eastern side of the entrance of Eastern Bay in latitude  $38^{\circ} 49' 34.2''$  and longitude  $76^{\circ} 18' 04.5''$ .<sup>1</sup>

<sup>1</sup> Latitudes and longitudes based on the United States standard datum of the United States Coast and Geodetic Survey.

## LANDMARKS (U. S. COAST AND GEODETIC SURVEY TRIANGULATION STATIONS).

### EXPLANATION.

The oyster laws of Maryland authorizing the survey to be made by the Shell Fish Commission provide for "an accurate report of said survey, setting forth such a description of landmarks as may be necessary to enable the said board, or their successors, to find and ascertain the boundary lines of said natural oyster beds, bars, and rocks, as shown by delineation on the maps and charts." The law of the United States authorizing the cooperation of the Department of Commerce and Labor in the survey of natural oyster bars of Maryland provides for the erection of "such structures as may be necessary to mark the points of triangulation, so that the same may be used for such future work of the Coast and Geodetic Survey as the said bureau may be hereafter required to perform in prosecuting the Government coast survey of the navigable waters of the United States located within the State of Maryland."

Under the provisions of the sections of the laws stated above, the markings and descriptions of landmarks must be sufficient for the present and future needs of both the Government and the State. With this end in view, considerable work has been expended in erecting permanent monuments at the triangulation stations and in the proper description of their location.

An effort has been made to arrange the descriptions of location and character of landmarks in a uniform and logical manner. The descriptions start with the assumption that the individual seeking a landmark has only an indefinite idea of its location. They gradually proceed from description of the general locality of a landmark to the descriptions of its immediate surroundings. This is followed by specific details of the character of the center and reference marks and a "round" of reference angles and distances which in themselves frequently contain enough information to furnish an independent and reliable location of the triangulation station.

### METHOD OF DESCRIBING TRIANGULATION STATIONS.

*The separate descriptions of triangulation stations should not be used without reading the following explanation of the method of describing the triangulation stations, as it contains certain details that are common to all the landmarks described in this publication and which are omitted in the separate descriptions as being needless repetitions:*

*Name.*—The title at the top of each separate description is the name by which the landmark or triangulation station is known and designated in all work and published oyster records or oyster charts of both the Government and State. The selection of the name is usually left to the triangulator establishing the station, and it may or may not have geographic or other significance in reference to the locality.

*General locality.*—Under this heading is given the general locality of the landmark in reference to well-known and prominent natural or artificial features, such as the

nearest body of water, town, river, steamer wharf, well-defined point of land, church, or any other feature that is likely to remain both permanent and prominent.

This heading also covers a reference to the published chart or map which shows the location of the station most clearly. Nearly all the triangulation stations described in this publication are plainly indicated by name and a triangulation symbol on the published charts of oyster bars of Maryland. In this case they are referred to by serial number only, the words "charts of oyster bars of Maryland" being omitted to avoid needless repetition. These published oyster charts are on the large scale of 1 part in 20,000 (approximately  $3\frac{1}{8}$  inches to a statute mile) and show the location of the triangulation stations so clearly that in many cases the written descriptions will not be required to find them.

*Immediate locality.*—Under this heading is given the description of the "observed station" in reference to its immediate surroundings. This is supposed to include a statement of the station's estimated elevation above high water or some other well-defined level of the locality, such as a road or house; the character of the ground on which it is located, such as marsh land, sand beach, cultivated field, or meadow; estimated bearings in points of the compass and estimated distances in yards *from* (not *to*) easily recognized features, such as extreme end of point, edge of bluff, bank of creek, line of telephone poles, shore line, fence, ditch, trees, or any other definite detail, such as being on range with the tangent of an island and a church; and so forth.

When a standard monument has been established near the station as a "reference station," this heading also covers a statement of the true bearing of the monument in degrees and minutes and its measured distance in meters, as it is the first object that is likely to catch the eye when the immediate vicinity of the desired station is reached and might be mistaken for the center mark of the "observed station" unless special attention is called to it.

The distinction between the "observed station" and "reference station" should be carefully noted by anyone making use of the description of stations for any future surveying operations.

The "observed station" is located at the particular triangulation point covered by the description of stations and is the one whose geographic position is first computed, as it is the point which was "occupied" and "observed on" for horizontal angles. However, in spite of the primary importance of the location of the "observed station," it will be noted from the description of stations that frequently it is not marked as well as the "reference station," and in many instances has only a pine stub to indicate its position. This is the case for the reason that the necessity of intervisibility of landmarks usually made it compulsory to locate "observed stations" on edges of banks and ends of points of land, which in the tidewater section of Maryland generally means they will be washed away in a short period of years. The past experience of the Coast and Geodetic Survey in this region has shown the great need of "reference stations," if the frequent reestablishment of a new framework of triangulation is to be avoided.

The chief reason and need for the establishment of the "reference station," or secondary station, as it might be well named, is explained in the preceding paragraph, but in several instances other reasons, such as the location of the "observed station" on an unstable sand dune, in a cultivated field, in front of a residence, or other places objectionable to the landowner, have led to establishment of "reference stations."

The location of the "reference station" in relation to the "observed station" is fixed for plotting on charts or for computation of its geographic position by checked measurements of its distances and azimuth from the "observed station."<sup>1</sup>

*Marks.*—Under this heading is given a description of the character of the permanent monuments or other marks of the location of the "observed station," and of the "reference station" where one has been established.

All the marks designated in the descriptions as "the center point of triangle on standard cement monument" are exactly alike. These monuments are made of cement, sand, and gravel, and are 2 feet long and 8 inches square at top and bottom. Their tops are all marked with the same brass mold and show a center hole surrounded by a triangle, with the letters "M. S. F. C." arranged around the vertex and the letters "U. S. C. S." underneath the base of the triangle. The center hole is always in the center of the top of the monument by construction, and if this is found to have been broken off without disturbing the bottom the center of its square section can be used as the location of the station.

All the "standard cement monuments," whether used for marking the "observed station" or "reference station," have been planted upright in exactly the same manner, with their tops projecting 3 or 4 inches above the surface of the ground, unless otherwise stated.

Therefore, as the above facts in reference to the "standard cement monuments" are a constant element in all cases, the repetition of these facts in the description of stations is made needless by this one statement.

*References.*—Under this heading are given the "rounds" of directions and distances to all objects that might be useful in locating the stations when the surface marks can not be found. It is also contemplated that for general purposes of topography, hydrography, or location of boundaries of oyster bars these references will be sufficient in many cases to relocate the position of an "observed station" or "reference station" when both of them have been destroyed.

The first reference object given in the descriptions is always a triangulation station visible from the station being described, this, if possible, being a lighthouse, church spire, or other permanent and prominent point. Its direction is taken as being  $0^{\circ} 00' 00''$ , and the directions of all other objects are measured from it as an initial point, the angles being taken in a clockwise direction (left to right).

The true bearing<sup>2</sup> of the initial object is always given in parentheses alongside its name. This furnishes means for the calculation of the bearings of any of the other reference objects for the purposes of locating a station by horizontal angles or for the relocation of corner buoys of oyster-bar boundaries by the method of compass directions described in this publication under the heading of "Boundaries of oyster bars."

The distances in the last column under "References" are given in three different units, which vary according to their accuracy. The "miles" are statute miles and may be considered only as rough estimates. The "yards" are more accurate, but must be looked on as results generally obtained by pacing or careful estimating. The "meters,"

<sup>1</sup> Geographic coordinates (latitude, longitude, distance, and azimuth) relating to any of the "observed stations" or of the "reference stations" described in this publication can be obtained by application to the Superintendent of the Coast and Geodetic Survey, at Washington, D. C.

<sup>2</sup> The mean magnetic variation for Queen Annes County was  $6^{\circ} 15'$  west of north in 1911 and increasing at the rate of  $5'$  yearly.

however, are accurate to the degree indicated by their decimals and in every case have been measured with a steel tape. In the same manner the accuracy of the directions are indicated by the refinement of angular measure with which they are recorded.

## DESCRIPTIONS OF TRIANGULATION STATIONS.

## SWAN POINT 3.

*General locality.*—Eastern shore of Chesapeake Bay on Swan Point about  $5\frac{1}{2}$  miles south-southwest of Tolchester Beach Wharf and 7 miles north of Love Point. (See Chart No. 29.)

*Immediate locality.*—Observed station is on sand and marsh point about 2 feet above high water, 5 feet east of shore, 60 yards south southwest of a fisherman's cabin, and 250 yards from the extreme end of Swan Point. Cement monument marking old reference station is in marsh 21.43 meters N  $89^{\circ} 13'$  E of observed station. Standard cement monument marking new reference station is on line to old reference station 13.26 meters N  $89^{\circ} 13'$  E of observed station.

*Marks.*—Observed station is  $\frac{1}{4}$ -inch copper rod set in an 8-inch square cement monument with top about 5 inches below surface of ground. Subsurface mark is the neck of a flask set in cement about 4 feet below the surface. New reference station is center point of triangle on standard cement monument. Old reference station is eastern one of two  $\frac{1}{4}$ -inch copper rods in an 8-inch cement monument.

*References.*—

	o	'	"	
"Love Point Light" (S $2^{\circ} 11'$ W).....	0	00	00	..... $5\frac{3}{4}$ miles.
"Baltimore Light".....	46	07	00	..... $8\frac{1}{2}$ miles.
Stack on garbage plant at Bodkin Point.....	82	21	..	..... $8\frac{1}{4}$ miles.
"Seven Foot Knoll Light".....	95	04	50	..... 7 miles.
Left stack at Sparrow Point.....	111	12	..	..... $12\frac{1}{4}$ miles.
"Port Howard Toller Water Tank".....	112	28	20	..... $6\frac{7}{8}$ miles.
"Craighill Channel Light (Front Range)".....	114	59	50	..... 7 miles.
"Craighill Channel Light (Rear Range)".....	131	46	20	..... $8\frac{3}{4}$ miles.
Chimney of cabin.....	203	54	..	..... $\frac{5}{8}$ yards.
Gable of Rockhall Wharf house.....	264	07	..	..... 1 mile.
OLD REFERENCE STATION.....	267	02	20	..... 21.43 meters.
NEW REFERENCE STATION (STANDARD CE- MENT MONUMENT).....	267	02	20	..... 13.26 meters.
Chimney of house to right of Windmill Point.....	292	12	..	..... 2 miles.
Gable of barn.....	303	49	..	..... $2\frac{1}{2}$ miles.
Gable of barn near Wickes Beach.....	340	52	..	..... $7\frac{5}{8}$ miles.

## BANK.

*General locality.*—Eastern shore of Chesapeake Bay on western side of entrance to Tavern Creek about  $\frac{5}{8}$  mile northeast of Swan Point. (See Chart No. 29.)

*Immediate locality.*—Observed station is in a cultivated field about 7 feet above high water, 12 yards inshore, and 2 yards from edge of bank.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	o	'	"	
"Love Point Light" (S $7^{\circ} 27'$ W).....	0	00	00	..... $6\frac{1}{8}$ miles.
"Baltimore Light".....	42	32	50	..... 9 miles.
Nail in blaze in locust tree (3 inches diameter).....	56	04	00	..... 10.39 meters.
Chimney of fishing shack on Swan Point.....	71	17	..	..... $\frac{1}{2}$ mile.
"Seven Foot Knoll Light".....	88	14	40	..... $7\frac{1}{2}$ miles.
West gable of Strong barn.....	153	39	..	..... $\frac{3}{8}$ mile.
Southwest corner of Strong house.....	174	09	..	..... $\frac{3}{8}$ mile.



References—Continued.

	°	'	''	
Chimney of tenant house.....	212	55	..	3/4 mile.
North gable of barn.....	250	47	..	1 3/8 miles.
Thompson windmill.....	271	47	..	1/2 mile.
West gable of Rockhall Wharf house.....	274	08	..	3/8 mile.
North gable of Downey house.....	278	49	..	1/2 mile.
Nail in blaze in locust tree (4 inches diameter)	292	56	20	10.32 meters.
South one of twin trees on Little Neck Island.	352	59	..	1/4 mile.

GRATITUDE.

*General locality.*—Eastern shore of Chesapeake Bay at eastern side of entrance to Swan Creek opposite middle of Little Neck Island and near old Rockhall Wharf. (See Chart No. 29.)

*Immediate locality.*—Observed station is on a marsh meadow about 1 foot above high water, 12 yards east of shore, 150 yards southwest of a house, and 400 yards south-southwest of Rockhall Landing.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	'	''	
"Love Point Light" (S 11° 46' W).....	0	00	00	5 3/8 miles.
"Sandy Point Light".....	26	05	10	10 3/4 miles.
"Baltimore Light".....	41	21	20	9 3/8 miles.
Chimney of fishing shack on Swan Point.....	90	47	..	1 mile.
Left tangent of piles of old Rockhall Wharf..	124	15	..	200 yards.
West gable of Strong barn.....	130	49	..	3/4 mile.
Chimney of tallest wharf house at Rockhall Landing.....	162	15	..	1/4 mile.
Chimney of house.....	166	19	..	1 mile.
Post on northwest corner of Downey porch..	196	57	..	150 yards.
Nail in blaze in cedar tree (10 inches diameter)	273	02	40	107 yards.
North gable of old barn.....	276	36	..	200 yards.
North gable of barn.....	309	21	..	1 5/8 miles.

WINDMILL POINT.

*General locality.*—Eastern shore of Chesapeake Bay on Windmill Point at northern side of entrance to Rockhall Harbor. (See Chart No. 29.)

*Immediate locality.*—Observed station is on low marsh land about level with high water, about 30 yards back from end of point, and 20 yards south of a group of large pine trees. Cement monument marking reference station is 24.13 meters N 20° 14' E of observed station.

*Marks.*—Observed station is center point of 2-inch tile pipe filled with sand with top about flush with surface of ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	'	''	
"Love Point Light" (S 17° 47' W).....	0	00	00	5 1/2 miles.
Nail in blaze in pine tree (18 inches diameter).....	146	39	30	17.38 meters.
Nail in blaze in pine tree (24 inches diameter).....	178	03	00	23.57 meters.
REFERENCE STATION.....	182	27	00	24.13 meters.
Nail in blaze in pine tree (20 inches diameter).....	216	10	20	16.52 meters.
Rockhall Methodist Episcopal Church spire..	238	05	40	1 mile.
Highest gable on Sharps Wharf.....	246	42	..	3/8 mile.
East chimney of house.....	271	27	..	1/2 mile.
Chimney of small house.....	287	55	..	1/2 mile.
West chimney of small house.....	311	04	..	1 mile.

## STEVENS.

*General locality.*—Eastern shore of Chesapeake Bay about  $\frac{1}{4}$  mile south of Huntingfield Point at entrance to Huntingfield Creek. (See Chart No. 29.)

*Immediate locality.*—Observed station is in a cultivated field about 15 feet above high water, 55 yards back from edge of vertical bank 3 feet higher than station, and 450 yards south of the extreme end of Huntingfield Point.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 2 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	"	
"Love Point Light" (S 25° 03' W).....	0	00	00	4 $\frac{3}{4}$ miles.
Right tangent of Love Point.....	12	13	..	6 $\frac{1}{2}$ miles.
Southeast corner of fishing shack on Swan Point.....	111	24	..	2 $\frac{1}{2}$ miles.
East gable of Strong barn.....	125	42	..	2 $\frac{1}{2}$ miles.
Thompson windmill.....	135	01	20	2 miles.
Chimney of house.....	150	32	..	1 $\frac{1}{4}$ miles.
Nail in blaze in cedar tree (10 inches diameter).....	155	24	20	200 yards.
Wicks windmill.....	223	16	20	1 mile.
Nail in blaze in locust tree (18 inches diameter).....	227	23	00	110 yards.
Chimney of small house.....	239	58	..	1 mile.
Nail in blaze in persimmon tree (10 inches diameter).....	275	26	20	130 yards.
Chimney of Stevens tenant house.....	320	39	..	$\frac{1}{2}$ mile.

## BALTIMORE LIGHT.

*General locality.*—Western side of Chesapeake Bay off shore about  $1\frac{1}{2}$  miles east of mouth of Magothy River and  $\frac{1}{8}$  mile west of entrance to dredged channel leading to Baltimore. (See Progress Map.)

*Immediate locality.*—Observed station is on brick octagonal dwelling on cylindrical foundation known as Baltimore Lighthouse.

*Marks.*—Observed station is center point of lantern on Baltimore Lighthouse.

*References.*—None necessary.

## SANDY POINT LIGHT.

*General locality.*—Western side of Chesapeake Bay off shore about  $\frac{1}{2}$  mile east of Sandy Point. (See Chart No. 29.)

*Immediate locality.*—Observed station is on brick dwelling on cylindrical foundation known as Sandy Point Lighthouse.

*Marks.*—Observed station is center point of lantern on Sandy Point Lighthouse.

*References.*—

	°	'	"	
"Bodkin Point (Old Tower)" (N 14° 35' W) ..	0	00	00	8 $\frac{1}{2}$ miles.

## RING.

*General locality.*—Eastern shore of Chesapeake Bay on western side of Kent Island about  $2\frac{1}{4}$  miles south-southwest of Love Point and  $3\frac{3}{4}$  miles east of Sandy Point. (See Chart No. 29.)

*Immediate locality.*—Observed station is in a cultivated field about 20 feet above high water, 12 yards inshore, and 2 yards from edge of bank. Cement monument marking reference station is 9.36 meters N 79° 21' E of observed station.

*Marks.*—Observed station is center of 4-inch tile pipe with top 3 inches below surface of ground. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

*References.*—

	o	/	''	
"Sandy Point Light" (N 84° 56' W).....	0	00	00	3 3/8 miles
Cupola on barn.....	117	51		1 mile.
South chimney of house.....	141	00		1/4 mile.
REFERENCE STATION.....	164	17	10	9.36 meters.
Lone tree (2 inches diameter).....	224	10		300 yards.
South chimney of house.....	238	56		300 yards.

LOVE POINT LIGHT.

*General locality.*—Eastern side of Chesapeake Bay at entrance to Chester River offshore about 1 1/2 miles northeast of Love Point. (See Chart No. 29.)

*Immediate locality.*—Observed station is on hexagonal screw pile structure known as Love Point Lighthouse.

*Marks.*—Observed station is center point of lantern on Love Point Lighthouse.

*References.*—

	o	/	''	
"Wickes Beach" (S 47° 55' E).....	0	00	00	3 1/2 miles.

AMOUR.

*General locality.*—Northern end of Kent Island at western side of entrance to Chester River about 1/4 mile southeast of Love Point and 3/8 mile north of Love Point Landing. (See Chart No. 29.)

*Immediate locality.*—Observed station is on sand and marsh point about 2 feet above high water, 25 yards inshore, and 55 yards north of fishing shack.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	o	/	''	
"Love Point Light" (N 33° 42' E).....	0	00	00	1 5/8 miles.
Left chimney of house.....	28	28		4 3/8 miles.
West gable of house on East Neck.....	48	00		3 3/4 miles.
North gable of barn.....	54	30		3 1/4 miles.
North gable of house on Cedar Point.....	76	30		5 miles.
Gable of barn.....	128	18		4 1/2 miles.
Left tangent of Kent Island Landing.....	132	59		1 3/4 miles.
Northeast corner of fishing shack.....	140	38		57 yards.
Nail in blaze in cedar tree (3 inches diameter).....	174	43		12.46 meters.
"Railway Water Tank".....	199	53	50	5/8 mile.
Nail in blaze in cedar tree (4 inches diameter).....	206	10	00	11.30 meters.
Nail in blaze in cedar tree (6 inches diameter).....	295	02	00	38.88 meters.

RAILWAY WATER TANK.

*General locality.*—Northern end of Kent Island about halfway between Chesapeake Bay and Chester River and 3/4 mile south by west of Love Point. (See Chart No. 29.)

*Immediate locality.*—Observed station is on the only large elevated water tank located just north of the center of the bend of the railway that leaves Love Point Landing.

*Marks.*—Observed station is center point of top of water tank.

*References.*—None necessary.

## WICKES BEACH.

*General locality.*—Eastern shore of mouth of Chester River on western side of East Neck Island near Wickes Beach. (See Chart No. 29.)

*Immediate locality.*—Observed station is on a narrow sand beach about on level with high water, 10 yards back from low water, and 2 yards west of swamp which extends back to woods.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	"	
"Love Point Light" (N 47° 54' W).....	0	00	00	..... 3 miles.
Nail in blaze in oak tree (15 inches diameter).....	60	45	40	..... 300 yards.
Nail in blaze in gum tree (12 inches diameter).....	70	59	00	..... 250 yards.
Nail in blaze in oak tree (15 inches diameter).....	114	05	50	..... 200 yards.
North cupola of barn.....	155	15	..	..... 5/8 mile.
Lone tree on Cedar Point.....	178	23	..	..... 1 3/4 miles.
East gable of barn.....	200	21	..	..... 4 miles.
North gable of Jackson wharf house.....	214	26	..	..... 4 1/2 miles.
North gable of barn.....	276	32	..	..... 3 3/4 miles.
Cupola on farmhouse.....	299	16	..	..... 3 1/2 miles.
"Railway Water Tank".....	321	45	00	..... 5 3/8 miles.
North flagstaff on Love Point Hotel.....	323	27	..	..... 3 3/4 miles.

## NARROWS POINT.

*General locality.*—Northern shore of Chester River on southwest end of East Neck Island, about 1/8 mile north of Cockeys Island and 5/8 mile west-northwest of Cedar Point. (See Charts Nos. 29 and 30.)

*Immediate locality.*—Observed station is on a low marshy point about level with high water, about 7 yards from low water, and 325 yards west of a fishing shack. Cement monument marking reference station is 12.28 meters N 7° 58' E of observed station.

*Marks.*—Observed station is center of 3-inch tile pipe filled with cement with top 4 inches below surface of ground. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

*References.*—

	°	'	"	
"Wickes Beach" (N 46° 58' W).....	0	00	00	..... 1 1/4 miles.
REFERENCE STATION.....	64	56	10	..... 12.28 meters.
Chimney of fishing shack.....	133	08	..	..... 325 yards.
West gable of Queenstown elevator.....	153	44	..	..... 3 1/2 miles.
Cupola on barn.....	164	05	..	..... 2 5/8 miles.
North gable of house.....	189	51	..	..... 2 1/2 miles.
North gable of barn.....	194	53	..	..... 2 1/2 miles.
Cupola on barn.....	216	26	..	..... 2 1/2 miles.
North gable of house.....	228	16	..	..... 2 1/4 miles.
North gable of house on Jackson Creek.....	231	47	..	..... 2 7/8 miles.
East gable of Jackson wharf house.....	233	52	..	..... 2 3/4 miles.
North gable of barn.....	254	28	..	..... 3 miles.
West chimney of house.....	285	16	..	..... 3 3/8 miles.
Chimney of house near Macum Creek.....	293	36	..	..... 4 1/8 miles.
East chimney of house.....	318	01	..	..... 4 1/4 miles.
"Railway Water Tank".....	334	11	40	..... 5 1/2 miles.
South flagstaff on Love Point Hotel.....	335	26	..	..... 5 3/8 miles.
Flagstaff on Love Point Wharf.....	335	42	..	..... 4 3/4 miles.
Right tangent of Love Point.....	341	30	..	..... 5 miles.

MACUM.

*General locality.*—Southern shore of Chester River on Kent Island, about  $\frac{1}{2}$  miles south of Love Point Light, 3 miles south-southeast of Love Point Landing and  $\frac{1}{2}$  mile north northwest of Macum Creek. (See Chart No. 29.)

*Immediate locality.*—Observed station is in cultivated field about 7 feet above high water, 25 yards inshore, and 16 yards south of two cedar trees at edge of bank.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	o	'	''	
"Love Point Light" (N 0° 19' E).....	0	00	00	..... 4½ miles.
North cupola of barn on East Neck Island...	50	41	..	..... 3¾ miles.
Chimney of house on East Neck Island.....	52	13	..	..... 3¾ miles.
Nail in blaze in persimmon tree (6 inches diameter).....	57	02	50	..... 22.24 meters.
South corner of fishing shack on Cedar Point..	72	08	..	..... 4 miles.
West gable of large barn.....	89	48	..	..... 5 miles.
Cupola on small house.....	97	00	..	..... 5 miles.
West gable of house.....	102	15	..	..... 4½ miles.
Cupola on barn.....	108	20	..	..... 3 miles.
Gable of house near Jackson Creek.....	119	26	..	..... 3½ miles.
East chimney of brick house.....	195	59	..	..... ¼ mile.
East chimney of house.....	212	31	..	..... 1 mile.
Cupola on house.....	221	52	..	..... 1¾ miles.
East chimney of house.....	225	18	..	..... ⅝ mile.
North chimney of house.....	257	16	..	..... 400 yards.
Lone cedar tree.....	266	08	..	..... 500 yards.
Nail in blaze in cedar tree (4 inches diameter)	314	14	30	..... 30.98 meters.
"Railway Water Tank".....	333	17	20	..... 3½ miles.
East gable of wharf house on Kent Island				
Landing.....	339	28	..	..... 1½ miles.
Flagstaff on wharf house on Love Point				
Landing.....	342	03	..	..... 3½ miles.
Chimney of fishing shack.....	343	11	..	..... 3¼ miles.

THIN.

*General locality.*—Southern shore of Chester River on western side of entrance to Kent Narrows, about  $\frac{3}{4}$  mile north of Narrows railway station. (See Chart No. 29.)

*Immediate locality.*—Observed station is on a marsh point about 1 foot above high water, 55 yards north of shore, and 55 yards west of shore.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	o	'	''	
"Muddy" (N 37° 55' E).....	0	00	00	..... ¾ mile.
Smoke pipe on shanty.....	75	13	..	..... 1 mile.
Large low telegraph pole.....	99	27	..	..... ¾ mile.
Smoke pipe on slant-roofed shanty.....	107	58	..	..... ⅝ mile.
Near corner of fishing shanty.....	196	21	..	..... ¼ mile.
Tangent of Long Point.....	356	41	..	..... ¾ mile.

## MUDDY.

*General locality.*—Southern shore of Chester River on Long Point between Muddy Creek and Jackson Creek about  $2\frac{1}{4}$  miles southwest of Cedar Point and  $3\frac{1}{2}$  miles west of Queenstown. (See Charts Nos. 29 and 30.)

*Immediate locality.*—Observed station is on marsh land covered with myrtle bushes, about 2 feet above high water, 7 yards inshore, 25 yards southwest of extreme end of point, and 70 yards north of group of pine trees.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	o	'	"	
"Love Point Light" (N 28° 41' W).....	0	00	00	..... 6 miles.
East chimney of house.....	34	54	..	..... $2\frac{3}{4}$ miles.
Lone pine tree on Cedar Point.....	53	36	..	..... $2\frac{1}{4}$ miles.
South gable of barn.....	79	35	..	..... $4\frac{1}{2}$ miles.
Cupola on barn.....	103	11	..	..... 3 miles.
Cupola on barn.....	114	53	..	..... $2\frac{3}{4}$ miles.
West gable of barn.....	134	33	..	..... $1\frac{3}{4}$ miles.
Chimney of house.....	146	39	..	..... $1\frac{1}{4}$ miles.
North gable of wharf house on Jackson Creek				
Landing.....	179	21	..	..... 1 mile.
North gable of house.....	182	10	..	..... $1\frac{1}{4}$ miles.
Chimney of small house.....	202	56	..	..... $\frac{3}{4}$ mile.
Nail in blaze in pine tree (8 inches diameter).....	221	12	50	..... 63 yards.
Nail in blaze in pine tree (12 inches diameter).....	243	25	00	..... 67 yards.
South flagstaff of Love Point Hotel.....	339	43	30	..... $5\frac{3}{8}$ miles.
North gable of wharf house on Love Point				
Landing.....	341	46	..	..... $5\frac{1}{4}$ miles.
Right tangent of Love Point.....	345	12	..	..... $5\frac{3}{8}$ miles.

## BRIDGE.

*General locality.*—Southern side of Chester River on western shore of Kent Narrows about  $\frac{1}{8}$  mile west of Narrows railway station. (See Charts Nos. 29 and 32.)

*Immediate locality.*—Observed station is on a telegraph pole at a point about 25 feet above high water, 4 yards south of near rail of railroad, 8 yards west of end of railroad bridge, and 7 yards from the line of bridge.

*Marks.*—Observed station is a small staff nailed to telegraph pole.

*References.*—None necessary.

## RAILROAD.

*General locality.*—Southern side of Chester River on eastern shore of Kent Narrows about  $\frac{3}{8}$  mile east-southeast of Narrows railway station and  $\frac{1}{8}$  mile south of railroad. (See Charts Nos. 29 and 32.)

*Immediate locality.*—Observed station is on cultivated land about 8 feet above high water, 35 yards south by west of telephone line on north side of county road, 75 yards east of shanty, and 80 yards north-east of shore of small cove.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	'	"	
"Marshy" (S 2° 38' E).....	0	00	00	..... ¾ mile.
Cupola on barn.....	29	36	..	..... 2¼ miles.
Chimney on ell of large house.....	38	04	..	..... 2¾ miles.
Right tangent of shanty.....	96	32	..	..... 75 yards.
South peak of Fisherman Inn.....	118	01	..	..... ¾ mile.
Nail in blaze in tree (8 inches diameter).....	139	44	10	..... 38.07 meters.
Nail in blaze in cherry tree (14 inches diam- eter).....	163	29	40	..... 27.09 meters.
Nail in blaze in telephone pole No. 2848.....	197	15	20	..... 30.33 meters.
Smoke pipe of shanty.....	209	50	..	..... 100 yards.
Near peak of ell-shaped house.....	269	00	..	..... 1¾ miles.
Near peak of house.....	292	19	..	..... 1¾ miles.
Left peak of barn.....	345	37	..	..... 1½ miles.
House in trees.....	354	10	..	..... 1¾ miles.

## BLUEBEARD.

*General locality.*—Eastern shore of Chester River on point at entrance to a small creek about ⅝ mile northeast of Blunt Creek and 1 mile southwest of entrance to Queenstown Creek. (See Chart No. 30.)

*Immediate locality.*—Observed station is on a low sand beach about 1 foot above high water, 5 yards inshore, 2 yards east of small persimmon tree, 55 yards northeast of a small stream, and 200 yards north-northeast of a pond.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 2 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	'	"	
"Love Point Light" (N 47° 53' W).....	0	00	00	..... 7 miles.
South gable of house.....	12	03	..	..... 2¾ miles.
Right tangent of piles of Bogle wharf.....	29	48	..	..... 3¾ miles.
Largest of four pine trees on Piney Point.....	48	58	..	..... 4 miles.
East chimney of house.....	70	23	..	..... 2¾ miles.
Black beacon at entrance to Queenstown Creek.....	90	23	40	..... 1 mile.
Nail in blaze in swamp-oak tree (4 inches diameter).....	122	01	10	..... 10.60 meters.
Nail in blaze in chestnut tree (18 inches diameter).....	197	34	10	..... 150 yards.
Nail in blaze in oak tree (6 inches diameter).....	270	04	20	..... 125 yards.
Cupola of barn.....	278	50	..	..... 1½ miles.
East chimney of house.....	279	24	..	..... 1½ miles.
North gable of Jackson Creek landing house.....	290	11	..	..... 2¾ miles.
East gable of house.....	329	17	..	..... 5¼ miles.
Gable of Love Point wharf house.....	344	08	..	..... 6¾ miles.
Right tangent of Love Point.....	347	46	..	..... 7 miles.

## BLAKEFORD.

*General locality.*—Eastern shore of Chester River about ¾ mile north of Blakeford Point at entrance to Queenstown Creek. (See Chart No. 30.)

*Immediate locality.*—Observed station is about 15 feet above high water, 8 yards inshore, 2 yards back from top of bank with uniform slope to beach, 25 yards north of gully, and 25 yards south of large sycamore tree at foot of slope.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch pipe buried with top 2 inches below base of monument.

<i>References.</i> —	o	'	"	
"Rain" (N 74° 56' W).....	0	00	00	1 $\frac{1}{8}$ miles.
Right tangent of piles of Bogle wharf.....	27	33	..	3 miles.
Nail in blaze in cedar tree (4 inches diameter).....	83	12	10	13.31 meters.
Northwest corner of house in woods.....	155	39	..	300 yards.
West gable of small house.....	174	19	..	$\frac{3}{8}$ mile.
West gable of large barn.....	215	41	..	$\frac{5}{8}$ mile.
West gable of house.....	235	20	..	$\frac{3}{4}$ mile.
Northeast corner of elevator at Queenstown.....	239	21	..	$\frac{5}{8}$ mile.
Nail in blaze in ash tree (15 inches diameter).....	247	00	20	21.30 meters.
First black beacon at entrance to Queenstown Creek.....	294	49	..	$\frac{1}{2}$ mile.
Chimney of fishing shack on Cedar Point.....	352	26	..	2 $\frac{5}{8}$ miles.

## RAIN.

*General locality.*—Western shore of Chester River on Hail Point about 1 $\frac{1}{8}$  miles south-southeast of Bogle Wharf. (See Chart No. 30.)

*Immediate locality.*—Observed station is about 5 feet above high water, 3 yards north of shore, and 20 yards northwest of extreme end of point. Cement monument marking reference station is 29.84 meters N 65° 20' W of observed station.

*Marks.*—Observed station is center of 2-inch tile pipe projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark of reference station is center of 2-inch tile pipe with top 2 inches below base of monument.

<i>References.</i> —	o	'	"	
"Bluebeard" (S 21° 17' E).....	0	00	00	1 $\frac{1}{8}$ miles.
Chimney of house.....	11	07	..	2 $\frac{3}{4}$ miles.
Cupola on barn.....	33	55	..	2 $\frac{3}{8}$ miles.
Chimney of house on Jackson Creek.....	45	07	..	3 $\frac{3}{8}$ miles.
Chimney of small house.....	48	32	..	3 $\frac{1}{2}$ miles.
Chimney of fishing shack.....	101	34	..	$\frac{3}{8}$ mile.
Nail in blaze in pine tree (10 inches diameter).....	119	46	30	15.45 meters.
REFERENCE STATION.....	135	56	20	29.84 meters.
Nail in blaze in pine tree (10 inches diameter).....	147	05	50	18.09 meters.
South gable of house.....	173	28	..	1 $\frac{1}{2}$ miles.
Right tangent of piles of Bogle Wharf.....	186	59	..	1 $\frac{1}{8}$ miles.
Williams water tank.....	255	59	..	2 miles.
Black Beacon at entrance to Queenstown Creek.....	318	01	..	1 $\frac{1}{2}$ miles.
Cupola on barn.....	338	50	..	1 $\frac{3}{4}$ miles.

## BREAK.

*General locality.*—Eastern shore of Chester River on Break Point about  $\frac{1}{8}$  mile north of north side of entrance to Tilghmans Creek. (See Chart No. 30.)

*Immediate locality.*—Observed station is in a cultivated field about 5 feet above high water, 13 yards inshore, 4 yards from edge of bank, 200 yards north of extreme end of point, and 300 yards west of a house.



*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

<i>References.</i> —	°	'	"	
"Blakeford" (S 23° 21' E).....	0	00	00	1½ miles.
North chimney of house at Queenstown.....	6	55	✓	2½ miles.
Chimney of house.....	37	48	..	3¾ miles.
Cupola on barn near Jackson Creek Landing..	49	05	..	4¾ miles.
Chimney of small house.....	55	05	..	4½ miles.
Chimney of small house.....	58	35	..	5½ miles.
Chimney of Greens fishing shack.....	84	38	..	1½ miles.
South chimney of house.....	103	42	..	2½ miles.
East gable of house.....	131	23	..	2½ miles.
Right tangent of piles of Bogle Wharf.....	133	30	..	1¾ miles.
East chimney of house.....	151	35	..	2½ miles.
East chimney of house.....	176	46	..	3¾ miles.
Williams water tank.....	200	58	..	¼ mile.
Knob on door of fishing shack.....	349	58	..	¼ mile.

OVERTON.

*General locality.*—Western shore of Chester River on north side of entrance to Durdin Creek and about 100 yards south of Bogle Wharf. (See Chart No. 30.)

*Immediate locality.*—Observed station is on marsh land about 1 foot above high water, 4 yards inshore, 100 yards south of Bogle Wharf, 250 yards southeast of Bogle store, and 300 yards west of Bogle Wharf house. Cement monument marking reference station is 11.26 meters S 73° 06' W of observed station.

*Marks.*—Observed station is center of 2-inch tile pipe projecting 2 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

<i>References.</i> —	°	'	"	
"Bay Bush Point" (N 3° 13' W).....	0	00	00	1¾ miles.
South gable of barn.....	4	12	..	2¾ miles.
South gable of barn.....	17	21	..	3 miles.
West gable of barn.....	39	13	..	5 miles.
Left tangent of piles of Bogle Wharf.....	73	17	..	300 yards.
Chimney of house.....	119	25	..	2½ miles.
Lower west gable of Queenstown elevator....	138	21	..	3½ miles.
North gable of house.....	140	27	..	3¾ miles.
Right tangent of woods on Hail Point.....	168	59	..	1¾ miles.
REFERENCE STATION.....	256	19	40	11.26 meters.
Chimney of Bogles store.....	289	17	..	250 yards.

FIR.

*General locality.*—Eastern shore of Chester River on Piney Point about 15½ miles north-northwest of Break Point and ½ mile west of Piney Cove. (See Chart No. 30.)

*Immediate locality.*—Observed station is on marsh land at the extreme end of Piney Point, about on level with high water, and about 4 yards east of shore. Cement monument marking reference station is 10.45 meters S 70° 43' E of observed station.

*Marks.*—Observed station is center of 2-inch tile pipe with top flush with surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

## Survey of Oyster Bars, Queen Annes County, Md.

References.—	°	'	"	
"Break" (S 21° 04' E).....	0	00	00	1½ miles.
East chimney of house at Queenstown.....	2	36		4 miles.
Chimney of house.....	24	17		4½ miles.
Gable of barn near Jackson Creek Landing...	34	49		5½ miles.
North gable of house.....	35	17		5½ miles.
Chimney of fishing shack.....	51	41		2¾ miles.
Right tangent of piles of Bogle Wharf.....	71	41		1¾ miles.
Chimney of house.....	77	08		1½ miles.
South chimney of house.....	135	34		1½ miles.
North chimney of house.....	170	54		2¾ miles.
West chimney of house.....	178	00		3 miles.
West gable of barn.....	199	30		3½ miles.
Left tangent of woods.....	226	37		¾ mile.
REFERENCE STATION.....	310	21	10	10.45 meters.
Williams water tank.....	339	41		1¾ miles.

## BAY BUSH POINT.

*General locality.*—Western shore of Chester River on a point about ¼ mile north of entrance to Fryingpan Cove and Churn Creek. (See Chart No. 30.)

*Immediate locality.*—Observed station is on a marsh point about 1 foot above high water, 15 yards inshore, and in front of several persimmon trees. Cement monument marking reference station is 10.16 meters N 80° 13' W of observed station.

*Marks.*—Observed station is nail in 3-inch cement-filled tile pipe with top 6 inches below surface of ground incased in cement cake bearing the legend "U. S. C. S.—1896." Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	'	"	
"Fir" (S 57° 56' E).....	0	00	00	1½ miles.
Williams water tank.....	8	22		2½ miles.
Chimney of house at Queenstown.....	27	17		5½ miles.
West gable of barn.....	35	42		4½ miles.
Left tangent of woods on Hail Point.....	45	58		3¼ miles.
Chimney of Bogle store.....	58	00		1½ miles.
Nail in blaze in persimmon tree (6 inches diameter).....	69	04	00	6.25 meters.
REFERENCE STATION.....	157	43	00	10.16 meters.
Nail in blaze in persimmon tree (8 inches diameter).....	220	45	00	6.20 meters.
West chimney of house.....	244	04		1¾ miles.
East gable of barn.....	262	10		3 miles.
West gable of barn.....	297	51		4½ miles.
West gable of barn.....	316	19		3 miles.

## GORDON.

*General locality.*—Eastern side of Chester River about 55 yards offshore, ¾ mile southwest of entrance to Reeds Creek and ⅝ mile north-northeast of Piney Point. (See Chart No. 30.)

*Immediate locality.*—Observed station is in about 3 feet of water at high tide, 55 yards offshore, and 300 yards southwest of end of woods and cultivated field. Cement monument marking reference station is 57.40 meters S 71° 15' E of observed station.

*Marks.*—Observed station is nail in 2-inch by 4-inch pine stub driven with top to high water. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References. —

	°	'	''	
"Fir" (S 25° 18' W).....	0	00	00	7½ mile.
Left tangent of piles of Bogle Wharf.....	15	23		2½ miles.
East gable of barn.....	42	41		2 miles.
South chimney of house.....	103	30		2 miles.
West chimney of Harris house.....	118	39		2¾ miles.
South gable of Strong tenant house.....	129	39		3 miles.
South chimney of house.....	145	25		3 miles.
Spindle on Brown house.....	167	02		3½ miles.
South gable of corncrib.....	197	36		3 miles.
Nail in blaze in pine tree (10 inches diameter).....	252	39	30	57.93 meters.
REFERENCE STATION.....	263	26	40	57.49 meters.
Nail in blaze in pine tree (18 inches diameter).....	286	55	40	57.02 meters.

BIRD.

*General locality.*—Eastern shore of Chester River on Gordon Point at southwest side of entrance to Reeds Creek about 1½ miles southwest of Holton Point. (See Chart No. 30.)

*Immediate locality.*—Observed station is in a marsh meadow about 2 feet above high water and 75 yards west of shore.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 7 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	'	''	
"Crow" (S 14° 23' W).....	0	00	00	¾ mile.
Lone pine tree (12 inches diameter).....	69	59		300 yards.
North chimney of house.....	85	13		3¼ miles.
South gable of barn.....	115	50		2¾ miles.
Northwest corner of house.....	230	16		¾ mile.
North chimney of house.....	300	01		1 mile.
North gable of house.....	343	41		1½ miles.
Windmill.....	358	43		½ mile.
Chimney of house.....	359	09		¾ mile.

CROW.

*General locality.*—Eastern side of Chester River on western shore of Reeds Creek about ½ mile south of extreme end of Gordon Point. (See Chart No. 30.)

*Immediate locality.*—Observed station is in yard of tenant house about 4 feet above high water, 12 yards west of shore, 5 yards south of a pear orchard, and 7 yards north of a house.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	'	''	
"Bird" (N 14° 23' E).....	0	00	00	¾ mile.
South gable of house near Cliffs Landing.....	3	03		3¾ miles.
South gable of barn.....	36	18		1¼ miles.
Cupola of barn.....	73	23		1½ miles.
Northeast corner of Carnell tenant house.....	99	01	30	8.71 meters.
Northwest corner of Carnell tenant house.....	128	43	10	6.65 meters.
Northeast corner of barn.....	198	25	20	14.06 meters.
Northwest corner of barn.....	221	37	10	12.68 meters.

## GROVE.

*General locality.*—Eastern side of Chester River on a point between Reeds Creek and Grove Creek about  $\frac{1}{2}$  mile southeast of Gordon Point. (See Chart No. 30.)

*Immediate locality.*—Observed station is in a meadow about 2 feet above high water, 26 yards south of shore, 8 yards west of three persimmon trees, and 35 yards west of a pond.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	"	
"Reeds" (N 20° 32' E).....	0	00	00	$\frac{1}{2}$ mile.
East chimney of house.....	13	06	..	$\frac{3}{4}$ mile.
South gable of barn.....	19	41	..	$\frac{3}{4}$ mile.
Nail in blaze in persimmon tree (6 inches diameter).....	53	05	50	10.08 meters.
Cupola on barn.....	75	58	..	$\frac{5}{8}$ mile.
Cupola on Wright barn.....	108	16	..	$\frac{3}{4}$ mile.
North gable of barn.....	168	50	..	$\frac{5}{8}$ mile.
East gable of house.....	181	32	..	$\frac{3}{4}$ mile.
South gable of house.....	230	54	..	$\frac{1}{2}$ mile.
Lone pine tree on Gordon Point.....	282	13	..	$\frac{1}{2}$ mile.
Cupola on barn.....	316	04	..	4 miles.
South chimney of house.....	326	13	..	4 miles.
Nail in blaze in sassafras tree (5 inches diameter).....	338	48	40	10.34 meters.

## REEDS.

*General locality.*—Eastern shore of Chester River at northeast side of entrance to Reeds Creek and about  $\frac{5}{8}$  mile south of Robins Cove. (See Chart No. 30.)

*Immediate locality.*—Observed station is on marsh land about 2 feet above high water, 34 yards east of shore, 9 yards north of ditch draining swamp, and in center of triangle formed by three pine stubs driven flush with marsh to support theodolite.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 2 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	"	
"Bird" (S 62° 26' W).....	0	00	00	$\frac{1}{2}$ mile.
East chimney of Harris house.....	60	07	..	$3\frac{1}{8}$ miles.
Chimney of house.....	101	57	..	$3\frac{1}{4}$ miles.
East chimney of Brown house.....	112	01	..	3 miles.
Chimney of cabin.....	186	55	..	300 yards.
Cupola on barn.....	276	35	..	$1\frac{1}{4}$ miles.
North gable of house.....	316	12	..	$1\frac{3}{8}$ miles.
Chimney of house.....	337	46	..	$\frac{7}{8}$ mile.

## LITTLE GUM.

*General locality.*—Western shore of Chester River on Little Gum Point at southwest side of entrance to Grays Inn Creek. (See Chart No. 30.)

*Immediate locality.*—Observed station is on a marsh point about 1 foot above high water, 2 yards south of shore, and 12 yards southeast of a 4-foot ditch. Cement monument marking reference station is 40.07 meters N 33° 31' W of observed station.

*Marks.*—Observed station is center of 2-inch tile pipe with top flush with surface of ground. Subsurface mark is 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—

	°	'	''	
"Weeks" (N 29° 53' W).....	0	00	00	3 7/8 mile.
East gable of old house on opposite shore.....	29	45		1 mile.
South chimney of house.....	81	38		1 mile.
South gable of house near Cliffs Landing.....	93	34		3 1/4 miles.
North gable of barn.....	115	23		3 1/4 miles.
North gable of barn.....	130	38		3 1/4 miles.
South gable of barn.....	170	12		2 3/8 miles.
Left tangent of Gum Point.....	212	10		5/8 mile.
North gable of barn.....	220	28		3/4 mile.
South chimney of Harris house.....	347	39		3/8 mile.
REFERENCE STATION.....	356	22	00	40.97 meters.

INN.

*General locality.*—Eastern shore of Grays Inn Creek about 1/8 mile northwest of Chester River and 1/2 mile southeast of Island Point. (See Chart No. 30.)

*Immediate locality.*—Observed station is in a peach orchard about 4 feet above high water and 25 yards northeast of shore.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 3 inches below base of monument.

References.—

	°	'	''	
"Holton Point" (S 72° 50' E).....	0	00	00	2 5/8 miles.
Nail in blaze in sycamore tree (30 inches diameter).....	13	24	30	4.53 meters.
North cupola on barn.....	38	57		2 1/2 miles.
Left tangent of woods on Hail Point.....	74	54		4 1/2 miles.
East gable of Swatska barn.....	101	19		1 1/4 miles.
East chimney of house.....	119	02		1/2 mile.
East gable of Harris house.....	150	53		5/8 mile.
East gable of small house.....	175	15		5/8 mile.
Nail in blaze in peach tree (8 inches diameter).....	252	41	50	11.71 meters.
Southwest corner of Earle bathhouse.....	359	28		3 miles.

HOLTON POINT.

*General locality.*—Eastern shore of Chester River on Holton Point at south side of entrance to Corsica River. (See Chart No. 30.)

*Immediate locality.*—Observed station is on low sand beach about on level with high water and 1/4 mile west of small bathhouse. Cement monument marking reference station is 5.40 meters S 48° 06' E of observed station.

*Marks.*—Observed station is nail in 3-inch cement-filled tile pipe with top about 6 inches below surface of ground, incased in cement bearing the legend "U. S. C. S.—1896." Reference station is center point of triangle on standard cement monument projecting 5 inches above surface of ground.

References.—

	°	'	''	
"Bay Bush Point" (S 64° 15' W).....	0	00	00	2 1/3 miles.
East chimney of house.....	19	49		3 miles.
Chimney of small house.....	27	23		3 miles.
East gable of barn.....	38	39		3 1/2 miles.
East gable of small house.....	57	08		2 1/4 miles.
South gable of barn.....	67	37		2 1/2 miles.
South gable of house.....	80	09		2 3/4 miles.

## Survey of Oyster Bars, Queen Annes County, Md.

References—Continued.	°	'	''	
East chimney of house.....	94	17	..	1¾ miles.
West chimney of house.....	130	52	..	2 miles.
South gable of cornerib.....	157	14	..	¾ mile.
West gable of barn.....	184	04	..	1 mile.
REFERENCE STATION.....	247	38	20	5.40 meters.
Nail in blaze in persimmon tree (4 inches diameter).....	321	38	00	28.35 meters.
North gable of barn.....	329	38	..	2½ miles.
North gable of barn.....	343	06	..	4¾ miles.
East gable of barn.....	357	02	..	4¼ miles.

## EARLE.

*General locality.*—Southern shore of Corsica River on Town Bar Point about ¼ mile east of Chester River and 100 yards north of Earle Wharf. (See Chart No. 30.)

*Immediate locality.*—Observed station is on marsh land about 1 foot above high water, 5 yards south of shore, 19 yards north of a pond, and 100 yards north of Earle Wharf.

*Marks.* Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	'	''	
"Hydrographic" (S 64° 38' E).....	0	00	00	1½ mile.
Lone sycamore tree.....	10	43	..	1½ mile.
East chimney of house.....	18	50	..	1½ mile.
Southeast pile at end of Earle Wharf.....	48	59	..	100 yards.
Nail in blaze in locust tree (5 inches diameter).....	63	18	00	12.92 meters.
Nail in blaze in locust tree (3 inches diameter).....	87	58	50	11.07 meters.
Earle windmill.....	118	07	..	300 yards.
East gable of barn.....	165	21	..	3½ miles.
East gable of small house.....	179	26	..	2¾ miles.
Church steeple at Crosby.....	196	20	..	3¾ miles.
South gable of Brown house.....	209	09	..	2¾ miles.
West chimney of house.....	244	53	..	¾ mile.
South gable of Emory barn.....	298	08	..	¾ mile.
West chimney of house.....	338	10	..	1½ miles.

## HYDROGRAPHIC.

*General locality.*—Southern shore of Corsica River about 1½ miles east of Chester River and ½ mile east of Earle Wharf. (See Chart No. 30.)

*Immediate locality.*—Observed station is near edge of cultivated field about 3 feet above high water, 20 yards south of shore, 4 yards south of edge of bank 3 feet high, and 400 yards north of lone sycamore tree.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	'	''	
"Earle" (N 64° 37' W).....	0	00	00	¾ mile.
Church steeple at Crosby.....	14	03	..	4¾ miles.
East gable of barn.....	19	13	..	3¾ miles.
South gable of barn.....	33	12	..	¾ mile.
South gable of Emory barn.....	73	18	..	¾ mile.

References—Continued.

	°	'	''	
Southwest corner of Emory Wharf house.....	75	44		1/2 mile
West gable of barn.....	114	51		3/4 mile.
West gable of barn.....	135	37		1 5/8 miles
West chimney of house.....	148	56		1 1/4 miles.
East chimney of house.....	231	23		3/4 mile.
Nail in blaze in apple tree (12 inches diam- eter).....	327	14	30	16.00 meters.
Southeast corner of Earle Wharf house.....	354	51		1/2 mile.

RUTH.

*General locality.*—Southern shore of Corsica River about 1 1/4 miles east of Chester River and 1/8 mile northwest of entrance to Tilghmans Cove. (See Chart No. 30.)

*Immediate locality.*—Observed station is in cultivated field about 15 feet above high water, 10 yards south of shore, 2 yards west of edge of slope, and 6 yards south of edge of slope.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	'	''	
"Hydrographic" (N 82° 13' W).....	0	00	00	3/8 mile.
East chimney of Earle tenant house.....	0	11		1 mile.
South gable of Sissel barn.....	36	30		1 mile.
Southeast corner of Emory Wharf house.....	54	13		5/8 mile.
South gable of Emory barn.....	60	05		3/4 mile.
Chimney of Emory house.....	64	17		3/4 mile.
East post of front porch of house.....	109	34		3/4 mile.
Nail in blaze in oak tree (24 inches diameter).....	119	49	10	9.98 meters.
Nail in blaze in cedar tree (6 inches diam- eter).....	223	53	20	14.30 meters.
East gable of small barn.....	308	56		3/8 mile.
Lone sycamore tree.....	319	36		3/4 mile.

MELFIELD.

*General locality.*—Southern shore of Corsica River about 1 7/8 miles east of Chester River, 1 mile southeast of Emory Wharf, and 1/8 mile east of entrance to Tilghmans Cove. (See Chart No. 30.)

*Immediate locality.*—Observed station is in cultivated field about 18 feet above high water, 10 yards south of shore, 5 yards south of edge of bluff, and 10 yards west of a ravine.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	'	''	
"Ruth" (N 71° 32' W).....	0	00	00	3/8 mile.
East gable of barn.....	11	02		5 miles.
Left tangent of Emory Wharf.....	29	50		3/8 mile.
East chimney of Emory house.....	38	10		1 mile.
Southwest corner of house.....	74	26		3/4 mile.
Cupola on Emory Wharf house.....	96	53		1 1/8 miles.
Nail in blaze in walnut tree (8 inches diam- eter).....	119	34	10	3.81 meters.
Nail in blaze in gum tree (7 inches diameter).....	179	56	10	16.18 meters.
West gable of barn.....	195	19		3/8 mile.
Nail in blaze in locust tree (6 inches diam- eter).....	336	32	10	13.85 meters.
South chimney of Earle house.....	350	42		1 3/8 miles.

## BATH.

*General locality.*—Southern shore of Corsica River on Wash Point about 2 miles east of Chester River,  $1\frac{1}{2}$  mile west of Rocky Point, and  $\frac{1}{4}$  mile southeast of Ship Point. (See Chart No. 30.)

*Immediate locality.*—Observed station is on a marsh point about 1 foot above high water, 15 yards east of shore, 13 yards west of a pond, and surrounded by dense growth of bushes.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 8 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

<i>References.</i> —	o	/	''	
"Melfield" (S 30° 54' W).....	0	00	00	..... $\frac{1}{2}$ mile.
Left tangent of peak of barn.....	24	38	..	..... 1 mile.
Earle windmill.....	53	43	..	..... $1\frac{3}{4}$ miles.
Left edge of Earle Wharf house.....	56	38	..	..... $1\frac{1}{2}$ miles.
East chimney of house.....	86	14	..	..... 1 mile.
South chimney of house.....	120	55	..	..... $\frac{3}{8}$ mile.
West chimney of house.....	217	12	..	..... $\frac{3}{4}$ mile.
North one of two cedar trees on hill.....	267	01	..	..... $\frac{1}{2}$ mile.
Nail in blaze in hackberry tree (12 inches diameter).....	326	23	50	..... 3.06 meters.
Nail in blaze in pear tree (15 inches diameter).....	345	11	50	..... 6.79 meters.

## SHIP.

*General locality.*—Northern shore of Corsica River on Ship Point at west side of entrance to Emorys Creek, about  $1\frac{1}{4}$  miles east of Chester River, and  $\frac{5}{8}$  mile east of Emory Wharf. (See Chart No. 30.)

*Immediate locality.*—Observed station is on a marsh point covered with bushes about 1 foot above high water, 6 yards west of shore, and 75 yards south of a cedar tree covered with grape vines.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

<i>References.</i> —	o	/	''	
"Ruth" (S 39° 11' W).....	0	00	00	..... $\frac{5}{8}$ mile.
North gable of barn.....	3	22	..	..... $\frac{3}{4}$ mile.
Earle windmill.....	40	59	..	..... $1\frac{1}{2}$ miles.
Left edge of Earle Wharf house.....	43	35	..	..... $1\frac{1}{4}$ miles.
East gable of barn.....	128	34	..	..... $\frac{1}{2}$ mile.
Nail in blaze in cedar tree (7 inches diameter).....	144	33	30	..... 12.52 meters.
West gable of barn.....	217	05	..	..... $1\frac{1}{4}$ miles.
West chimney of house.....	220	00	..	..... $1\frac{1}{4}$ miles.
North chimney of house.....	229	59	..	..... $1\frac{1}{4}$ miles.
West chimney of house.....	251	20	..	..... $\frac{3}{4}$ mile.

## ENGINEER.

*General locality.*—Northern shore of Corsica River about 1 mile east of Chester River,  $\frac{5}{8}$  mile north-east of Earle Wharf, and 50 yards west of Emory Wharf. (See Chart No. 30.)

*Immediate locality.*—Observed station is on marsh land about 1 foot above high water, 12 yards north of shore, 50 yards west of Emory Wharf, and 50 yards southeast of a pond.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.



References.—

	°	'	"	
"Ruth" (S 29° 36' E).....	0	00	00	5 1/8 mile.
East chimney of house.....	29	31		7 1/8 mile.
Nail in blaze in pear tree (6 inches diameter).....	70	38	40	99.05 feet.
Earle windmill.....	90	13		7 1/8 mile
Lone cedar tree.....	105	42		12 1/2 yards.
South gable of Emory barn.....	219	59		300 yards.
East chimney of Emory house.....	257	47		250 yards.
West chimney of house.....	317	59		13 1/8 miles.
Northeast corner of Emory Wharf house.....	321	35		156.94 feet.

SWEPSON.

*General locality.*—Northern shore of Corsica River opposite Town Bar Point about 1/2 mile east of Chester River, 3/8 mile north of Earle Wharf, and 3/8 mile west of Emory Wharf. (See Chart No. 30.)

*Immediate locality.*—Observed station is on marsh land about 1 foot above high water, 12 yards north of shore, 10 yards south of lone cedar tree, and 12 yards east of small ditch draining swamp.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	'	"	
"Hydrographic" (S 32° 06' E).....	0	00	00	5 1/8 mile.
East chimney of house.....	6	32		3/4 mile.
Chimney of house.....	44	28		5/8 mile.
Earle Windmill.....	71	46		1/2 mile.
Nail in blaze in cedar tree (15 inches diameter).....	230	15	30	9.50 meters.
South gable of Emory barn.....	282	58		1/2 mile.
West gable of barn.....	332	36		1 3/4 miles.
North chimney of small house.....	355	19		1 1/2 miles.
Chimney of small house.....	357	28		2 1/2 miles.

CORSICA.

*General locality.*—Eastern shore of Chester River at north side of entrance to Corsica River about 3/8 mile south of Lower Spaniard Point. (See Chart No. 30.)

*Immediate locality.*—Observed station is in a cultivated field about 7 feet above high water, 16 yards east of shore, 11 yards east of edge of bank, and 5 yards south of young peach orchard.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 7 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	'	"	
"Swepson" (S 54° 31' E).....	0	00	00	1/2 mile.
North chimney of house.....	19	17		1 1/2 miles.
Earle windmill.....	52	39		3/4 mile.
Northeast corner of Earle bathhouse.....	54	01		3/4 mile.
Left tangent of woods on Gordon Point.....	93	59		2 3/4 miles.
Chimney of small house.....	145	49		3 3/8 mile.
South gable of barn.....	187	43		2 1/2 miles.
West gable of cornerib.....	318	25		1/2 mile.
Locust tree (24 inches diameter).....	359	07		150 yards.

DEEP COVE.

*General locality.*—Western shore of Chester River on point at west side of entrance to Langford Creek and south side of entrance to Deep Cove. (See Chart No. 30.)

*Immediate locality.*—Observed station is on marsh land about 1 foot above high water, 10 yards inshore, 50 yards east of a dead tree 2 feet in diameter, 80 yards southeast of a tall poplar tree, and 300 yards east of a house.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	"	
"Gordon" (S 6° 44' E).....	0	00	00	2¾ miles.
East pine tree of group on Piney Point.....	5	25		3½ miles.
Spindle on gable of barn.....	47	08		17⅞ miles.
Lone poplar tree.....	59	20		¼ mile.
Northeast corner of Ashley house.....	87	57		300 yards.
Southeast corner of fishing shack.....	124	34		200 yards.
Lone pine tree.....	136	01		¼ mile.
South gable of house.....	193	59		1⅛ miles.
West chimney of house.....	200	47		1⅜ miles.
West gable of barn.....	243	30		1 mile.
North chimney of house at Cliffs Landing.....	256	16		2 miles.
North gable of barn.....	288	41		2⅜ miles.
Southwest corner of Earle bathhouse.....	307	09		2⅜ miles.
North gable of barn.....	355	07		2⅝ miles.

## LANGFORD.

*General locality.*—Western shore of Chester River on Nichols Point at east side of entrance to Langford Creek. (See Chart No. 30.)

*Immediate locality.*—Observed station is on a sandy point among persimmon trees about 2 feet above high water, 12 yards inshore, and 200 yards south of a marsh.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	"	
"Gordon" (S 10° 42' W).....	0	00	00	2⅝ miles.
East one of group of four pine trees.....	2	21		3½ miles.
East chimney of house.....	45	45		2½ miles.
Chimney of small house.....	56	27		2¼ miles.
Nail in blaze in persimmon tree (6 inches diameter).....	72	02	30	4.59 meters.
East chimney of house.....	87	27		1 mile.
South gable of barn.....	115	53		1⅜ miles.
South chimney of house.....	141	02		1½ miles.
Chimney of house.....	152	40		1½ miles.
Nail in blaze in persimmon tree (6 inches diameter).....	218	39	20	2.23 meters.
Nail in blaze in persimmon tree (4 inches diameter).....	287	15	30	7.63 meters.
Northwest corner of Earle bathhouse.....	299	00		1¾ miles.
Cupola on barn.....	332	26		2 miles.
North gable of house.....	346	57		2¼ miles.

## SPANIARD POINT 2 UPPER.

*General locality.*—Southeastern shore of Chester River on Lower Spaniard Point about 1¼ miles east of Nichols Point, ⅝ mile south of Cliffs Landing, and ¼ mile southwest of Spaniard Wharf. (See Chart No. 30.)

*Immediate locality.*—Observed station is on a sand beach about 1 foot above high water, 8 yards southeast of shore, and 300 yards northwest of woods. Cement monument marking reference station is 11.72 meters S 70° 51' E of observed station.

*Marks.*—Observed station is nail in 3-inch cement-filled tile pipe bearing the legend "U. S. C. S.—1896," with top 6 inches below surface of ground. Reference station is center point of triangle on standard cement monument projecting 6 inches above surface of ground.

References.—	°	'	''	
"Langford" (N 87° 27' W).....	0	00	00	1¼ miles.
South gable of barn.....	2	44		2½ miles.
East gable of barn.....	16	10		2½ miles.
Church steeple.....	24	25		3 miles.
West chimney of Brown house.....	37	38		1¾ miles.
West chimney of house.....	76	08		1 mile.
Right tangent of piles of Cliffs Landing.....	100	40		¾ mile.
South gable of house.....	101	05		1¾ miles.
"Westcotts Windmill".....	117	31		2¼ miles.
REFERENCE STATION.....	196	36	50	11.72 meters.
North gable of barn.....	295	57		3 miles.
Right tangent of woods on Gordon Point.....	302	00		3 miles.
East chimney of house on Grays Inn Creek.....	352	39		3¾ miles.

QUAKER.

*General locality.*—Western shore of Chester River in Cliff Bight about ¾ mile north of Nichols Point. (See Chart No. 30.)

*Immediate locality.*—Observed station is on marsh land about 3 feet above high water, 8 yards north-west of shore, 8 yards southeast of a wire fence and a row of pear trees, and 6 yards south of a group of persimmon trees.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	'	''	
"Brown" (N 80° 42' E).....	0	00	00	¾ mile.
West gable of barn.....	15	05		2½ miles.
Left tangent of Spaniard Wharf.....	24	17		1¼ miles.
Northeast corner of Earle house.....	70	08		2 miles.
North gable of house near Reeds Creek.....	102	24		3¼ miles.
Right tangent of woods on Gordon Point.....	114	37		3½ miles.
Lone oak tree.....	147	43		½ mile.
Nail in blaze in hackberry tree (6 inches diameter).....	203	08	30	4.81 meters.
Nail in blaze in persimmon tree (8 inches diameter).....	319	19	00	3.43 meters.
West chimney of house.....	351	40		¾ mile.

EVANS.

*General locality.*—Southeastern shore of Chester River on Upper Spaniard Point about ⅝ mile south of Cliffs Landing and ⅓ mile northeast of Spaniard Wharf. (See Chart No. 30.)

*Immediate locality.*—Observed station is on marsh land about 1 foot above high water, 10 yards north of shore, and 200 yards east of end of Spaniard Wharf.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	'	''	
"Chester" (S 80° 13' E).....	0	00	00	¾ mile.
Lone walnut tree (6 inches diameter).....	106	17		200 yards.
South gable of fishing shack near shore.....	136	00		½ mile.
"Spaniard Wharf 1896" (old triangulation station).....	124	49	30	2.49 meters.
Right tangent of piles at end of Spaniard Wharf.....	167	23		250 yards.

References—Continued.	°	'	''	
North chimney of house.....	189	26	..	1½ miles.
West chimney of house.....	212	13	..	1½ miles.
Chimney of Martin cabin.....	219	20	..	¾ mile.
North gable of Cliffs Landing house.....	234	31	..	¾ mile.
East chimney of house.....	247	28	..	⅞ mile.
North gable of barn.....	276	23	..	1¾ miles.
"Westcott Windmill".....	282	55	10	1¾ miles.
East gable of barn.....	308	31	..	1¾ miles.
North gable of barn.....	318	03	..	2¼ miles.
East gable of barn.....	348	39	..	1¾ miles.

## BROWN.

*General locality.*—Northwestern shore of Chester River on Cliffs Point between Cliffs Bight and Commegys Bight about ¼ mile west of Cliffs Landing. (See Chart No. 30.)

*Immediate locality.*—Observed station is in a cultivated field about 12 feet above high water, 25 yards north of shore, 7 yards north of edge of bank, and 45 yards southeast of a large cherry tree.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	'	''	
"Deep Point 2" (N 80° 15' E).....	0	00	00	1¾ miles.
West gable of barn.....	4	40	..	2' miles.
West chimney of house.....	22	55	..	1¾ miles.
North gable of small fishing shack.....	82	04	..	¾ mile.
North gable of barn.....	115	26	..	3½ miles.
Nail in blaze in locust tree (5 inches diameter).....	157	07	10	13.55 meters.
Nail in blaze in walnut tree (15 inches diameter).....	209	09	50	14.13 meters.
East gable of house.....	220	55	..	300 yards.
East gable of barn.....	334	04	..	300 yards.
West chimney of house.....	338	33	..	1½ miles.
Northwest corner of Martin shack.....	343	03	..	77 yards.
West gable of wharf house.....	355	27	..	¼ mile.

## STRATTON.

*General locality.*—Northwestern shore of Chester River at west side of entrance to Commegys Bight near Cliffs Landing and about ¼ mile northeast of Cliffs Point. (See Chart No. 30.)

*Immediate locality.*—Observed station is on marsh land about on level with high water, 5 feet north of shore, and 21 yards southwest of entrance to a small creek.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	'	''	
"Deep Point 2" (N 83° 53' E).....	0	00	00	1¾ miles.
Cupola on barn.....	7	50	..	2 miles.
West gable of corn crib.....	23	27	..	1½ miles.
Southwest corner of wharf house.....	82	04	..	100 yards.
North gable of house.....	114	03	..	3 miles.
Right tangent of woods on Gordon Point.....	125	14	..	3¾ miles.
Pine tree on line with bulkhead of wharf.....	154	29	..	100 yards.
North chimney of house.....	266	37	..	400 yards.
West gable of Westcott barn.....	319	58	..	1¼ miles.
West gable of barn.....	340	32	..	1¾ miles.

CHESTER.

*General locality.*—Southeastern shore of Chester River about  $\frac{3}{4}$  mile east of Upper Spaniard Point and  $\frac{3}{8}$  mile south of Deep Point. (See Chart No. 30.)

*Immediate locality.*—Observed station is in a low meadow about 2 feet above high water, 10 yards south of shore, 2 yards south of board and wire fence, 2 yards east of rail fence, and 35 yards northwest of gate to front yard of a house.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	"	
"Evans" (N 80° 12' W).....	0	00	00	..... $\frac{3}{4}$ mile.
South chimney of house.....	6	21	..	..... $2\frac{1}{4}$ miles.
East gable of Cliffs Landing house.....	23	38	..	..... $1\frac{1}{8}$ miles.
East gable of house.....	35	11	..	..... $1\frac{1}{2}$ miles.
Chimney of house.....	51	47	..	..... $1\frac{1}{4}$ miles.
South chimney of Westcott house.....	76	43	..	..... $1\frac{3}{8}$ miles.
West gable of barn.....	85	17	..	..... 1 mile.
Left tangent of piles of Indiantown Wharf.....	116	41	..	..... $1\frac{1}{2}$ miles.
South cupola of barn.....	139	37	..	..... $1\frac{1}{4}$ miles.
West chimney of Emory house.....	158	45	..	..... $\frac{1}{4}$ mile.
West chimney of Emory tenant house.....	218	16	..	..... 100 yards.
Nail in blaze in persimmon tree (6 inches diameter).....	247	33	10	..... 11.67 meters.
Nail in blaze in locust tree (12 inches diameter).....	328	54	50	..... 24.18 meters.

WESTCOTTS WINDMILL.

*General locality.*—Northwestern side of Chester River about  $\frac{1}{8}$  mile inshore from northern end of Commegys Bight and  $1\frac{3}{8}$  miles northeast of Cliffs Landing. (See Chart No. 30.)

*Immediate locality.*—Observed station is about 35 feet in height on a barn and near a water tank back of barn.

*Marks.*—Observed station is center point of windmill.

*References.*—None necessary.

CORPSE.

*General locality.*—Southeastern shore of Chester River about  $\frac{3}{8}$  mile southeast of Deep Point,  $1\frac{1}{2}$  miles east-northeast of Spaniard Wharf and  $\frac{5}{8}$  mile southwest of Indiantown Wharf. (See Chart No. 30.)

*Immediate locality.*—Observed station is on a sanded marsh strip about 1 foot above high water, 3 yards east of shore, 18 yards south-southeast of a point, 43 yards north by east of another point, and  $\frac{1}{8}$  mile west of a large house.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	"	
"Chester" (S 39° 24' W).....	0	00	00	..... $\frac{7}{8}$ mile.
Right tangent of Spaniard Wharf.....	30	29	..	..... $1\frac{1}{2}$ miles.
Chimney of house near Cliffs Landing.....	61	43	..	..... $1\frac{3}{4}$ miles.
Right peak of house on Deep Point.....	83	48	..	..... $\frac{1}{4}$ mile.
Left one of two chimneys on south end of brick house.....	147	03	..	..... 1 mile.
Left tangent of Indiantown Wharf.....	173	17	..	..... $\frac{5}{8}$ mile.
Chimney of ell of house near Indiantown Wharf.....	181	53	..	..... $\frac{5}{8}$ mile.
Left tangent of large house.....	228	11	..	..... $\frac{1}{4}$ mile.
Right chimney of house.....	297	55	..	..... $\frac{3}{8}$ mile.
Chimney outside of old house.....	359	07	..	..... $\frac{7}{8}$ mile.

## DEEP POINT 2.

*General locality.*—Northwestern shore of Chester River on Deep Point about  $1\frac{1}{4}$  miles east of Cliffs Landing,  $1\frac{1}{4}$  miles northeast of Spaniard Wharf, and  $\frac{3}{4}$  mile west of Indiantown Wharf. (See Chart No. 30.)

*Immediate locality.*—Observed station is about 1 foot above high water, among several cedar and poplar trees on a point, 13 yards northeast of shore, 21 yards southwest by west of shore, 40 yards north west of extreme end of point, and 120 yards southeast of a  $1\frac{1}{2}$ -story house. Cement monument marking reference station is on line with west end of house  $17.14$  meters  $N 53^{\circ} 52'$  W of observed station.

*Marks.*—Observed station is nail in center of 2-inch tile pipe set in cement with top 2 inches below surface of ground. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

*References.*—

	°	'	''	
"Thorn" (N $40^{\circ} 10'$ E).....	0	00	00	$\frac{3}{4}$ mile.
Left chimney of house.....	11	43	..	$3\frac{3}{4}$ miles.
Left tangent of Ashland Wharf.....	13	04	..	$1\frac{3}{8}$ miles.
Near chimney on west peak of house.....	22	58	..	$2\frac{1}{2}$ miles.
Southwest peak of house near Indiantown Wharf.....	31	23	..	$\frac{7}{8}$ mile.
Nail in blaze in branch of cedar tree (15 inches diameter).....	45	27	00	11.48 meters.
Cupola on barn.....	61	43	..	1 mile.
Nail in blaze in poplar tree (11 inches diameter).....	93	54	00	15.02 meters.
Largest one of three chimneys of house.....	102	07	..	$1\frac{1}{4}$ miles.
Chimney of brick house.....	153	25	..	1 mile.
Chimney on near peak of house.....	233	39	..	$1\frac{1}{4}$ miles.
REFERENCE STATION.....	265	58	20	17.14 meters.
Nail in blaze in poplar tree (10 inches diameter).....	266	00	20	17.78 meters.
Right tangent of back of Westcott house.....	279	56	..	120 yards.
Nail in blaze in branch of double tree (8 inches diameter).....	340	43	00	19.74 meters.

## INDIAN.

*General locality.*—Southeastern shore of Chester River near Indiantown Wharf about  $\frac{3}{4}$  mile east-northeast of Deep Point. (See Chart No. 30.)

*Immediate locality.*—Observed station is about 2 feet above high water, 10 yards east of shore end of Indiantown Wharf, 10 yards southeast of shore, 21 yards north of curved fence of yard of a small house, and 40 yards north by west of a house.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	''	
"Corpse" (S $38^{\circ} 10'$ W).....	0	00	00	$\frac{5}{8}$ mile.
Right tangent of Spaniard Wharf.....	22	40	..	2 miles.
Right chimney of Westcott bungalow.....	34	55	..	$\frac{3}{4}$ mile.
Near corner of wharf house.....	72	50	..	100 yards.
Left tangent of Massey brick house.....	96	48	..	$\frac{1}{2}$ mile.
Large chimney of house beyond trees.....	146	08	..	1 mile.
Chimney of small house near Quaker Neck Wharf.....	161	24	..	$1\frac{1}{4}$ miles.
Left tangent of Ashland Wharf.....	176	19	..	$\frac{5}{8}$ mile.
Lone cedar tree.....	182	24	..	120 yards.
Nail in blaze in cedar tree (12 inches diameter).....	287	43	30	31.24 meters.

References—Continued.	°	'	''	
Near corner of house.....	288	24	..	5/8 mile.
Nail in blaze in cedar tree (10 inches diameter).....	305	59	10	18.68 meters.
Nail in blaze in cedar tree (20 inches diameter).....	319	41	10	30.02 meters.
Right tangent of curved fence.....	324	40	..	40 yards.
Chimney of large house.....	334	58	..	1/2 mile.

THORN.

*General locality.*—Northwestern shore of upper Chester River opposite White Cove near Westcott Wharf and about 3/4 mile northeast of Deep Point. (See Chart No. 30.)

*Immediate locality.*—Observed station is in a cultivated field about 6 feet above high water, 15 yards northwest of shore, 5 yards southwest of corner of board fence, 60 yards south-southeast of a brick house, and 42 yards southwest of piles of old wharf at shore line.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	'	''	
"Shippen" (N 43° 17' E).....	0	00	00	1 1/2 mile.
Near peak of large house.....	18	40	..	4 1/2 miles.
Left tangent of Ashland Wharf.....	23	21	..	5/8 mile.
Corner post of fence (4 inches diameter).....	33	23	10	4.33 meters.
Cupola of barn.....	104	13	..	7/8 mile.
Chimney of small house.....	159	09	..	1 3/4 miles.
Near corner of Massey house.....	208	40	..	1/2 mile.
Nail in blaze in peach tree (6 inches diameter).....	283	57	22	13.74 meters.
Nail in blaze in fence post (3 inches diameter).....	338	27	20	5.35 meters.

ASHLAND.

*General locality.*—Southeastern shore of upper Chester River near Ashland Wharf and about 1/4 mile northeast of White Cove. (See Chart No. 30.)

*Immediate locality.*—Observed station is about 1 foot above high water, 5 yards southeast of shore, 32 yards southwest of a fence, and 20 yards west-northwest of persimmon trees.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	'	''	
"Indian" (S 43° 29' W).....	0	00	00	1 1/2 mile.
Right tangent of Indiantown Wharf.....	5	44	..	1/4 mile.
Chimney on ell of Massey house.....	37	46	..	5/8 mile.
Chimney of small house.....	116	46	..	3/4 mile.
Peak of Quaker Neck Wharf house.....	145	43	..	3/4 mile.
Nail in blaze in fence post (4 inches diameter).....	171	12	50	28.80 meters.
Nail in blaze in persimmon tree (3 inches diameter).....	247	22	50	22.81 meters.
Nail in blaze in persimmon tree (3 inches diameter).....	289	34	10	17.29 meters.
Chimney of summer house.....	356	04	..	1/2 mile.

SHIPPEN.

*General locality.*—Northwestern shore of Upper Chester River on point at southern side of entrance to Shippen Creek and nearly opposite Ashland Wharf. (See Chart No. 30.)

*Immediate locality.*—Observed station is on a sand and marsh point about 1 foot above high water, 6 yards southwest of shore, 12 yards northeast of shore, 15 yards north of extreme end of sand point, and 25 yards southeast of trees along edge of cultivated field.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	''	
"Oyster" (N 38° 22' E).....	0	00	00	¾ mile.
Chimney on left end of house.....	18	37		2½ miles.
Peak of barn.....	26	49		2¼ miles.
Chimney on end of house.....	27	59		2¼ miles.
Chimney on right end of house.....	54	23		1 mile.
Left tangent of piles of Ashland Wharf.....	69	40		¼ mile.
Chimney on near end of house.....	79	08		1 mile.
Spindle on barn cupola.....	135	58		1 mile.
Tangent of piles at Indiantown Wharf.....	154	35		¾ mile.
Tangent of Deep Point.....	182	24		1¼ miles.
Near chimney of house.....	189	40		½ mile.
Nail in blaze in pear tree (12 inches diameter). 263	35	40		22.59 meters.
Nail in blaze in cedar tree (10 inches diameter).....	292	46	10	20.70 meters.
Near peak of barn.....	341	44		⅝ mile.
Smoke pipe on Quaker Neck Wharf house... 359	56			⅝ mile.

## BURNS.

*General locality.*—Southeastern shore of upper Chester River opposite Quaker Neck Wharf, about ¼ mile northeast of Ashland Wharf. (See Chart No. 30.)

*Immediate locality.*—Observed station is in meadow land about 1 foot above high water, 10 yards southeast of shore, 50 yards southwest by south of point, 145 yards northeast by east of a fence, and 200 yards northwest of another fence.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 7 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	''	
"Ashland" (S 45° 22' W).....	0	00	00	⅝ mile.
Chimney of house on Westcott Wharf.....	18	36		1¼ miles.
South peak of large barn.....	78	48		⅝ mile.
Near chimney of Quaker Neck Wharf house.. 89	20			½ mile.
Left chimney of old house.....	108	41		
Left tangent of hook-shaped point of marsh.. 183	22			½ mile.
Near peak of house.....	196	25		1½ miles.
Windmill.....	234	22	30	¾ mile.
Chimney of house.....	280	56		1 mile.
Left chimney of house on Ashland Road... 323	57			1 mile.

## OYSTER.

*General locality.*—Northwestern shore of upper Chester River about ⅝ mile northeast of Quaker Neck Wharf and ¼ mile southwest of entrance to Jarretts Creek. (See Chart No. 30.)

*Immediate locality.*—Observed station is in a cultivated field about 20 feet above high water, 8 yards west-northwest of edge of bank, 9 yards north-northwest of edge of bank, 25 yards northeast by north of a cedar tree, 100 yards southwest of lowland, and 115 yards east of fence near a house.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.



References.—

	°	'	"	
"Jarrett" (N 67° 48' E).....	0	00	00	..... 5/8 mile.
Left peak of Bookers Wharf house.....	21	00	.....	1 1/8 miles.
Cupola.....	50	14	.....	1 mile.
Windmill.....	50	55	.....	7/8 mile.
Left chimney of house.....	107	14	.....	1 3/8 miles.
Cupola on barn.....	123	50	.....	1 3/4 miles.
Nail in blaze in cedar tree (7 inches diam- eter).....	143	13	30	..... 24.90 meters.
Smoke pipe of wharf house.....	151	03	.....	3/8 mile.
Left chimney of house.....	180	43	.....	130 yards.
Left chimney of old house on near side of Jarretts Creek.....	277	29	.....	3/8 mile.
Chimney of house among trees.....	309	06	.....	1 1/4 miles.

STARKLEY.

*General locality.*—Southeastern shore of upper Chester River about 3/4 mile east of Quaker Neck Wharf, and 1/2 mile southwest of Bookers Wharf. (See Chart No. 30.)

*Immediate locality.*—Observed station is in meadow land about 1 foot above high water, 10 yards east by south of shore, 33 yards south of first cut in shore, 140 yards north by west of a fence, 145 yards southwest of point where another fence meets shore, and 275 yards south of large cedar tree.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	'	"	
"Burns" (S 61° 34' W).....	0	00	00	..... 1/2 mile.
Left chimney of Quaker Neck Wharf house.....	39	02	.....	7/8 mile.
Right peak of barn.....	66	43	.....	1 mile.
Peak of middle dormer window of large house.....	114	30	.....	3/4 mile.
Left peak of large house.....	163	49	.....	1 1/4 miles.
Left peak of Bookers Wharf house.....	187	48	.....	1/2 mile.
Large cedar tree.....	191	11	.....	275 yards.
Spindle on left cupola of barn.....	262	00	20	..... 1/2 mile.
Weathervane on barn.....	320	01	50	..... 1/2 mile.

JARRETT.

*General locality.*—Northwestern shore of upper Chester River about 5/8 mile southwest of Melton Point, 1/4 mile east of entrance to Jarretts Creek, and 3/8 mile west of Bookers Wharf. (See Chart No. 30.)

*Immediate locality.*—Observed station is about 1 foot above high water, 14 yards north of shore, 50 yards from a short fence at shore, 65 yards west of entrance to slough, and 175 yards from another fence.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	'	"	
"Melton" (N 61° 34' E).....	0	00	00	..... 5/8 mile.
Left peak of house on ridge.....	1	35	.....	1 1/2 miles.
Right peak of small house.....	47	58	.....	3/4 mile.
West peak of Bookers Wharf house.....	48	50	.....	3/8 mile.
Spindle on left cupola on barn.....	96	01	.....	3/4 mile.
Weathervane on cupola on barn.....	125	48	.....	1 mile.
Chimney of house near Indiantown Wharf.....	155	29	.....	1 7/8 miles.
Large chimney of Massey brick house.....	169	16	.....	1 7/8 miles.
Smokepipe of Quaker Neck Wharf house.....	182	50	.....	3/4 mile.
Peak of middle dormer window of large house.....	299	07	.....	1/2 mile.

## BOOKER.

*General locality.*—Southeastern shore of upper Chester River about 175 yards northeast of Bookers Wharf and ½ mile south of Melton Point. (See Chart No. 30.)

*Immediate locality.*—Observed station is on sanded marsh land about 1 foot above high water, 6 yards southeast of shore, 13 yards east by south of a small point, 30 yards southwest by south of locust trees, 125 yards northwest by north of a house on 20-foot bank, and 140 yards northwest of a creek.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	0	1	''	
"Starkley" (S 67° 55' W).....	0	00	00	..... ⅜ mile.
Left chimney of Quaker Neck Wharf house..	17	46	..	..... 1½ miles.
Near peak of house in woods.....	53	23	..	..... ¾ mile.
Peak of middle dormer window on left side of house among trees.....	68	05	..	..... ⅜ mile.
Chimney of house.....	113	38	..	..... 1 mile.
Nail in blaze in locust tree (4 inches diameter).....	182	23	40	..... 29.46 meters.
Near peak of house on bank.....	293	48	..	..... 125 yards.
Right peak of Bookers Wharf house.....	350	47	..	..... 175 yards.

## JOURNEY.

*General locality.*—Eastern shore of upper Chester River opposite Melton Point about ½ mile northeast of Bookers Wharf. (See Chart No. 30.)

*Immediate locality.*—Observed station is in cultivated land about 20 feet above high water, 3 yards southeast by east of edge of bank, south of large elm tree, and northeast of several sycamore and locust trees.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	0	1	''	
"Booker" (S 28° 15' W).....	0	00	00	..... ½ mile.
Right peak of Bookers Wharf house.....	4	24	..	..... ½ mile.
Smokepipe of Quaker Neck Wharf house....	41	21	..	..... 1½ miles.
Near peak of house with three dormer windows.....	77	01	..	..... ⅜ mile.
Right chimney of 2½-story house.....	107	02	..	..... 1½ miles.
Nail in blaze in elm tree (10 inches diameter). 134	27	40	..	..... 22.70 meters.
Large cedar tree in yard near fence.....	187	30	..	..... 400 yards.
Near peak of old house.....	318	16	..	..... 200 yards.
Nail in blaze in sycamore tree (8 inches diameter).....	355	05	00	..... 21.00 meters.

## MELTON.

*General locality.*—Western shore of upper Chester River on Melton Point about ½ mile north of Bookers Wharf. (See Chart No. 30.)

*Immediate locality.*—Observed station is about 2 feet above high water, 4 yards south of shore, 40 yards north of shore, 32 yards northwest of extreme end of point, 2 yards northeast of marsh, and 125 yards east-southeast of clump of cedar trees.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	'	''	
"Pomona" (N 53° 38' W).....	0	00	00	..... 5¼ mile.
Right chimney of house on knoll.....	17	17	00	..... 1½ miles.
Right peak of roof of building.....	68	07	00	..... 5¼ mile.
Left chimney of house.....	118	37	00	..... 7 mile.
Northwest chimney of house on bank near Bookers Wharf.....	219	20	00	..... 1½ mile.
Northwest peak of Bookers Wharf house.....	226	38	00	..... 1½ mile.
Smoke pipe of Quaker Neck Wharf house.....	296	46	00	..... 1¼ miles.
Near chimney of house with dormer windows.....	346	50	00	..... 5⁄8 mile.

CAKE.

*General locality.*—Eastern shore of upper Chester River about 3⁄4 mile north of Melton Point and 7⁄8 mile north of Bookers Wharf. (See Chart No. 30.)

*Immediate locality.*—Observed station is in a marsh about 1 foot above high water, 13 yards east-southeast of shore, 35 yards northeast by north of shore, 35 yards northeast of rounded point, 150 yards north-northwest of entrance to a creek, 200 yards south-southwest of buildings, and 300 yards south of a house among trees.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	'	''	
"Journey" (S 36° 29' E).....	0	00	00	..... ½ mile.
Chimney on ell of house to left of trees.....	3	40	00	..... 5⁄8 mile.
Northwest peak of Bookers Wharf house.....	38	53	00	..... 7⁄8 mile.
South chimney of near one of twin houses.....	142	49	00	..... ¾ mile.
East chimney of brick house among trees on ridge.....	169	16	00	..... 1½ miles.
South peak of building.....	229	41	00	..... ¼ mile.
Large lone tree on ridge.....	299	10	00	..... ¼ mile.
Left chimney of large house.....	324	39	00	..... ¼ mile.

POMONA.

*General locality.*—Western shore of upper Chester River about 5⁄8 mile northwest of Melton Point and ½ mile south of entrance to Browns Creek. (See Chart No. 30.)

*Immediate locality.*—Observed station is among small trees near edge of cultivated field, about 12 feet above high water, 6 yards west of edge of bank, and 8 yards from top of slope to marsh.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	'	''	
"Taste" (N 5° 30' W).....	0	00	00	..... ½ mile.
Nail in blaze in locust tree (3 inches diameter).....	14	28	20	..... 5.23 meters.
Windmill.....	52	29	30	..... 2 miles.
Right corner of house.....	71	49	00	..... 1¼ miles.
Large lone tree in field.....	93	20	00	..... 1¼ miles.
Left chimney of large house.....	103	47	00	..... 1½ miles.
Ell of house to left of trees.....	126	48	00	..... 1½ miles.
Nail in blaze in locust tree (4 inches diameter).....	167	10	50	..... 7.74 meters.
Nail in blaze in cedar tree (8 inches diameter).....	196	39	40	..... 12.18 meters.
Large cherry tree.....	277	32	00	..... 300 yards.

## BILL.

*General locality.*—Eastern shore of upper Chester River about  $\frac{3}{4}$  mile north of Melton Point and nearly opposite Browns Creek. (See Chart No. 30.)

*Immediate locality.*—Observed station is in grove of elm, ash, and oak trees on north side of a point about 20 feet above high water, 7 yards south-southeast of edge of bank, 30 yards east-northeast of a small house, and 40 yards west-southwest of a fence.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	"	
"Cake" (S 15° 41' E).....	0	00	00	..... $\frac{3}{8}$ mile.
Right peak of Bookers Wharf house.....	12	04	..	..... 1 $\frac{1}{2}$ miles.
Nail in blaze in elm tree (10 inches diameter).....	20	43	40	..... 12.37 meters.
Nail in blaze in elm tree (9 inches diameter).....	69	23	10	..... 9.92 meters.
Nail in blaze in oak tree (24 inches diameter).....	129	28	40	..... 2.95 meters.
East chimney of brick house.....	137	29	..	..... $\frac{3}{4}$ mile.
Peak of sharp roof.....	155	53	..	..... $\frac{1}{2}$ mile.
"Robertson Windmill".....	243	52	40	..... 2 $\frac{1}{4}$ miles.
Spindle on peak of house on Rolphs Wharf.....	247	37	40	..... 2 $\frac{3}{4}$ miles.
Nail in blaze in tree (8 inches diameter).....	280	24	50	..... 7.60 meters.
Left chimney of house on ridge.....	322	17	..	..... $\frac{3}{4}$ mile.
Nail in blaze in tree (15 inches diameter).....	343	25	10	..... 12.30 meters.
Chimney on ell of house.....	349	32	..	..... 1 mile.

## TASTE.

*General locality.*—Western shore of upper Chester River on point at east side of entrance to Browns Creek, about 1 mile northwest of Melton Point. (See Chart No. 30.)

*Immediate locality.*—Observed station is on a marsh point between Chester River and Browns Creek, about 5 yards north of shore of Chester River, 30 yards south of shore of Browns Creek, 50 yards southwest of point of shore of Browns Creek, and 55 yards west-southwest of cedar trees.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	"	
"Make" (N 52° 14' E).....	0	00	00	..... $\frac{3}{8}$ mile.
Windmill.....	7	11	30	..... 1 $\frac{3}{4}$ miles.
Chimney of house.....	25	20	..	..... 1 $\frac{3}{4}$ miles.
Left chimney of house on ridge.....	68	58	..	..... 1 $\frac{3}{4}$ miles.
Chimney on ell of house.....	84	20	..	..... 1 $\frac{3}{4}$ miles.
West chimney of left one of twin houses.....	142	19	..	..... $\frac{3}{8}$ mile.
Right chimney of brick house.....	266	13	..	..... $\frac{3}{4}$ mile.
Largest cedar tree in clump (15 inches diameter).....	350	28	00	..... 54 yards.

## MAKE.

*General locality.*—Western shore of upper Chester River about  $1\frac{1}{8}$  miles north of Melton Point and  $\frac{1}{8}$  mile northeast of entrance to Browns Creek. (See Chart No. 30.)

*Immediate locality.*—Observed station is in pasture land about 2 feet above high water, 10 yards north of shore, 110 yards west of tangent of point of curve of shore, and 325 yards southeast of farm buildings behind trees.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	'	''	
"Broad" (N 61° 13' E).....	0	00	00	1/2 mile.
Windmill.....	0	22	30	1 1/2 miles.
Near peak of canning house at Wilmers Wharf.....	18	20		1 3/8 miles.
Chimney on ell of house on ridge.....	45	45		1 1/4 miles.
Left chimney of house on ridge.....	80	05		1 1/2 miles.
Spindle on cupola on barn.....	118	55		2 1/4 miles.
Left chimney of left one of twin houses.....	155	18		3/4 mile.
West chimney of house.....	227	30		1 mile.
South peak of building in woods.....	307	04		1 mile.

DOWN.

General locality.—Southeastern shore of upper Chester River about 2 miles southwest of entrance to Southeast Creek and 1 mile east of entrance to Browns Creek. (See Chart No. 30.)

Immediate locality.—Observed station is on a small rounded point of sanded marsh about 1 foot above high water, 5 yards south of shore, 40 yards east by south of an inlet, and 95 yards west of a fence beyond trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	'	''	
"Bill" (S 73° 52' W).....	0	00	00	1/2 mile.
East peak of large barn.....	33	37		1 mile.
Chimney of house.....	75	53		1 1/2 miles.
"Robertson Windmill".....	138	57	20	1 mile.
Right peak of small house near Rolphs Wharf.....	153	54		2 1/4 miles.
Left peak of taller of two barns.....	197	17		1/2 mile.
Nail in blaze in cedar tree (5 inches diameter).....	232	06	10	52.50 meters.
Nail in blaze in cedar tree (5 inches diameter).....	253	25	40	47.18 meters.
Nail in blaze in pear tree (3 inches diameter).....	348	29	50	14.34 meters.

JULIUS.

General locality.—Southeastern shore of upper Chester River about 1/2 mile southwest of Wilmers Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is on a sanded grass point fringed by cedar trees and about 2 yards south of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	'	''	
"Down" (S 56° 12' W).....	0	00	00	1/2 mile.
Chimney of left one of twin houses.....	10	37		1 1/2 miles.
Near peak of large barn.....	37	29		1 mile.
Middle one of three large trees.....	39	50		3/4 mile.
"Robertson Windmill".....	130	23	30	1 1/4 miles.
South chimney of house at Rolphs Wharf.....	165	38		1 3/8 miles.
Weather vane on large barn.....	176	18		1 1/4 miles.
Northwest peak of Wilmers Wharf cannery.....	187	53		3/8 mile.
Nail in blaze in cedar tree (8 inches diameter).....	198	52	00	4.77 meters.
Nail in blaze in cedar tree (8 inches diameter).....	318	06	20	4.30 meters.
Nail in blaze in cedar tree (9 inches diameter).....	345	21	00	13.11 meters.

## BROAD.

*General locality.*—Northwestern side of upper Chester River on an island at entrance to Broad Creek about 1 mile northeast of entrance to Browns Creek. (See Progress map.)

*Immediate locality.*—Observed station is on western end of a marsh island about 9 yards north of shore, 43 yards south of shore, and 52 yards east-southeast of shore.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of manument.

*References.*—

	°	'	''	
"Nils" (N 80° 24' E).....	0	00	00	1/2 mile.
Near peak of cannery.....	7	17		1 1/8 miles.
Chimney on ell of house on ridge.....	51	09		2 1/4 miles.
Right peak of barn.....	98	26		1 mile.
Peak of middle dormer window of large house.....	132	08		1 1/2 miles.
East peak of large barn to left of large tree.....	190	34		1 mile.
"Robertson Windmill".....	341	25	30	1 1/2 miles.

## NILS.

*General locality.*—Northwestern shore of upper Chester River about 3/4 mile west of entrance to Southeast Creek and 1/2 mile east of an island at entrance to Broad Creek. (See Progress map.)

*Immediate locality.*—Observed station is in edge of cultivated field about 5 feet above high water, 4 yards north of shore, 110 yards east by south of tangent of point of curve of shore, and 450 yards southwest of a house and windmill.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	''	
"Robertson" (N 59° 04' E).....	0	00	00	1/2 mile.
Weather vane on southwest peak of largest barn on ridge.....	10	46		1 1/2 miles.
North peak of Wilmers Wharf cannery.....	37	03		1/2 mile.
Chimney of house near Wilmers Wharf.....	41	52		1/2 mile.
West chimney of large house on ridge.....	133	32		1 mile.
Near peak of roof of house on hill.....	158	22		1 mile.
"Robertson Windmill".....	336	55		1/2 mile.

## WILMERS.

*General locality.*—Southeastern shore of upper Chester River on southwest side of entrance to Southeast Creek about 175 yards northeast of Wilmers Wharf. (See Progress map.)

*Immediate locality.*—Observed station is on a sanded grass point between river and marsh about 3 feet above high water, 7 yards east of shore, 5 yards southwest of shore, and 6 yards southeast of extreme end of point.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	''	
"Julius" (S 60° 34' W).....	0	00	00	1/2 mile.
Chimney on near one of twin houses.....	4	58		2 1/2 miles.
East peak of large barn.....	27	14		1 1/2 miles.
"Robertson Windmill".....	74	09	30	3/8 mile.
Cupola on Robertson barn.....	83	23		1/2 mile.
Flagpole on Rolphs Wharf.....	154	06	20	1 1/4 miles.
Weather vane on large barn.....	169	23		1 1/2 miles.
Cupola on barn.....	212	59		300 yards.
Cupola on barn.....	284	57		1/2 mile.
Right peak of Wilmers Wharf cannery.....	348	26		175 yards.

ROBERTSON WINDMILL.

*General locality.*—Northwestern side of upper Chester River opposite entrance to Southeast Creek about  $1\frac{3}{4}$  miles southeast of Rolphs Wharf. (See Progress map.)

*Immediate locality.*—Observed station is windmill on high tower in rear of house.

*Marks.*—Observed station is center point of windmill.

*References.*—None necessary.

ROBERTSON.

*General locality.*—Northwestern shore of upper Chester River near Riverside Wharf opposite entrance to Southeast Creek. (See Progress map.)

*Immediate locality.*—Observed station is about 2 feet above high water, 5 yards northwest of shore, 45 yards northeast of shore end of a wharf, and 100 yards southwest of a point of land.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	"	
"Thorsten" (N 52° 00' E).....	0	00	00	..... $\frac{5}{8}$ mile.
Weather vane on large barn.....	9	30	..	..... $1\frac{3}{4}$ miles.
Cupola on old barn.....	50	31	..	..... $1\frac{1}{2}$ miles.
Chimney of house near Wilmers Wharf.....	97	11	..	..... $\frac{3}{8}$ mile.
Pinnacle on cupola on barn.....	105	15	..	..... $\frac{1}{2}$ mile.
Northwest peak of cannery.....	117	41	..	..... $\frac{1}{4}$ mile.
Weather vane on cupola on barn.....	256	15	20	..... $\frac{1}{4}$ mile.
Spindle on cupola on another barn.....	260	56	..	..... $\frac{1}{4}$ mile.
Spindle on peak of Rolphs lower wharf house.....	359	29	..	..... $1\frac{1}{4}$ miles.

SOUTHEAST.

*General locality.*—Southeastern shore of upper Chester River on Deep Point at northeastern side of entrance to Southeast Creek about  $\frac{3}{4}$  mile south-southwest of Rolphs Wharf and  $\frac{1}{2}$  mile northeast of Wilmers Wharf. (See Progress map.)

*Immediate locality.*—Observed station is on cultivated land about 15 feet above high water, 19 yards south of edge of bank, 21 yards east by north of edge of bank, and 27 yards east by south of extreme point of bank.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	"	
"Wilmers" (S 57° 46' W).....	0	00	00	..... $\frac{1}{2}$ mile.
Right tangent of Wilmers Wharf.....	2	57	..	..... $\frac{1}{4}$ mile.
"Robertson Windmill".....	34	41	20	..... $\frac{3}{4}$ mile.
Spindle on cupola on barn.....	38	02	..	..... $\frac{3}{4}$ mile.
Weather vane on cupola on barn.....	38	32	..	..... $\frac{3}{4}$ mile.
Near peak of long small shanty.....	118	31	..	..... 2 miles.
Left peak of large barn.....	134	39	..	..... $1\frac{1}{4}$ miles.
Flagstaff on Rolphs Wharf house.....	140	54	10	..... $\frac{7}{8}$ mile.
Right peak of long barn.....	191	46	..	..... $\frac{3}{4}$ mile.
Lightning rod between two chimneys on house.....	248	51	..	..... $\frac{7}{8}$ mile.
Right peak of Wilmers Wharf cannery.....	358	34	..	..... $\frac{3}{8}$ mile.

## THORSTEN.

*General locality.*—Northwestern shore of upper Chester River about  $\frac{3}{4}$  mile northeast of Wilmers Wharf and  $\frac{1}{2}$  mile north of entrance to Southeast Creek. (See Progress map.)

*Immediate locality.*—Observed station is about 3 feet above high water, 12 yards northwest of shore, 10 yards northeast of short fence, and 4 yards southeast of lone cedar tree.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

<i>References.</i> —	°	'	"	
"Blank" (N 19° 37' E).....	0	00	00	..... $\frac{3}{8}$ mile.
Northwest peak of large barn.....	4	34	.....	..... $1\frac{1}{4}$ miles.
Northwest peak of large barn.....	21	00	.....	..... 1 mile.
Flagstaff on Rolphs Wharf.....	23	33	.....	..... $\frac{5}{8}$ mile.
Weather vane on very large barn.....	48	01	.....	..... $1\frac{1}{4}$ miles.
West peak of barn behind wharf.....	81	03	.....	..... 1 mile.
Lightning rod to right of two chimneys of house.....	111	15	.....	..... $1\frac{3}{4}$ miles.
Nail in blaze in fence post.....	115	15	30	..... 8.85 meters.
Top point of roof of large brick house on ridge.....	135	05	40	..... $2\frac{3}{4}$ miles.
Spindle on cupola on left one of two barns at Wilmers Wharf.....	177	08	40	..... $\frac{3}{4}$ mile.
Northwest peak of Wilmers Wharf cannery.....	190	15	.....	..... $\frac{3}{4}$ mile.
Nail in blaze in cedar tree (10 inches diameter).....	279	43	30	..... 3.40 meters.

## BLANK.

*General locality.*—Northwestern shore of upper Chester River about  $\frac{1}{4}$  mile west of Rolphs Wharf and  $\frac{3}{4}$  mile north of entrance to Southeast Creek. (See Progress map.)

*Immediate locality.*—Observed station is on a grassy point about 2 feet above high water, 7 yards west of shore, 9 yards north of shore, 8 yards northwest of extreme end of point, and 40 yards from a dense clump of trees.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

<i>References.</i> —	°	'	"	
"Rolphs" (N 82° 37' E).....	0	00	00	..... $\frac{1}{4}$ mile.
Weather vane on wharf house.....	10	10	.....	..... $\frac{1}{4}$ mile.
Left peak of wharf house.....	71	30	.....	..... $\frac{1}{2}$ mile.
Left peak of small house among trees.....	104	28	30	..... $1\frac{3}{4}$ miles.
Spindle on barn cupola.....	115	06	.....	..... $1\frac{3}{4}$ miles.
Peak of middle dormer window of house.....	271	38	.....	..... $1\frac{3}{4}$ miles.
Peak of large barn.....	333	25	.....	..... $\frac{5}{8}$ mile.
Flagstaff on Rolphs Wharf house.....	356	27	.....	..... $\frac{1}{4}$ mile.

## ROLPHS.

*General locality.*—Eastern shore of upper Chester River about 100 yards southeast of Rolphs Wharf and  $\frac{3}{4}$  mile north of entrance to Southeast Creek. (See Progress map.)

*Immediate locality.*—Observed station is on a grass bank between two large willow trees about 6 feet above high water, 5 yards northeast of shore, 19 yards south-southwest of side gate to yard, and 7 yards southwest of a road 3 feet higher than observed station.



*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

"Southeast" (S 22° 53' W).....	0	00	00	.....	¾ mile.
Peak of Wilmers Wharf cannery.....	15	06	.....	.....	1¼ miles.
Flagstaff on Rolphs Wharf.....	76	59	.....	.....	100 yards.
Nail in blaze in willow tree (24 inches diameter).....	88	06	20	.....	7.16 meters.
Chimney on ell of Story house.....	151	36	.....	.....	53 yards.
Nail in blaze in willow tree (27 inches diameter).....	220	31	10	.....	13.96 meters.
Chimney on ell of Story house.....	261	56	.....	.....	120 yards.
Nail in blaze in willow tree (25 inches diameter).....	309	26	40	.....	8.51 meters.
Weather vane on middle of lower wharf house.....	347	42	.....	.....	100 yards.

## CRANEY.

*General locality.*—Eastern shore of Chesapeake Bay on western shore of Kent Island about ½ mile north of Crane Creek and 4½ miles east of Tolly Point. (See Chart No. 31.)

*Immediate locality.*—Observed station is about 3 feet above and 30 feet back from high water on a low, sandy, cultivated field. A group of farm buildings stand about ¼ mile away. Cement monument marking reference station is 4.88 meters N 85° 36' E of observed station.

*Marks.*—Observed station is a nail in a wooden stub projecting 3 inches above surface of ground. Reference station is center point of triangle on standard cement monument.

*References.*—

"Thomas Point Light" (S 56° 45' W).....	0	00	00	.....	4¾ miles.
"Greenbury Point Shoal Light".....	57	27	30	.....	5¼ miles.
"Sandy Point Light".....	111	26	30	.....	5¾ miles.
REFERENCE STATION.....	208	51	10	.....	4.88 meters.
Cupola on barn.....	258	11	.....	.....	¼ mile.
Extreme south tangent of Kent Island.....	310	52	.....	.....	6 miles.

## THOMAS POINT SHOAL LIGHT.

*General locality.*—Western side of Chesapeake Bay offshore about 1¼ miles southeast of Thomas Point and 3 miles south of entrance to channel to Annapolis. (See Chart No. 31.)

*Immediate locality.*—Observed station is on a hexagonal screw-pile structure known as Thomas Point Shoal Lighthouse.

*Marks.*—Observed station is center point of lantern on Thomas Point Shoal Lighthouse.

*Reference.*—

"Thomas 3" (N 56° 07' W).....	0	00	00	.....	1¼ miles.
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## BLOODY POINT BAR LIGHT.

*General locality.*—Offshore of southwestern end of Kent Island on northern side of entrance to Eastern Bay about 1½ miles southwest of Bloody Point and 1¼ miles west of Kent Point. (See Chart No. 31.)

*Immediate locality.*—Observed station is on tower on caisson structure known as Bloody Point Bar Lighthouse.

*Marks.*—Observed station is center point of lantern on Bloody Point Bar Lighthouse.

*Reference.*—

"Valliant" (S 4° 59' E).....	0	00	00	.....	4½ miles.
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## TENK.

*General locality.*—Northern side of entrance to Eastern Bay on Kent Point about  $1\frac{1}{2}$  miles east of Bloody Point Bar Light. (See Chart No. 31.)

*Immediate locality.*—Observed station is in about 2 feet of water, 18 yards off shore of Kent Point, 50 yards southwest of point of land, and 65 yards south-southeast of another point of land. Cement monument marking reference station is 35.94 meters N  $36^{\circ}$  15' W of observed station.

*Marks.*—Observed station is nail in center of 3-inch square stub in water with top about on level with high water. Reference station is center point of triangle on standard cement monument projecting 6 inches above surface of ground.

*References.*—

	°	'	"	
"Bloody Point Bar Light" (S $86^{\circ}$ 34' W).....	0	00	00	..... $1\frac{1}{4}$ miles.
REFERENCE STATION.....	57	11	30	..... 35.94 meters.
Chimney of house on Tilghmans Point Farm.....	109	26	..	..... $5\frac{3}{8}$ miles.
"Rich Neck Water Tank".....	175	48	10	..... $5\frac{1}{4}$ miles.
Flagpole on Claiborne train shed.....	181	14	..	..... $4\frac{1}{2}$ miles.
Right chimney of house.....	188	34	..	..... $4\frac{1}{2}$ miles.
"Kemp Tower".....	190	21	30	..... $3\frac{3}{8}$ miles.
Right chimney of brick house.....	206	17	00	..... $3\frac{3}{4}$ miles.
Right chimney of house.....	240	12	..	..... $4\frac{1}{2}$ miles.
Chimney left of house among trees on Poplar Island.....	278	26	..	..... $3\frac{3}{4}$ miles.

## STRAIGHT.

*General locality.*—Northern shore of Eastern Bay on Long Point about  $2\frac{1}{4}$  miles northeast of Kent Point,  $2\frac{7}{8}$  miles northwest of Wades Point, and  $\frac{1}{8}$  mile northeast of entrance to Long Point Creek. (See Chart No. 31.)

*Immediate locality.*—Observed station is in a cultivated field about 8 feet above high water, 35 yards west of edge of bank, 45 yards northwest of edge of bank near a tree, 80 yards south-southwest of fence corner, 245 yards south-southeast of fence corner at gate, and 175 yards east-southeast of woods.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	"	
"Needle" (N $48^{\circ}$ 15' E).....	0	00	00	..... $4\frac{1}{8}$ miles.
Left tangent of Tilghmans Point.....	35	07	..	..... $4\frac{3}{8}$ miles.
Chimney of house on Tilghmans Point Farm.....	42	27	..	..... $4\frac{1}{8}$ miles.
"Kemp Tower".....	83	46	00	..... $2\frac{7}{8}$ miles.
Nail in blaze in red oak tree (22 inches diameter).....	113	59	00	..... 31.06 meters.
Right tangent of woods on Poplar Island.....	155	30	..	..... $5\frac{3}{4}$ miles.
Left tangent of woods on Kent Point.....	179	48	..	..... 2 miles.
South peak of building.....	264	18	..	..... $\frac{1}{2}$ mile.
East peak of barn.....	317	48	..	..... $\frac{3}{4}$ mile.
South chimney of house.....	330	10	..	..... $\frac{1}{4}$ mile.

## MOUTH.

*General locality.*—Northern shore of Eastern Bay on eastern shore of Kent Island about  $1\frac{1}{4}$  miles north of Long Point,  $3\frac{5}{8}$  miles northwest of Claiborne Wharf, and  $3\frac{1}{4}$  miles southwest of Bodkin Island. (See Chart No. 31.)

*Immediate locality.*—Observed station is in a cultivated field about 8 feet above high water, 10 yards west of top of a bank with uniform slope to shore, 50 yards south of a small cove, and 20 yards south of a group of cedar trees near shore.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	"	
"Matta" (N 5° 49' W).....	0	00	00	2¼ miles.
South gable of barn.....	26	41		4¼ miles.
West gable of house.....	33	35		2¼ miles.
Right tangent of woods on Turkey Point.....	50	25		3 miles.
"Parsons Island Water Tank".....	66	43	00	5½ miles.
North gable of barn.....	74	49		6¼ miles.
Left tangent of woods on Tilghmans Point.....	103	05		4¼ miles.
South chimney of house on Tilghmans Point				
Farm.....	112	19		4 miles.
"Rich Neck Water Tank".....	124	48	40	3¾ miles.
South gable of Claiborne Wharf house.....	137	41		3½ miles.
"Kemp Tower".....	154	09	00	3½ miles.
East chimney of Legg house.....	224	59		¾ mile.
Chimney of small house.....	286	35		1½ miles.
South gable of barn.....	342	46		1¾ miles.

MATTA.

*General locality.*—Northern shore of Eastern Bay on eastern shore of Kent Island at western side of entrance to Shipping Creek about 2 miles west of Turkey Point. (See Chart No. 31.)

*Immediate locality.*—Observed station is in cultivated field about 15 feet above high water, 125 yards southwest of extreme end of point, 25 yards northwest of dry ditch, and 200 yards northwest of lone cedar tree near shore.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	"	
"Batts" (N 67° 45' E).....	0	00	00	1 mile.
North chimney of house.....	17	54		2 miles.
Left tangent of woods on Tilghmans Point.....	54	30		5¾ miles.
North chimney of house on Tilghmans Point				
Farm.....	62	34		5¾ miles.
"Rich Neck Water Tank".....	71	31	00	5½ miles.
Left tangent of woods on Long Point.....	105	49		2½ miles.
Chimney of Greeve house.....	124	53		¼ mile.
South chimney of house.....	231	14		¾ mile.
South cupola on barn.....	247	39		78 mile.
East chimney of house.....	273	58		1½ miles.
Chimney of small house.....	296	12		1¼ miles.
West chimney of house.....	305	45		1¾ miles.

THEN.

*General locality.*—Western shore of small bay at entrance to Shipping Creek about ¾ mile northwest of Eastern Bay, ⅜ mile northeast of entrance to narrow part of Shipping Creek, and at western side of entrance to a smaller creek. (See Chart No. 31.)

*Immediate locality.*—Observed station is on marsh about 1 foot above high water, 33 yards west of shore, 40 yards south of shore, 50 yards north of shore at line between hard land and marsh, 8 yards east of pasture land, and ¼ mile east of 2½-story house.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	'	''	
"Some" (N 68° 51' E).....	0	00	00	1/2 mile.
Near peak of brick house.....	16	50	..	5/8 mile.
Large lone tree on point.....	46	08	30	3/4 mile.
"Rich Neck Water Tank".....	74	53	30	6 miles.
Weather vane on barn cupola.....	110	34	30	3 miles.
Right corner of large house.....	115	32	..	1 mile.
Large lone tree in field.....	178	12	..	250 yards.
Near peak of house.....	200	43	..	3/4 mile.
Near peak of house.....	247	04	..	3/8 mile.
Left peak of house.....	300	50	..	1/2 mile.
Left peak of large house.....	323	36	..	1/2 mile.

## SOME.

*General locality.*—Northern shore of small bay at entrance to Shipping Creek on a point between two small creeks about 3/4 mile north of Eastern Bay and 2 miles northwest of Turkey Point. (See Chart No. 31.)

*Immediate locality.*—Observed station is in a cultivated field about 5 feet above high water, 20 yards northeast of marsh, 30 yards northwest of edge of bank, 28 yards east of edge of bank, 50 yards northeast of shore of Shipping Creek, and 53 yards southwest of shore of small creek.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	'	''	
"Batts" (S 49° 01' E).....	0	00	00	3/4 mile.
Large lone tree.....	18	55	..	1/2 mile.
Peak between two chimneys of large house..	72	18	..	1 1/8 miles.
Right peak of barn.....	105	01	..	1 1/8 miles.
Near peak of house.....	125	20	..	3/4 mile.
Near peak of large barn.....	171	45	..	3/8 mile.
Left chimney of old house.....	194	07	..	3/4 mile.
Spindle on cupola on barn.....	221	37	..	1/2 mile.
Large pine tree.....	307	21	..	3/8 mile.
Left corner of large house.....	339	25	..	3/4 mile.

## BATTS.

*General locality.*—Northern shore of Eastern Bay on southern end of Batts Neck between Shipping and Cox Creeks about 1 1/4 miles northwest of Turkey Point. (See Chart No. 31.)

*Immediate locality.*—Observed station is in cultivated field about 2 feet above high water, 21 yards north of shore, and 100 yards west of a wire fence extending 100 yards into bay.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument. Station "COXES CREEK," 1899, is 87.70 meters N 72° 20' E of observed station and is marked by the center of a cross in the top of a granite post about 12 inches square in the rough and about 27 inches long projecting 5 inches above surface of ground. The top of the granite post is dressed to a 6-inch cube marked with a square cross and the letters "U. S." Subsurface mark is center of neck of a bottle buried with top 3 inches below base of granite post.

References.—	°	'	''	
"Turkey" (S 58° 24' E).....	0	00	00	1 1/4 miles.
North chimney of house on Tilghmans Point Farm.....	19	25	..	5 miles.
"Rich Neck Water Tank".....	28	26	00	5 1/4 miles.
Nail in blaze in one of twin persimmon trees (4 inches diameter).....	37	36	40	3.94 meters.
Left tangent of woods on Long Point.....	69	48	..	3 1/4 miles.

References—Continued.

East gable of house.....	70	30	.....	2½ miles
Nail in blaze in persimmon tree (6 inches diameter).....	91	13	50	..... 0.70 meters.
South chimney of house.....	202	08	.....	¾ mile.
South chimney of house.....	242	32	.....	¾ mile.
South gable of barn.....	271	51	.....	1½ miles.
North chimney of house.....	293	22	.....	1¾ miles.
"Coxes Creek" 1899 (granite post).....	310	44	20	..... 87.70 meters.
North chimney of house.....	341	07	.....	1¾ miles.

TOP.

*General locality.*—Western shore of Cox Creek about 1 mile north of Eastern Bay and 1 mile south of Warehouse Creek. (See Chart No. 31.)

*Immediate locality.*—Observed station is on cupola of a barn about 150 yards east of shore.

*Marks.*—Observed station is center point of top of cupola on barn.

*References.*—None necessary.

WARE.

*General locality.*—Western shore of Cox Creek about 2 miles north of Eastern Bay and ¼ mile south of entrance to Warehouse Creek. (See Chart No. 31.)

*Immediate locality.*—Observed station is in a cultivated field about 15 feet above high water, 300 yards northwest of end of point, and 90 yards south of wire fence extending east and west.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 7 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

"Tuxon" (N 13° 45' E).....	0	00	00	.....	¾ mile.
South gable of house.....	1	11	.....	1½ miles.	
South chimney of house.....	19	05	.....	1¼ miles.	
North chimney of house.....	34	50	.....	1 mile.	
Cupola on barn.....	99	46	.....	¾ mile.	
North chimney of house.....	171	48	.....	1¼ miles.	
South chimney of house.....	257	55	.....	350 yards.	
South chimney of house.....	307	54	.....	½ mile.	

COFFEE.

*General locality.*—Southwestern shore of Warehouse Creek on a point about ½ mile northwest of Cox Creek. (See Chart No. 31.)

*Immediate locality.*—Observed station is on marsh about 1 foot above high water, 9 yards south of point of shore, 13 yards southwest of shore, 17 yards west-northwest of shore at fence, 12 yards north of fence, 29 yards east-northeast of corner of fence, and 250 yards north by east of house with two chimneys.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

"Here" (N 53° 46' W).....	0	00	00	.....	¾ mile.
Left peak of barn.....	22	40	.....	1¼ miles.	
Left chimney of brick house.....	51	40	.....	1¼ miles.	
West chimney of house.....	100	41	.....	1¼ miles.	
Near peak of house.....	113	40	.....	1¼ miles.	
Left peak of house.....	136	17	.....	1¾ miles.	
Cupola on barn.....	160	33	.....	1½ miles.	
Nail in blaze in fence post.....	173	15	30	..... 16.57 meters.	
Nail in blaze in fence post.....	220	34	40	..... 12.29 meters.	
Near corner of house.....	226	02	.....	250 yards.	
Nail in blaze in fence post.....	245	59	30	..... 14.14 meters.	

## HERE.

*General locality.*—Southwestern shore of Warehouse Creek on a point at northwestern side of entrance to a small cove about  $\frac{3}{4}$  mile northwest of Cox Creek. (See Chart No. 31.)

*Immediate locality.*—Observed station is on marsh about 1 foot above high water, 17 yards west of shore, 20 yards southwest of shore, 25 yards northwest of shore, 60 yards north of shore, 3 yards southeast of one-strand barbed-wire fence, and  $\frac{1}{4}$  mile east to southeast of woods.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	''	
"Samuel" (N 31° 22' E).....	0	00	00	$\frac{1}{4}$ mile.
Chimney outside northwest end of large house	20	34		$1\frac{7}{8}$ miles.
Near peak of house.....	43	01		$1\frac{3}{8}$ miles.
Cupola on barn.....	79	17		$1\frac{3}{4}$ miles.
Cupola on barn.....	96	45		$1\frac{3}{4}$ miles.
Middle north chimney of large old brick house	115	39		$\frac{3}{4}$ mile.
Peak of side gable of house.....	185	54		$1\frac{1}{2}$ miles.
Left end of large house.....	314	40		$\frac{3}{4}$ mile.

## SAMUEL.

*General locality.*—Northeastern shore of Warehouse Creek on a point at northwestern side of entrance to a small cove about  $\frac{3}{4}$  mile northwest of Cox Creek. (See Chart No. 31.)

*Immediate locality.*—Observed station is on long marsh point about 1 foot above high water, 9 yards east of shore of Warehouse Creek, 23 yards west-southwest of shore of small cove, 18 yards north of point, and 27 yards west of another point.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 7 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	''	
"Liver" (S 56° 31' E).....	0	00	00	$\frac{3}{8}$ mile.
Spindle on barn cupola.....	12	19		$1\frac{3}{4}$ miles.
Near peak of small house.....	34	56		$\frac{3}{8}$ mile.
Left chimney of large house.....	92	52		$1\frac{1}{2}$ miles.
Chimney of house showing through trees.....	208	43		$\frac{3}{4}$ mile.
Left corner of large brick house.....	247	45		$1\frac{1}{4}$ miles.
Chimney outside of near end of house.....	304	12		$1\frac{1}{4}$ miles.
Left peak of house.....	339	08		$1\frac{1}{4}$ miles.
Cupola on barn.....	353	59	10	$1\frac{1}{2}$ miles.

## LIVER.

*General locality.*—Northeastern shore of Warehouse Creek on a point at western side of entrance to a small cove about  $\frac{1}{4}$  mile northwest of Cox Creek. (See Chart No. 31.)

*Immediate locality.*—Observed station is on a marsh point about 1 foot above high water, 15 yards northwest of shore, 17 yards southeast of shore, 30 yards north of point of shore, 30 yards northeast of extreme end of point, and 250 yards southwest by south of three large trees.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	''	
"Tuxon" (N 83° 37' E).....	0	00	00	$\frac{3}{8}$ mile.
Left peak of house.....	10	23		1 mile.
Cupola on barn.....	32	16		$1\frac{1}{4}$ miles.
Left tangent of left chimney of large house...	94	18		$1\frac{3}{4}$ miles.
Right peak of small house.....	118	20		$\frac{3}{8}$ mile.
Left peak of house with three dormer windows.....	237	10		1 mile.
Left peak of very large barn.....	281	55		$1\frac{1}{4}$ miles.
Clump of pine trees.....	299	34		250 yards.
West chimney of house.....	326	31		$1\frac{1}{8}$ miles.

TUXON.

*General locality.*—Western shore of Cox Creek on a point about 3 miles north of Eastern Bay,  $\frac{1}{2}$  mile south of entrance to Thompsons Creek, and  $\frac{1}{4}$  mile northeast of entrance to Warehouse Creek. (See Chart No. 31.)

*Immediate locality.*—Observed station is on marsh about 2 feet above high water and 50 yards west of shore.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 8 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	''	
"Greek" (S 51° 51' E).....	0	00	00	..... $\frac{1}{2}$ mile.
East chimney of house.....	41	10	..	..... $\frac{3}{8}$ mile.
"Top" (cupola on barn).....	61	37	..	..... $1\frac{1}{8}$ miles.
North chimney of house.....	77	45	..	..... $\frac{3}{4}$ mile.
North chimney of house.....	107	28	..	..... $\frac{5}{8}$ mile.
South gable of barn.....	198	06	..	..... 1 mile.
North chimney of house.....	265	55	..	..... $\frac{3}{4}$ mile.
North chimney of house.....	288	06	..	..... $\frac{5}{8}$ mile.
North chimney of house.....	333	02	..	..... $\frac{1}{2}$ mile.
Cupola on barn.....	357	44	..	..... $1\frac{1}{8}$ miles.

STEVE.

*General locality.*—Western shore of Cox Creek on a point about  $3\frac{1}{4}$  miles north of Eastern Bay at southwestern side of entrance to Thompsons Creek and  $\frac{1}{4}$  mile north of entrance to Warehouse Creek. (See Chart No. 31.)

*Immediate locality.*—Observed station is on marsh land about 1 foot above high water, 27 yards south of shore, 35 yards north of shore, 20 yards west of a point of shore, and 35 yards east of a point of shore.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	''	
"Thompson" (N 37° 13' W).....	0	00	00	..... $\frac{3}{8}$ mile.
Chimney of small house.....	1	03	..	..... $\frac{3}{4}$ mile.
Right peak of very large house.....	30	08	..	..... 1 mile.
Near corner of large house.....	65	50	..	..... $\frac{3}{4}$ mile.
Near corner of large house.....	92	28	..	..... $\frac{5}{8}$ mile.
Near peak of house.....	124	07	..	..... $\frac{1}{2}$ mile.
Near peak of house.....	164	38	..	..... $\frac{3}{4}$ mile.
Weather vane on house with two chimneys..	209	03	..	..... $1\frac{1}{4}$ miles.
Left chimney of small house.....	234	45	..	..... $1\frac{1}{8}$ miles.
Right peak of small house.....	253	12	..	..... $1\frac{1}{4}$ miles.
Near peak of house.....	329	44	..	..... 1 mile.
Left corner of brick house.....	355	18	..	..... $\frac{3}{4}$ mile.

THOMPSON.

*General locality.*—Western shore of Thompsons Creek about  $\frac{3}{8}$  mile west of point of land between Thompsons Creek and Cox Creek and  $\frac{1}{8}$  mile northwest of a small cove. (See Chart No. 31.)

*Immediate locality.*—Observed station is on marsh about 1 foot above high water, 30 yards south of shore, 45 yards northwest of shore, 20 yards southwest of point of shore, and 120 yards south-southeast of rail fence.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

<i>References.</i> —	°	'	"	
"Hope" (N 11° 27' E).....	0	00	00	3/8 mile.
Near peak of large house showing through trees.....	5	32		1 mile.
Near corner of large house.....	50	56		1/2 mile.
Near peak of large house.....	72	51		5/8 mile.
Right peak of house.....	95	29		3/4 mile.
Left corner of house.....	120	38		1 mile.
Right chimney of house.....	186	03		1 mile.
Left corner of brick house.....	303	33		1/2 mile.
Near peak of house.....	330	41		1 1/4 miles.
Right corner of very large house.....	353	36		3/4 mile.

## HOPE.

*General locality.*—Western shore of Thompsons Creek on a point between Thompsons Creek and a smaller creek about 1/2 mile northwest of Cox Creek. (See Chart No. 31.)

*Immediate locality.*—Observed station is on marsh land about 1 foot above high water, 40 yards west of shore, 90 yards northwest of shore, and 200 yards east-southeast of end of fence.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

<i>References.</i> —	°	'	"	
"Knock" (S 74° 42' E).....	0	00	00	1/2 mile.
Right corner of near chimney of house.....	4	07		3/8 mile.
Right corner of near chimney of house.....	13	34		5/8 mile.
Near peak of house.....	42	13		1 1/2 miles.
Weather vane on house with two chimneys..	65	46	30	1 3/4 miles.
Right tangent of near chimney of large house.	150	10		7/8 mile.
Near peak of large brick house.....	159	59		3/8 mile.
Near peak of house.....	224	12		7/8 mile.
Right peak of large house.....	253	12		3/8 mile.

## KNOCK.

*General locality.*—Eastern shore of Thompsons Creek about 1/4 mile north of Cox Creek and opposite a point of land between Thompsons Creek and a cove. (See Chart No. 31.)

*Immediate locality.*—Observed station is in southwest end of point of woods about 1 foot above high water, 6 yards east of shore, and 60 yards south-southwest of a point of shore.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

<i>References.</i> —	°	'	"	
"Landing" (S 3° 06' E).....	0	00	00	1/4 mile.
"Top" (barn cupola).....	10	08	30	2 1/2 miles.
Near peak of large house.....	83	14		1 1/2 miles.
Near peak of large brick house.....	94	16		5/8 mile.
Left peak of very large barn.....	151	32		1/2 mile.
Nail in blaze in pine tree (6 inches diameter).	184	10	00	5.50 meters.
Nail in blaze in pine tree (8 inches diameter).	226	58	30	23.81 meters.
Nail in blaze in oak tree (10 inches diameter).	276	49	00	7.15 meters.
Right corner of near chimney of large house..	295	35		3/8 mile.



## LANDING.

*General locality.*—Eastern shore of Thompsons Creek about  $\frac{1}{8}$  mile northwest of Cox Creek. (See Chart No. 31.)

*Immediate locality.*—Observed station is on marsh about 1 foot above high water, 16 yards northwest of cut in shore, 20 yards north-northwest of point of shore, 14 yards east of point, 12 yards southeast of shore, 100 yards west of cultivated land, and 250 yards south of woods.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	'	''	
"Timber" (S 38° 33' E).....	0	00	00	$\frac{1}{8}$ mile.
Left peak of barn.....	1	07		1 mile.
Weather vane on middle of house with two chimneys.....	34	38		$1\frac{5}{8}$ miles.
Right chimney of house.....	66	41		$1\frac{1}{8}$ miles.
Left corner of large brick house.....	150	12		$\frac{3}{8}$ mile.
Right peak of very large house.....	202	18		$\frac{3}{4}$ mile.
Right corner of large house.....	275	49		$\frac{5}{8}$ mile.
Large house.....	314	03		$\frac{7}{8}$ mile.
Right peak of barn.....	347	53		$1\frac{1}{4}$ miles.

## TIMBER.

*General locality.*—Eastern shore of Cox Creek about  $3\frac{1}{4}$  miles north of Eastern Bay,  $\frac{3}{4}$  mile north-east of entrance to Warehouse Creek, and opposite entrance to Thompsons Creek. (See Chart No. 31.)

*Immediate locality.*—Observed station is in a pasture between large cherry tree at the edge of the water and four cedar trees at the edge of the bank about 5 feet above high water, 4 yards east of edge of bank, 17 yards east of point, 6 yards southeast of edge of bank, and 12 yards northeast of edge of bank.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	'	''	
"Ville" (S 9° 32' E).....	0	00	00	$\frac{1}{4}$ mile.
Nail in blaze in cherry tree (30 inches diameter).....	26	26	10	13.45 meters.
Right peak of house.....	41	00		$1\frac{1}{4}$ miles.
Nail in blaze in stump (8 inches diameter)....	42	45	10	6.12 meters.
Right peak of house.....	58	50		$1\frac{1}{8}$ miles.
Left corner of large brick house.....	133	49		1 mile.
Nail in blaze in cedar tree (5 inches diameter).....	170	05	10	6.80 meters.
Left corner of left chimney of house.....	213	56		$\frac{3}{8}$ mile.
Left corner of house.....	278	56		400 yards.
Right corner of building.....	342	41		$\frac{1}{2}$ mile.

## VILLE.

*General locality.*—Eastern shore of Cox Creek about 3 miles north of Eastern Bay,  $\frac{5}{8}$  mile northeast of entrance to Warehouse Creek, and  $\frac{1}{2}$  mile southeast of entrance to Thompsons Creek. (See Chart No. 31.)

*Immediate locality.*—Observed station is in a pasture about 5 feet above high water, 8 yards east of edge of bank, 33 yards south of tangent of cliff, 60 yards north of small ditch, and 115 yards north of wire fence.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

<i>References.</i>	o	'	"	
"Greek" (S 3° 57' E).....	0	00	00	3/8 mile.
Left corner of house.....	45	52		1 mile.
Right peak of house.....	69	24		1 mile.
Left peak of brick house.....	127	44		1 mile.
Left corner of large brick house.....	137	32		1 1/4 miles.
Right peak of very long barn.....	160	05		1 1/4 miles.
Left corner of house.....	172	52		1/2 mile.
Near peak of house.....	276	09		3/4 mile.
Left corner of house.....	314	12		3/4 mile.
Right corner of modern house.....	340	03		1 1/4 miles.

## GREEK.

*General locality.*—Eastern shore of Cox Creek on a point about 2 3/4 miles north of Eastern Bay and 1/2 mile east of entrance to Warehouse Creek. (See Chart No. 31.)

*Immediate locality.*—Observed station is on a marsh point about 1 foot above high water, 60 yards southwest of extreme end of point, and 125 yards east of a small marsh island.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

<i>References.</i>	o	'	"	
"Tuxon" (N 51° 50' W).....	0	00	00	1/2 mile.
East chimney of house.....	14	37		1 1/4 miles.
South gable of barn.....	26	19		2 1/4 miles.
East chimney of house.....	45	37		1 1/4 miles.
East chimney of house.....	64	14		5/8 mile.
North chimney of house.....	91	26		1/2 mile.
Chimney of house.....	139	57		1/2 mile.
Cupola on barn.....	176	08		3/4 mile.
Chimney of small house.....	252	04		5/8 mile.
South chimney of house.....	290	55		1 mile.
South chimney of house.....	318	32		7/8 mile.

## TOM.

*General locality.*—Eastern shore of Cox Creek about 2 miles north of Eastern Bay and 1/2 mile south-east of entrance to Warehouse Creek. (See Chart No. 31.)

*Immediate locality.*—Observed station is in a cultivated field about 12 feet above high water, 300 yards east of shore, 135 yards north of a graveyard, 100 yards southwest of a house, and 40 yards south of driveway beyond wire fence.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

<i>References.</i>	o	'	"	
"Ware" (N 67° 55' W).....	0	00	00	3/8 mile.
Southwest corner of east house on road.....	28	01		100 yards.
South gable of small barn.....	61	09		2 1/4 miles.
East chimney of house.....	70	29		1 3/4 miles.
Chimney of house.....	92	43		7/8 mile.
North chimney of house.....	176	20		3/8 mile.
North gable of barn.....	272	59		1 1/4 miles.
North chimney of house.....	281	59		3/4 mile.
Chimney of small house.....	336	15		3/4 mile.

## DELL.

*General locality.*—Eastern shore of Cox Creek about  $1\frac{1}{2}$  miles north of Eastern Bay and 1 mile south of entrance to Warehouse Creek. (See Chart No. 31.)

*Immediate locality.*—Observed station is in a cultivated field about 10 feet above high water, 43 yards from shore, 28 yards northeast of top of bank, and 30 yards northeast of a lone cedar tree at edge of bank.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	"	
"Turkey" (S $17^{\circ} 22'$ E).....	0	00	00	..... $1\frac{5}{8}$ miles.
"Rich Neck Water Tank".....	16	31	00	..... $5\frac{3}{8}$ miles.
Left tangent of woods on Long Point.....	33	36		..... $4\frac{1}{4}$ miles.
North chimney of house.....	44	07		..... $3\frac{1}{4}$ miles.
Left tangent of house.....	72	56		..... 1 mile.
North chimney of house.....	88	09		..... $\frac{1}{2}$ mile.
Chimney of small house.....	136	19		..... $1\frac{1}{4}$ miles.
South chimney of house.....	154	52		..... $1\frac{1}{4}$ miles.
West chimney of house.....	188	19		..... $\frac{1}{2}$ mile.
Cupola on barn.....	230	45		..... $\frac{1}{4}$ mile.
West gable of barn.....	393	02		..... $\frac{1}{2}$ mile.
Left tangent of small fishing shack.....	343	03		..... $\frac{5}{8}$ mile.
Right tangent of barn.....	354	31		..... $1\frac{1}{4}$ miles.

## TURKEY.

*General locality.*—Northern shore of Eastern Bay on southern end of Cox Neck on Turkey Point about 1 mile west of the north end of Bodkin Island. (See Chart No. 31.)

*Immediate locality.*—Observed station is in marsh meadow about 2 feet above high water, 40 yards northeast of shore, 200 yards south of a group of three pine trees near shore, and in center of triangle formed by three pine stubs driven flush with marsh to support theodolite.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	"	
"Mouth" (S $46^{\circ} 32'$ W).....	0	00	00	..... $2\frac{3}{4}$ miles.
Chimney of house.....	23	19		..... $2\frac{3}{4}$ miles.
Chimney of Greeve house.....	49	14		..... $2\frac{1}{2}$ miles.
South cupola on barn.....	68	20		..... $2\frac{3}{4}$ miles.
North chimney of house.....	72	30		..... $2\frac{1}{2}$ miles.
South chimney of house.....	103	39		..... $1\frac{3}{4}$ miles.
South chimney of house.....	113	22		..... $2\frac{1}{2}$ miles.
West pine tree of group.....	132	12		..... 200 yards.
Right tangent of Bodkin Island.....	254	46		..... 1 mile.
Left tangent of Tilghmans Point.....	275	23		..... $3\frac{1}{2}$ miles.
North chimney of house on Tilghmans Point Farm.....	286	38		..... $3\frac{3}{4}$ miles.
"Rich Neck Water Tank".....	297	25		..... $4\frac{1}{4}$ miles.
Left tangent of woods on Long Point.....	352	26		..... 3 miles.

## COX.

*General locality.*—Western shore of Crab Alley Bay on Cox Neck about  $\frac{3}{8}$  mile north of Eastern Bay and 1 mile northwest of Bodkin Island. (See Chart No. 31.)

*Immediate locality.*—Observed station is at edge of a cultivated field on narrow neck of land about 3 feet above high water, 16 yards west of shore, 18 yards east of shore, and 80 yards northwest of extreme end of point.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	o	/	''	
"Tull" (N 12° 34' E).....	0	00	00	1 $\frac{3}{8}$ miles.
Chimney of small house.....	12	54	..	2 $\frac{1}{2}$ miles.
Chimney of house.....	21	19	..	2 $\frac{1}{2}$ miles.
Cupola on barn.....	30	09	..	2 $\frac{3}{4}$ miles.
Right corner of old barn.....	49	27	..	2 $\frac{1}{2}$ miles.
East chimney of large brick house.....	54	32	..	2 $\frac{1}{2}$ miles.
Right tangent of Normans Point.....	61	40	..	2 miles.
North gable of barn on Parsons Island.....	79	50	..	2 $\frac{1}{2}$ miles.
Left tangent of Bodkin Island.....	123	47	..	$\frac{7}{8}$ mile.
East gable of barn.....	227	02	..	$\frac{3}{8}$ mile.
Chimney of house.....	232	44	..	3 miles.
Chimney of house.....	255	50	..	2 $\frac{1}{2}$ miles.

## TULL.

*General locality.*—Eastern side of Kent Island and western side of Crab Alley Bay on northern end of Johnson Island at entrance to Crab Alley Creek about 2 $\frac{1}{4}$  miles north of Bodkin Island and 1 $\frac{1}{2}$  miles northwest of Normans Point. (See Chart No. 31.)

*Immediate locality.*—Observed station is in a marsh meadow about 2 feet above high water, 18 yards south of shore, 53 yards west of extreme northeast end of Johnson Island, and 40 yards north of a group of pine trees.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	o	/	''	
"Cox" (S 12° 35' W).....	0	00	00	1 $\frac{3}{8}$ miles.
Chimney of house.....	4	54	..	$\frac{1}{4}$ mile.
East gable of house.....	80	08	..	$\frac{3}{8}$ mile.
South chimney of house.....	121	14	..	$\frac{1}{4}$ mile.
Chimney on small tenant house.....	145	12	..	$\frac{3}{4}$ mile.
Cupola on barn.....	147	30	..	1 mile.
Right tangent of fishing shack.....	203	27	..	$\frac{1}{2}$ mile.
Cupola on barn.....	258	23	..	1 $\frac{1}{4}$ miles.
Left tangent to small island.....	329	35	..	$\frac{3}{8}$ mile.
Left tangent to pine woods on Turkey Point.....	355	24	..	2 miles.

## NEEDLE.

*General locality.*—Northern part of Eastern Bay on Bodkin Island at entrance to Crab Alley Bay about 1 $\frac{1}{2}$  miles west of the south end of Parsons Island and 1 mile east-southeast of Turkey Point. (See Chart No. 31.)

*Immediate locality.*—Observed station is near south end of Bodkin Island about 12 feet above high water, 50 yards north by west of shore, 90 yards northeast by east of shore, 115 yards west-southwest of shore, and in center of radial lines of sight cut in bushes.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	'	''	
"Straight" (S 48° 17' W).....	0	00	00	..... 4½ miles.
Nail in blaze in pine tree (6 inches diameter).....	5	51	30	..... 22.78 meters.
Nail in blaze in pine tree (8 inches diameter).....	27	56	10	..... 17.17 meters.
Right chimney of large house.....	64	29	..	..... 3½ miles.
Nail in blaze in pine tree (6 inches diameter).....	82	06	50	..... 11.54 meters.
Chimney of house on Parsons Island.....	194	43	..	..... 2½ miles.
Near chimney of Starr, large brick house.....	262	54	..	..... 6½ miles.
Cupola on left barn of Tilghmans Point Farm.....	289	40	..	..... 3 miles.
Chimney of bungalow.....	324	57	..	..... 5½ miles.
Nail in blaze in pine tree (7 inches diameter).....	345	25	00	..... 18.20 meters.

KEMP TOWER.

General locality.—Southern shore of Eastern Bay on Wades Point about 1 mile southwest of Claiborne Wharf and 5¼ miles east of Bloody Point Bar Light. (See Chart No. 31.)

Immediate locality.—Observed station is on tower or cupola of Wades Point Hotel, which is a large square frame structure adjoining a brick house.

Marks.—Observed station is center of top of roof of cupola.

References.—None necessary.

KEMP.

General locality.—Southern shore of Eastern Bay on Wades Point about 1¾ miles southwest of Claiborne Wharf and 4¾ miles east by south of Bloody Point Bar Light. (See Chart No. 31.)

Immediate locality.—Observed station is in cultivated land about 8 feet above high water, 30 yards east by north of a wire fence and several trees, 55 yards south-southeast of edge of bank, 90 yards east-northeast of a bungalow, 130 yards north by west of a wire and wood fence corner, 130 yards north-northwest of wooden fence, and 400 yards west by south of Wades Point Hotel.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	'	''	
"Bloody Point Bar Light" (N 83° 37' W)...	0	00	00	..... 4½ miles.
Nail in blaze in locust tree (14 inches diameter).....	1	41	30	..... 35.07 meters.
Left tangent of Kent Point.....	3	11	..	..... 3½ miles.
Chimney on middle of house.....	17	12	..	..... 3¾ miles.
Left peak of barn.....	25	21	..	..... 4½ miles.
Chimney of house.....	31	04	..	..... 3½ miles.
Left chimney of house.....	45	27	..	..... 3 miles.
Peak of main part of house.....	63	15	..	..... 5½ miles.
Left tangent of Tilghmans Point.....	128	06	..	..... 3½ miles.
"Dixon" (center of house).....	130	07	50	..... 2½ miles.
"Kemp Tower".....	139	06	40	..... ¼ mile.
Fence corner (wood and wire).....	244	43	..	..... 132 yards.
Near corner of cook house.....	288	40	..	..... 110 yards.
Nail in blaze in locust tree (7 inches diameter).....	300	20	20	..... 27.23 meters.
Right corner post of piazza.....	306	24	..	..... 90 yards.
Nail in blaze in cedar tree (6 inches diameter).....	310	43	30	..... 26.97 meters.

## RICH NECK WATER TANK.

*General locality.*—On neck of land about halfway between Eastern Bay and Miles River, about 1½ miles south-southwest of Tilghmans Point. (See Charts Nos. 31 and 32.)

*Immediate locality.*—Observed station is on large water tank on steel tower on Rich Neck Farm.

*Marks.*—Observed station is spindle on center of water tank.

*References.*—None necessary.

## OVER.

*General locality.*—Eastern shore of Crab Alley Bay on a point about 1¼ miles north-northwest of Normans Point. (See Chart No. 32.)

*Immediate locality.*—Observed station is on edge of a cultivated field near a number of locust and wild cherry trees, about 3 feet above high water, 11 yards northeast of shore, 50 yards southeast of end of a marsh point, and 4 yards north of corner of a rail fence.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

<i>References.</i> —	°	'	"	
"Norman" (S 21° 28' E).....	0	00	00	1½ miles.
Left tangent of woods on Tilghmans Point....	10	37	..	5¾ miles.
Right tangent of Bodkin Island.....	38	42	..	2¼ miles.
Left tangent of pine woods on Turkey Point..	51	46	..	2¼ miles.
Chimney of house.....	99	13	..	1½ miles.
Chimney of small house.....	108	29	..	1 mile.
Chimney of house.....	121	14	..	1¼ miles.
Chimney of house.....	176	19	..	¾ mile.
Nail in blaze in wild cherry tree (8 inches diameter).....	181	52	40	8.08 meters.
South gable of house.....	193	00	..	½ mile.
Nail in blaze in locust tree (8 inches diameter).....	276	55	40	7.13 meters.
West chimney of house.....	299	11	..	200 yards.

## NORMAN.

*General locality.*—Eastern shore of Crab Alley Bay on southwestern extremity of Crab Alley Neck about ¼ mile west of Normans Point, 2 miles northeast of Turkey Point, and ¾ mile northwest of Parsons Island. (See Chart No. 32.)

*Immediate locality.*—Observed station is in a cultivated field on a rapidly washing, narrow neck of land, about 6 feet above high water, 20 yards north of vertical bank at shore, 30 yards south of vertical bank at shore, and 40 yards northeast of extreme end of point.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

<i>References.</i> —	°	'	"	
"Parsons" (S 38° 40' E).....	00	00	00	1½ miles.
Right tangent of Parsons Island.....	16	46	..	1¼ miles.
Left tangent of woods on Tilghmans Point....	30	30	..	4 miles.
Left tangent of woods on Bodkin Island.....	68	28	..	2 miles.
Right tangent of Bodkin Island.....	78	39	..	2 miles.
Right tangent of woods on Turkey Point....	93	17	..	2 miles.
Nail in blaze of hackberry tree (6 inches diameter).....	112	42	30	22.49 meters.

References—Continued.

	°	'	''	
Chimney of small house.....	154	22		1 3/4 miles
East chimney of house.....	167	41		2 1/4 miles.
South gable of house.....	205	38		1 mile
West chimney of large brick house.....	271	53		1 1/4 mile.
Chimney of small house.....	292	22		3 miles.
"Parsons Island Water Tank".....	353	41	40	1 mile.

PARSONS.

*General locality.*—In northern side of Eastern Bay on western side of Parsons Island about 3 miles north of Tilghmans Point. (See Chart No. 32.)

*Immediate locality.*—Observed station is in cultivated land on highest part of island about 15 feet above high water, 110 yards southeast of shore, 270 yards south-southwest of Parsons Island Water Tank, 350 yards southwest of a house, 380 yards west-southwest of a large barn, 145 yards northeast of a wire fence, 155 yards northwest of wire fence at farm road, 195 yards southeast of a fence, and on the range of the west edge of the south chimney on the lower gable of the house with the west side of a window in the center of the south side of the house. Cement monument marking reference station is 26.10 meters N 21° 43' E of observed station.

*Marks.*—Observed station is center of cross cut on rough granite stone about 35 inches long and 12 inches square with top cut to 6-inch cube and marked "U S" in lower half of cross. Subsurface mark is the mouth of a bottle 3 inches below base of monument. Reference station is center point of triangle on standard cement monument with top 5 inches above the surface of the ground.

References.—

	°	'	''	
"Alley" (N 2° 12' W).....	0	00	00	1 1/4 miles.
REFERENCE STATION.....	23	55	30	26.10 meters.
"Parsons Island Water Tank".....	24	04	20	268 yards.
Near peak of house.....	35	13		400 yards.
Right corner of barn.....	61	27		382 yards.
Walnut tree.....	148	17		300 yards.
Cupola of left barn of Tilghmans Point Farm.....	192	07		3 1/4 miles.
Right tangent of Claiborne train shed.....	202	57		5 miles.
Right end of woods on Poplar Island.....	220	27		12 miles.
Left tangent of Kent Point.....	234	23		8 1/4 miles.
Left chimney of house.....	297	57		3 miles.
Side peak of 2 1/2-story house.....	314	35		3 3/8 miles.
Middle chimney of large brick house.....	336	44		1 1/4 miles.
"New Barn Cupola".....	349	10	00	2 1/4 miles.

PARSONS ISLAND WATER TANK.

*General locality.*—Northern part of Eastern Bay between Crab Alley and Prospect Bays on Parsons Island, about halfway between the north and south end of the island. (See Chart No. 32.)

*Immediate locality.*—Observed station is on a water tank on wooden structure near a house.

*Marks.*—Observed station is center of spindle on center of water tank.

*References.*—None necessary.

ALLEY.

*General locality.*—Western shore of Prospect Bay on Crab Alley Neck about 3/4 mile north of Parsons Island and 3/8 mile north of Narrows Point. (See Chart No. 32.)

*Immediate locality.*—Observed station is on hard ground in a marsh at northeast end of clump of 12 persimmon trees about 1 foot above high water and 75 yards southwest of point.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	"	
"Dull" (N 2° 35' W).....	0	00	00	..... 7 $\frac{1}{8}$ mile.
Near peak of "Fishermans Inn".....	6	48		..... 3 miles.
Nail in blaze in persimmon tree (4 inches diameter).....	30	41	20	..... 3.99 meters.
Left chimney of old house with two dormer windows.....	48	29		..... 2 $\frac{1}{2}$ miles.
Left peak of barn.....	79	42		..... 2 $\frac{3}{4}$ miles.
Left chimney of large house.....	113	34		..... 2 $\frac{3}{4}$ miles.
"Parsons Island Water Tank".....	177	35	30	..... 1 $\frac{1}{2}$ miles.
Nail in blaze in persimmon tree (3 inches diameter).....	194	56	00	..... 4.88 meters.
Nail in blaze in persimmon tree (2 $\frac{1}{2}$ inches diameter).....	238	25	00	..... 3.70 meters.
East chimney of brick house.....	246	02		..... $\frac{1}{2}$ mile.
Nail in blaze in persimmon tree (3 inches diameter).....	298	21	30	..... 3.29 meters.
Chimney of house among trees.....	317	54		..... 1 $\frac{1}{2}$ miles.
"New Barn Cupola".....	335	41	40	..... 1 mile

## NEW BARN CUPOLA.

*General locality.*—Western shore of Prospect Bay on Crab Alley Neck about 1 $\frac{3}{4}$  miles north-north-west of Parsons Island. (See Chart No. 32.)

*Immediate locality.*—Observed station is spindle with weather vane on cupola of barn about 100 yards east-southeast from house on farm belonging to H. C. Norman.

*Marks.*—Observed station is spindle on cupola.

*References.*—None necessary.

## DULL.

*General locality.*—Western shore of Prospect Bay on a point at northern side of entrance to a cove about 2 $\frac{1}{2}$  miles south of Kent Narrows railroad bridge,  $\frac{2}{8}$  mile west-southwest of Hoods Point and 1 $\frac{1}{4}$  miles north of Narrows Point. (See Chart No. 32.)

*Immediate locality.*—Observed station is in marsh land about 1 foot above high water, 30 yards west of shore, 40 yards northeast of shore, and 80 yards north-northwest of extreme end of point.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	"	
"Kirwan" (N 3° 00' W).....	0	00	00	..... 1 $\frac{1}{8}$ miles.
Near peak of "Fishermans Inn".....	10	01		..... 2 $\frac{1}{8}$ miles.
Chimney of house.....	37	53		..... 1 $\frac{1}{2}$ miles.
Chimney of house in trees.....	56	09		..... 1 $\frac{1}{4}$ miles.
Chimney of house.....	104	49		..... 2 $\frac{1}{4}$ miles.
Chimney of old wharf house.....	138	46		..... 4 miles.
Between two chimneys of old house.....	152	08		..... 5 $\frac{1}{4}$ miles.
Left tangent of Parsons Island.....	169	41		..... 1 $\frac{3}{8}$ miles.
"New Barn Cupola".....	270	45	20	..... $\frac{3}{8}$ mile.
Chimney of ell of house.....	329	06		..... $\frac{3}{4}$ mile.



KIRWAN.

*General locality.*—Western shore of Prospect Bay on a point about  $1\frac{1}{4}$  miles south of Kent Narrows railroad bridge and  $\frac{1}{4}$  mile southeast of entrance to Kirwans Creek. (See Chart No. 32.)

*Immediate locality.*—Observed station is on a marsh point about 1 foot above high water, 10 yards southeast of shore, 25 yards northwest of shore, 27 yards west of extreme end of point, and 30 yards south-southeast of shore.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	"	
"Bridge" (N 8° 41' E).....	0	00	00	1 $\frac{1}{8}$ miles.
Near peak of "Fishermans Inn".....	9	51		1 $\frac{1}{8}$ miles.
Chimney of house.....	46	45		1 $\frac{1}{2}$ miles.
Chimney of house.....	53	28		1 $\frac{1}{2}$ miles.
Right chimney of house.....	64	43		1 $\frac{3}{4}$ miles.
Near peak of old house among trees.....	90	50		1 mile.
Right peak of large barn.....	129	34		4 $\frac{1}{8}$ miles.
"Parsons Island Water Tank".....	167	43	10	3 $\frac{1}{8}$ miles.
"New Barn Cupola".....	188	29		1 $\frac{1}{8}$ miles.
Right peak of new barn.....	207	22		$\frac{5}{8}$ mile.
Large chimney near end of old house.....	263	43		1 mile.
Chimney of house.....	308	51		1 mile.

MARSHY.

*General locality.*—Eastern shore of Prospect Bay about 1 mile south-southeast of Kent Narrows railroad bridge and  $\frac{1}{8}$  mile south of entrance to Marshy Creek. (See Chart No. 32.)

*Immediate locality.*—Observed station is on marsh land about 1 foot above high water, 25 yards east of shore, 50 yards southeast of shore, 40 yards northeast of extreme end of point, and 4 yards north of a line of four small trees.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	"	
"Bonnet" (S 11° 30' E).....	0	00	00	1 mile.
Dormer window.....	35	26		2 $\frac{1}{2}$ miles.
Cupola of barn.....	55	25	30	1 $\frac{1}{8}$ miles.
Right peak of barn.....	71	14		1 $\frac{1}{4}$ miles.
Cupola of barn.....	82	58	30	1 $\frac{1}{8}$ miles.
Chimney on west peak of house.....	133	20		1 $\frac{1}{4}$ miles.
South peak of "Fishermans Inn".....	169	06		1 mile.
Nail in blaze in locust tree (7 inches diameter).....	184	47	10	32.79 meters.
Chimney at east peak of house near railroad track.....	238	16		$\frac{7}{8}$ mile.
Right chimney of house.....	260	23		1 mile.
East peak of house among trees.....	325	50		3 $\frac{1}{4}$ mile.

BONNET.

*General locality.*—Eastern shore of Prospect Bay on Hood Point about  $1\frac{1}{2}$  miles southeast of Hog Island and  $\frac{1}{2}$  mile west of Piney Point. (See Chart No. 32.)

*Immediate locality.*—Observed station is on marsh ground about 1 foot above high water, 21 yards west of shore, 12 yards west of inlet, and 55 yards northeast of the extreme end of Hoods Point.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

<i>References.</i>		' ' "	
"New Barn Cupola" (S 70° 20' W).....	0 00 00	.....	1½ miles.
Chimney of house.....	24 11	.....	1¼ miles.
East gable of barn.....	28 24	.....	1¼ miles.
North chimney of house.....	64 04	.....	2 miles.
South gable of barn.....	90 43	.....	2½ miles.
Chimney on small house.....	137 57	.....	3½ mile.
West gable of house.....	199 06	.....	1½ miles.
Chimney of small house.....	239 13	.....	2½ miles.
Chimney of small house.....	258 39	.....	4¾ miles.
South chimney of house on Kent Island.....	323 24	.....	1¾ miles.
Cupola on barn.....	353 09	.....	1¾ miles.

## BRIAN REFERENCE STATION.

*General locality.*—Eastern shore of Prospect Bay on Brian Point about 1 mile southeast of Piney Point, 2 miles northeast of Parsons Island, and ¾ mile west of entrance to Hog Hole Creek. (See Chart No. 32.)

*Immediate locality.*—Observed station is on a marsh point about 1 foot above high water, 13 yards east of edge of marsh, 14 yards northwest of edge of marsh, 18 yards north of extreme end of point, and 40 yards southwest of a cultivated field.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

<i>References.</i> —		° ' "	
"Green" (S 8° 55' E).....	0 00 00	.....	2¾ miles.
Left tangent of woods on Bennett Point.....	4 55	.....	4 miles.
Right tangent of woods on Parsons Island.....	65 33	.....	2¼ miles.
Middle chimney of large brick house.....	84 37	.....	2¼ miles.
Cupola of barn.....	102 34	.....	2¾ miles.
"New Barn Cupola".....	109 50 20	.....	2½ miles.
Left peak of large house.....	112 08	.....	2½ miles.
Near peak of house.....	282 47	.....	¼ mile.
Chimney of house.....	344 42	.....	1¼ miles.

## GREEN.

*General locality.*—Eastern shore of Prospect Bay on point at northern side of entrance to Greenwood Creek about 3¼ miles northeast of Tilghmans Point and 2¾ miles north of Bennett Point. (See Chart No. 32.)

*Immediate locality.*—Observed station is on a sanded marsh point about 2 feet above high water, 5 yards northwest of shore, 26 yards northwest of shore, 53 yards east by north of a point of shore, 37 yards southeast by east of a point of shore, and 105 yards south-southwest of a point of woods.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

<i>References.</i> —		° ' "	
"Benn" (S 0° 45' W).....	0 00 00	.....	2¾ miles.
Cupola of barn.....	19 16 10	.....	6 miles.
Right tangent of woods on Tilghmans Point.....	52 01	.....	3¾ miles.
"Parsons Island Water Tank".....	115 03 50	.....	2½ miles.
East chimney of brick house.....	124 42	.....	3½ miles.
Peak of small house.....	155 95	.....	4 miles.
Chimney outside of house.....	165 43	.....	4 miles.
Near peak of barn.....	178 20	.....	3 miles.
Peak of house.....	235 45	.....	1 mile.
Chimney of house behind barn.....	316 01	.....	¾ mile.
Square chimney of house.....	345 41	.....	1½ miles.

BENN.

*General locality.*—Eastern shore of Miles River on Bennett Point at western side of entrance to Wye River. (See Chart No. 32.)

*Immediate locality.*—Observed station is on a marsh point about 1 foot above high water, 75 yards northeast of extreme end of point, 100 yards southwest from edge of wood, and in center of triangle formed by three pine stubs driven flush with marsh to support theodolite.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 1 foot above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	"	
"Hough" (N 57° 41' E).....	0	00	00	..... 3/8 mile.
Cupola of barn.....	70	45		..... 1 mile.
"Rich Neck Water Tank".....	203	33	00	..... 3 1/2 miles.
South chimney of house on Tilghmans Point Farm.....	215	59		..... 3 miles.
"Parsons Island Water Tank".....	271	55	00	..... 4 1/2 miles.
Right tangent of house.....	288	21		..... 6 3/8 miles.

HOUGH.

*General locality.*—Northwestern side of entrance to Wye River on a point about 3/4 mile northeast of Miles River and 1/2 mile southwest of north end of Bruffs Island. (See Chart No. 32.)

*Immediate locality.*—Observed station is on a grass point about 1 foot above high water, 16 yards north of shore, 22 yards south of shore, 15 yards west of extreme end of point, 11 yards east of small pool in marsh, and 200 yards east of woods.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	"	
"Won" (N 09° 29' E).....	0	00	00	..... 3/8 mile.
Near peak of building.....	7	22		..... 2 3/8 miles.
Right side of chimney of house.....	17	20		..... 2 7/8 miles.
Near peak of long barn.....	28	43		..... 1 1/4 miles.
Piazza post of house in woods.....	62	14		..... 1/2 mile.
Windmill.....	128	24		..... 3/4 mile.
Windmill.....	181	48		..... 4 1/4 miles.
Tall, slender tree in woods.....	271	57		..... 200 yards.
Black walnut tree.....	339	23		..... 200 yards.

WON.

*General locality.*—Western shore of the branch of Wye River bounding Wye Island on the west about 1/2 mile northwest of northern end of Bruffs Island and 3/4 mile northeast of southern end of Bennett Point. (See Chart No. 32.)

*Immediate locality.*—Observed station is on small marsh point, about 1 foot above high water, 4 yards northwest of shore, 4 yards west of shore, 4 yards north of shore, and 40 yards southeast of large lone black-walnut tree. Cement monument marking reference station is 22.80 meters S 15° 31' W of observed station.

*Marks.*—Observed station is nail in center of 2-inch stub projecting 5 inches above 2-inch tile pipe with top flush with surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	'	''	
"Nose" (N 28° 05' E).....	0	00	00	..... ½ mile.
Near peak of large barn.....	23	20	..	..... ¾ mile.
Side peak of roof of house.....	25	18	..	..... ¾ mile.
Near peak of house.....	47	26	..	..... 1¾ miles.
Left large chimney of house in woods.....	81	08	..	..... ½ mile.
Right corner of building on Bruffs Island... ..	98	41	..	..... ½ mile.
Windmill.....	126	52	40	..... 1¼ miles.
Near peak of fisherman's shanty.....	161	03	..	..... 100 yards.
REFERENCE STATION.....	167	25	50	..... 22.80 meters.
Nail in blaze in cedar tree (2 inches diameter).....	210	23	00	..... 12.54 meters.
Nail in blaze in walnut tree (3 inches diameter).....	262	30	10	..... 10.81 meters.
Nail in blaze in walnut tree (30 inches diameter).....	290	06	10	..... 38.12 meters.
Right corner of right chimney of house.....	337	19	..	..... ½ mile.

## NOSE.

*General locality.*—Western shore of the branch of Wye River bounding Wye Island on the west on a point about ¾ mile north-northwest of Bruffs Island. (See Chart No. 32.)

*Immediate locality.*—Observed station is on a marsh point about 1 foot above high water, 4 yards southwest of shore, 6 yards north of shore, 14 yards west-northwest of extreme end of point, and 34 yards east of a row of locust trees.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	'	''	
"Stop" (N 12° 09' E).....	0	00	00	..... ¾ mile.
Church cross.....	1	55	..	..... 2 miles.
Chimney of cottage.....	3	03	..	..... 1¾ miles.
Near peak of house.....	37	22	..	..... ¾ mile.
Left peak of house.....	67	25	..	..... ½ mile.
Right corner of house on Bruffs Island.....	152	55	..	..... ¾ mile.
"St. Michaels P. E. Church Spire".....	183	28	10	..... 5¾ miles.
"St. Michaels Water Tank".....	184	51	20	..... 5¾ miles.
Nail in blaze in locust tree (8 inches diameter).....	237	58	50	..... 34.45 meters.
Nail in blaze in locust tree (9 inches diameter).....	256	32	10	..... 28.31 meters.
Near peak of large house, between two chimneys.....	266	09	..	..... ½ mile.
Nail in blaze in locust tree (7 inches diameter).....	280	50	50	..... 31.44 meters.
Tangent of point.....	316	16	..	..... 100 yards.

## STOP.

*General locality.*—Western shore of the branch of Wye River bounding Wye Island on the west on a point about 1 mile north of Bruffs Island. (See Chart No. 32.)

*Immediate locality.*—Observed station is on edge of pasture land about 3 feet above high water, 20 yards west of shore, 40 yards north by east of shore, and 50 yards south by west of shore.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	'	"	
"Orb" (N 21° 16' W).....	0	00	00	..... ¼ mile.
Near peak of barn.....	3	30	00	..... ¾ mile.
Nail in blaze of hackberry tree (5 inches diameter).....	46	52	20	..... 7.57 meters.
Side peak of house.....	94	01	00	..... ¾ mile.
Near peak of house.....	147	17	00	..... ½ mile.
Nail in blaze in branch of mulberry tree (5 inches diameter).....	198	20	00	..... 20.61 meters.
Peak between two chimneys of house.....	239	37	00	..... ¾ mile.
Left corner of corn house.....	252	58	00	..... ½ mile.

ORB.

*General locality.*—Western shore of the branch of Wye River bounding Wye Island on the west on a point about 1¾ miles north of Bruffs Island and 5⁄8 mile southwest of Cedar Point. (See Chart No. 32.)

*Immediate locality.*—Observed station is on a marsh point about 1 foot above high water, 6 yards southwest of shore, 7 yards northwest of shore, 6 yards north of shore, and southeast of a point of land 5 feet higher than station.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	'	"	
"Piney" (N 6° 05' E).....	0	00	00	..... ¼ mile.
Chimney of house on Drum Point.....	22	11	00	..... ¾ mile.
Left peak of house.....	38	32	00	..... 1¾ miles.
Left peak of house.....	87	51	00	..... ¾ mile.
Right peak of large barn.....	97	50	00	..... ¾ mile.
Near peak of house.....	130	37	00	..... ¾ mile.
Near peak of large barn.....	137	36	00	..... ¾ mile.
Nail in blaze in locust tree (3 inches diameter).....	251	18	20	..... 18.39 meters.
Nail in blaze in oak tree (3½ feet diameter).....	307	28	10	..... 23.34 meters.
Nail in blaze in gum tree (6 inches diameter).....	322	50	50	..... 20.17 meters.
Right corner of brick house.....	340	49	00	..... ½ mile.

PINEY.

*General locality.*—Western shore of the branch of Wye River bounding Wye Island on the west about ¾ mile southwest of Drum Point and 1¾ miles north of Bruffs Island. (See Chart No. 32.)

*Immediate locality.*—Observed station is in a cultivated field about 6 feet above high water, 15 yards northwest of point, 8 yards north of top of bank, 9 yards west of trees at top of bank, and 55 yards northeast of another point.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	'	"	
"Ferry" (N 57° 08' E).....	0	00	00	..... ¾ mile.
Nail in blaze in locust tree (4 inches diameter).....	3	32	20	..... 8.85 meters.
Near peak of house.....	4	19	00	..... 1¾ miles.
Near peak of house.....	35	43	00	..... ¾ mile.
Nail in blaze in hackberry tree (5 inches diameter).....	51	12	00	..... 10.66 meters.
Near peak of house.....	97	31	00	..... 1¾ miles.

References.—Continued.	°	'	''	
Near peak of hip-roof barn.....	102	33		1 $\frac{1}{8}$ miles.
Left peak of boathouse.....	115	53		2 $\frac{1}{2}$ miles.
Near corner of brick house.....	211	32		$\frac{1}{2}$ mile.
Nail in blaze in locust tree (7 inches diam- eter).....	318	54	30	18.07 meters.

## FERRY.

*General locality.*—Western shore of the branch of Wye River bounding Wye Island on the west on Drum Point, about  $\frac{3}{8}$  mile west of Cedar Point. (See Chart No. 32.)

*Immediate locality.*—Observed station is in a pasture with paling fence on northwest and west-southwest sides about 4 feet above high water, 6 yards northwest of shore, 10 yards west of shore, 20 yards northeast by east of fence at county road, and 40 yards southeast of fence near small house.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 8 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	'	''	
"Owe" (N 66° 42' E).....	0	00	00	$\frac{3}{4}$ mile.
Near peak of house.....	5	08		1 $\frac{1}{4}$ miles.
Near peak of house.....	19	25		1 $\frac{3}{8}$ miles.
Cupola of building.....	60	57		1 mile.
Near peak of house.....	105	29		$\frac{3}{8}$ mile.
Peak between two chimneys of house.....	138	01		1 $\frac{1}{2}$ miles.
Nail in blaze in locust tree (5 inches diam- eter).....	171	18	00	26.92 meters.
Nail in blaze in hackberry tree (7 inches diameter).....	202	47	10	35.04 meters.
Nail in blaze in hackberry tree (9 inches diameter).....	242	09	00	34.93 meters.
Left corner of large brick house.....	281	16		$\frac{1}{4}$ mile.
Near peak of house.....	357	27		$\frac{3}{8}$ mile.

## OWE.

*General locality.*—Western shore of the branch of Wye River bounding Wye Island on the west on a point about  $\frac{3}{4}$  mile east-northeast of Drum Point and 1 mile south-southwest of entrance to Wye Narrows. (See Chart No. 32.)

*Immediate locality.*—Observed station is on a grassy point about 2 feet above high water, 9 yards north of shore, 11 yards west-southwest of shore, 10 yards west of extreme end of point, and 75 yards east-southeast of a house 12 feet above high water.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	'	''	
"Hook" (N 7° 36' W).....	0	00	00	$\frac{1}{4}$ mile.
Peak of near gable of house.....	23	37		2 $\frac{1}{2}$ miles.
Near corner of house.....	89	43		$\frac{5}{8}$ mile.
Right peak of small house.....	144	13		$\frac{3}{4}$ mile.
Baldwin windmill.....	167	05	40	1 $\frac{3}{8}$ miles.
Left peak of house.....	204	38		1 $\frac{1}{8}$ miles.
Near corner of chimney outside left end of house.....	236	39		$\frac{7}{8}$ mile.
Left tangent of large brick house.....	253	44		1 $\frac{1}{4}$ miles.
Nail in blaze in black walnut tree (5 feet diameter).....	287	02	10	31.44 meters.
Nail in blaze in black walnut tree (3 feet 6 inches diameter).....	331	58	10	31.63 meters.

## HOOK.

*General locality.*—Western shore of the branch of Wye River bounding Wye Island on the west about  $\frac{3}{4}$  mile southwest of entrance to Wye Narrows and  $\frac{1}{4}$  mile south of entrance to a cove. (See Chart No. 32.)

*Immediate locality.*—Observed station is in cultivated land about 10 feet above high water, 3 yards west of top of bank, 4 yards northeast of top of bank lined with cedars, 7 yards north-northwest of extreme end of point of bank at left of cedars, and north of a long, low peninsula that separates a small pond from river.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	"	
"Knee" (N 15° 04' E).....	0	00	00	..... $\frac{1}{2}$ mile.
Near peak of large barn.....	5	01	..	..... $2\frac{3}{4}$ miles.
Spindle on cupola of barn.....	33	14	..	..... $1\frac{1}{8}$ miles.
Left corner of large chimney of small house... 109	52	..	..... $\frac{7}{8}$ mile.	
Left peak of house.....	129	38	..	..... $\frac{7}{8}$ mile.
Near peak of large barn.....	156	32	..	..... $1\frac{1}{8}$ miles.
Near peak of large barn.....	163	03	..	..... $\frac{7}{8}$ mile.
Nail in blaze in cedar tree (4 inches diameter).....	175	23	40	..... 6.99 meters.
Nail in blaze in cedar tree (3 inches diameter).....	231	37	00	..... 4.94 meters.
Nail in blaze in oak tree (8 inches diameter).. 271	06	10	.....	11.41 meters.

## KNEE.

*General locality.*—Western shore of the branch of Wye River bounding Wye Island on the west about  $\frac{1}{2}$  mile west-southwest of entrance to Wye Narrows. (See Chart No. 32.)

*Immediate locality.*—Observed station is on a narrow strip of lowland about 1 foot above high water, 4 yards west of shore, 12 yards east of cut in bank, and 40 yards south of bank 8 feet high with few trees.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	"	
"Bee" (N 59° 35' E).....	0	00	00	..... $\frac{5}{8}$ mile.
Large pine tree on point.....	26	46	..	..... $\frac{1}{2}$ mile.
Smoke pipe on small building.....	84	59	..	..... $\frac{1}{2}$ mile.
Baldwin windmill.....	168	08	10	..... $2\frac{1}{4}$ miles.
Peak of rear gable of Baldwin house.....	168	29	..	..... $2\frac{1}{4}$ miles.
Large chimney of large house.....	120	43	..	..... 1 mile.
Lightning rod on Bryan house.....	129	59	..	..... $\frac{3}{4}$ mile.
Nail in blaze in oak tree (12 inches diameter). 165	06	20	.....	14.60 meters.
Nail in blaze in locust tree (7 inches diameter).....	208	48	10	..... 4.86 meters.
Nail in blaze in twisted cedar bush.....	289	36	10	..... 8.79 meters.
Chimney of house.....	320	11	..	..... $1\frac{1}{8}$ miles.

## NO.

*General locality.*—On the western shore of the continuation of the branch of Wye River bounding Wye Island on the west, about  $\frac{3}{8}$  mile west-northwest of entrance to Wye Narrows on point at south side of entrance to a small cove. (See Chart No. 32.)

*Immediate locality.*—Observed station is on a point about 1 foot above high water, 4 yards southwest of shore, 4 yards north of shore, 5 yards west of extreme end of point, and east of trees on bank 5 feet high.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	''	
"Oysters" (N 64° 35' E).....	0	00	00	..... ¼ mile.
Near peak of house.....	59	59	..	..... ⅞ mile.
Near end of corn house.....	94	01	..	..... 1 mile.
Cupola of barn.....	118	29	..	..... 2 miles.
Right corner of Bryan house.....	128	36	..	..... 1½ miles.
Nail in blaze in locust tree (4 inches diameter).....	160	05	30	..... 26.17 meters.
Nail in blaze in oak tree (4 inches diameter).....	234	11	20	..... 5.42 meters.
Nail in blaze in oak tree (8 inches diameter).....	290	08	20	..... 4.73 meters.
Spindle on barn cupola.....	294	51	..	..... ¾ mile.
Left corner of large house.....	300	00	..	..... ⅝ mile.
Left peak of house.....	315	20	..	..... 1¾ miles.

OYSTERS.

*General locality.*—Eastern shore of the continuation of the branch of Wye River bounding Wye Island on the west about ¼ mile north of entrance to Wye Narrows on point at south side of entrance to a small cove. (See Chart No. 32.)

*Immediate locality.*—Observed station is in a clump of small trees on a point about 3 feet above high water, 6 yards south-southeast of edge of bank, 7 yards west of point of bank, and 8 yards east-northeast of edge of bank.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	''	
"June" (S 6° 39' W).....	0	00	00	..... ⅝ mile.
Right corner of Bryan house.....	14	46	..	..... 1¼ miles.
Chimney of cabin.....	111	07	..	..... ½ mile.
Nail in blaze in oak tree (6 inches diameter).....	118	15	00	..... 3.97 meters.
Chimney of large house.....	156	41	..	..... 1½ miles.
Nail in blaze in oak tree (8 inches diameter).....	291	22	50	..... 4.71 meters.
Nail in blaze in walnut tree (7 inches diameter).....	336	17	30	..... 11.31 meters.

BEE.

*General locality.*—Northern shore of Wye Narrows at northern side of western entrance to Wye Narrows. (See Chart No. 32.)

*Immediate locality.* Observed station is in woods about 4 feet above high water, 7 yards east of edge of bank, 11 yards northwest of edge of bank, and 13 yards north of point of bank near marsh.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	''	
"Close" (S 2° 44' W).....	0	00	00	..... ¼ mile.
Right corner of Bryan house.....	30	15	..	..... 1½ miles.
Near peak of house.....	68	01	..	..... ⅞ mile.
Nail in blaze in oak tree (4 inches diameter).....	201	58	50	..... 2.10 meters.
Nail in blaze in oak tree (24 inches diameter).....	314	05	30	..... 8.64 meters.
Nail in blaze in oak tree (8 inches diameter).....	345	50	40	..... 1.86 meters.



CLOSE.

*General locality.*—Northern shore of Wye Island at southern side of western entrance to Wye Narrows. (See Chart No. 32.)

*Immediate locality.*—Observed station is in edge of cultivated land about 12 feet above high water, 3 yards south of edge of bank, 5 yards west-southwest of top of bank, 18 yards west of lone pine tree, and 17 yards east of cut in bank.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	o	'	"	
"June" (S 56° 21' W).....	0	00	00	..... ¼ mile.
Nail in blaze in walnut tree (3 feet diameter).....	0	48	20	..... 56.49 meters.
Right corner of large brick house.....	4	03	..	..... 1¼ miles.
Near peak of house.....	30	47	..	..... ⅝ mile.
Windmill.....	34	39	..	..... ⅝ mile.
Spindle on barn cupola.....	102	21	..	..... 1¼ miles.
Left corner of house.....	160	24	..	..... ¾ mile.
Nail in blaze in pine tree (2 feet diameter).....	203	47	40	..... 18.28 meters.
Nail in blaze in black walnut tree (10 inches diameter).....	226	19	40	..... 27.00 meters.
Left peak of large building.....	246	35	..	..... ¾ mile.
Right peak of corn house.....	306	57	..	..... ½ mile.

JUNE.

*General locality.*—On Wye Island on eastern shore of the branch of Wye River bounding Wye Island on the west on a point at northern side of entrance to a cove about ¼ mile southwest of entrance to Wye Narrows. (See Chart No. 32.)

*Immediate locality.*—Observed station is on a marsh point about 1 foot above high water, 10 yards south-southeast of shore, 20 yards southwest of lines of trees and marsh, and 50 yards north of twin oak trees.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	o	'	"	
"Chin" (S 24° 00' W).....	0	00	00	..... ⅜ mile.
Near peak of Bryan house.....	11	02	..	..... ⅝ mile.
Right corner of large house.....	37	22	..	..... 1 mile.
Left corner of near chimney of house.....	79	57	..	..... ¾ mile.
Near corner of house.....	150	56	..	..... 1⅛ miles.
Spindle on cupola of barn.....	154	20	..	..... 1¾ miles.
Nail in blaze in one of twin oak trees (30 inches diameter).....	201	55	10	..... 19.32 meters.
Nail in blaze in one of twin oak trees (30 inches diameter).....	286	10	30	..... 43.17 meters.
Nail in blaze in oak tree (15 inches diameter).....	325	12	00	..... 44.45 meters.

CHIN.

*General locality.*—On Wye Island on the eastern shore of the branch of Wye River bounding Wye Island on the west on a point about 1 mile northeast of Cedar Point and ¾ mile south-southwest of entrance to Wye Narrows. (See Chart No. 32.)

*Immediate locality.*—Observed station is on a marsh point about 1 foot above high water, 6 yards northeast of shore, 20 and 40 yards south of shore, and 7 yards east of extreme end of point.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

<i>References.</i> —	o	'	"	
"Aller" (S 43° 03' E).....	0	00	00	..... 300 yards.
Near peak of large barn.....	46	47	..	..... 1½ miles.
Peak between chimneys of house.....	81	23	..	..... 1¼ miles.
Near peak of Bryan house.....	90	55	..	..... ¼ mile.
Right corner of house in woods.....	221	04	..	..... ¾ mile.
Nail in blaze in pine tree (10 inches diameter).....	239	05	00	..... 16.78 meters.
Nail in blaze in pine tree (5 inches diameter). 252	13	40	.....	19.51 meters.
Nail in blaze in pine tree (6 inches diameter). 319	42	50	.....	11.68 meters.

## ALLER.

*General locality.*—On Wye Island on the eastern shore of the branch of Wye River bounding Wye Island on the west about 1 mile east-northeast of Drum Point and at northern side of entrance to a cove. (See Chart No. 32.)

*Immediate locality.*—Observed station is on marsh land between two large pine trees about 1 foot above high water, 17 yards northeast of a small point, 15 yards southeast of a short cut in shore, and 9 yards southwest of edge of cultivated land.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

<i>References.</i> —	o	'	"	
"Twist" (S 0° 21' W).....	0	00	00	..... ¾ mile.
Cupola of building.....	12	08	..	..... 1 mile.
Left peak of house.....	29	06	..	..... 1¾ miles.
Peak between two chimneys of large house..	42	22	..	..... 2¼ miles.
Chimney outside left end of house.....	55	22	..	..... 1½ miles.
Right corner of house.....	76	24	..	..... ¾ mile.
Nail in blaze in pine tree (20 inches diameter).....	141	08	50	..... 20.90 meters.
Peak of side gable of house.....	255	06	..	..... ¼ mile.
Near corner of house.....	279	17	..	..... ¾ mile.
Nail in blaze in pine tree (18 inches diameter).....	279	50	10	..... 28.52 meters.
Left tangent of large square chimney of house. 313	06	..	.....	¾ mile.

## TWIST.

*General locality.*—On Wye Island on the eastern shore of the branch of Wye River bounding Wye Island on the west at northern side of entrance to a small cove about 1 mile east of Cedar Point. (See Chart No. 32.)

*Immediate locality.*—Observed station is on a marsh point about 1 foot above high water, 11 yards southeast of point, 8 yards south of shore at point of higher and solid land with trees, 8 yards west of trees, 18 yards west-southwest of point, and 33 yards north of shore of cove.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 7 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

<i>References.</i> —	o	'	"	
"Wide" (S 64° 00' W).....	0	00	00	..... ¼ mile.
Chimney outside southeast end of house....	12	57	..	..... 1 mile.
Near corner of brick house.....	18	23	..	..... 1½ miles.
Left corner of brick house.....	42	57	..	..... 1½ miles.

References—Continued.

	°	'	''	
Left corner of house.....	67	54	..	1½ mile.
Near peak of barn.....	112	53	..	2 miles.
Nail in blaze in oak tree (14 inches diameter).....	151	12	20	7.55 meters.
Nail in blaze in oak tree (16 inches diameter).....	174	30	30	7.90 meters.
Nail in blaze in hackberry tree (4 inches diameter).....	202	44	20	8.85 meters.
Gum tree.....	231	38	..	52 yards.
Right peak of corn house.....	254	49	..	¼ mile.

WIDE.

*General locality.*—On Wye Island on the eastern shore of the branch of Wye River bounding Wye Island on the west on a point at western side of entrance to a small cove about ¾ mile east of Cedar Point. (See Chart No. 32.)

*Immediate locality.*—Observed station is in marsh land surrounded by water bushes about 1 foot above high water, 12 yards south of shore, 16 yards southeast of shore, 20 yards east of shore, 20 yards northeast of trees, 11 yards northeast of a wire fence, 100 yards west of entrance to creek, and near point of higher land and trees.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	'	''	
"Darce" (S 81° 55' W).....	0	00	00	¾ mile.
Near corner of brick house.....	3	40	..	1¼ miles.
Left corner of brick house.....	34	45	..	1 mile.
Left corner of house.....	77	22	..	1½ mile.
Peak of near gable of house.....	134	03	..	¾ mile.
Near peak of house.....	165	09	..	¾ mile.
Nail in blaze in fence post.....	275	38	20	13.21 meters.
Nail in blaze in oak tree (6 inches diameter).....	315	29	20	18.48 meters.
Nail in blaze in oak tree (5 inches diameter).....	340	38	40	18.14 meters.
Right corner of house.....	359	17	..	¾ mile.

DARCE.

*General locality.*—On Wye Island on the eastern shore of the branch of Wye River bounding Wye Island on the west on Cedar Point at ferry landing about ¼ mile south of Drum Point. (See Chart No. 32.)

*Immediate locality.*—Observed station is in cultivated land about 10 feet above high water, 8 yards south of point of bank, 23 yards northwest of a house, and 55 yards east-northeast of ferry landing at foot of bank.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	'	''	
"Twixt" (S 39° 52' W).....	0	00	00	1½ mile.
Near corner of brick house.....	50	50	..	¾ mile.
Left corner of brick house.....	130	53	..	½ mile.
Near peak of house.....	133	57	..	1¼ miles.
Cross on church.....	143	52	40	¾ mile.
Left corner of house.....	187	14	..	¾ mile.
Near peak of house.....	215	40	..	1½ miles.
Left corner of shed.....	255	43	50	27.25 meters.
Right corner of house.....	280	48	50	21.08 meters.
Peak between two chimneys of house.....	350	24	..	1¼ miles.

## TWIXT.

*General locality.*—On Wye Island on the eastern shore of the branch of Wye River bounding Wye Island on the west about  $\frac{1}{2}$  mile southwest of Cedar Point. (See Chart No. 32.)

*Immediate locality.*—Observed station is on a small marsh island about 1 foot above high water, 3 yards north of shore, 4 yards east of shore, 7 yards south of shore, 9 yards west of point of shore, and 20 yards west of mainland.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

<i>References.</i> —	o	'	"	
"Star" (S 9° 37' W).....	0	00	00	$\frac{1}{2}$ mile.
Peak between two chimneys of house.....	19	26	..	$1\frac{1}{2}$ miles.
Left corner of brick house.....	94	37	..	$\frac{1}{2}$ mile.
Chimney in middle of large brick house.....	171	25	..	$\frac{1}{2}$ mile.
Left corner of barn.....	227	11	..	$\frac{1}{2}$ mile.

## STAR.

*General locality.*—On Wye Island on the eastern shore of the branch of Wye River bounding Wye Island on the west, about  $1\frac{1}{2}$  miles north of Bruffs Island and  $\frac{1}{4}$  mile south-southwest of Cedar Point. (See Chart No. 32.)

*Immediate locality.*—Observed station is on a soft marsh point about 1 foot above high water, 8 yards north of shore, 9 yards south of shore, and 13 yards east of extreme end of point.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.\*

<i>References.</i> —	o	'	"	
"Leaven" (S 15° 09' E).....	0	00	00	$\frac{1}{2}$ mile.
Near peak of hip roof of large barn.....	5	16	..	$\frac{3}{4}$ mile.
"St. Michaels Water Tank".....	32	26	30	$6\frac{1}{2}$ miles.
Peak between two chimneys of large house..	46	44	..	1 mile.
Left corner of chimney outside brick house..	135	14	..	$\frac{1}{2}$ mile.
Left corner of large barn.....	136	39	..	$\frac{1}{2}$ mile.
Chimney in middle of large brick house.....	197	42	..	$\frac{3}{4}$ mile.
Nail in blaze in locust tree (4 inches diameter).....	215	09	10	19.78 meters.
Nail in blaze in gum tree (3 inches diameter). 232	40	40	..	18.75 meters.
Nail in blaze in locust tree (8 inches diameter).....	248	59	30	22.21 meters.

## LEAVEN.

*General locality.*—On Wye Island on the eastern shore of the branch of Wye River bounding Wye Island on the west about  $1\frac{1}{2}$  miles north-northeast of Bruffs Island and  $\frac{5}{8}$  mile south of Cedar Point. (See Chart No. 32.)

*Immediate locality.*—Observed station is in northwest corner of cultivated field about 10 feet above high water, 4 yards southeast of edge of bank, 5 yards southwest of scant locust woods, and 8 yards east-northeast of point of bank.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

<i>References.</i> —	o	'	"	
"Snout" (S 27° 53' W).....	0	00	00	$\frac{3}{8}$ mile.
Large oak tree.....	0	21	..	$1\frac{1}{8}$ miles.
Peak between two chimneys of large house..	29	06	..	$\frac{3}{4}$ mile.
Left corner of large chimney outside near end of house.....	113	37	..	$\frac{7}{8}$ mile.

References—Continued.

	°	'	''	
Chimney outside of house.....	152	54	..	5 $\frac{1}{2}$ mile.
Nail in blaze in locust tree (12 inches diameter).....	167	02	50	5.63 meters.
Nail in blaze in locust tree (10 inches diameter).....	213	18	00	15.03 meters.
Nail in blaze in locust tree (16 inches diameter).....	240	36	40	12.01 meters.
Near peak of house.....	315	01	..	3 $\frac{1}{4}$ mile.

SNOUT.

*General locality.*—On Wye Island on the eastern shore of the branch of Wye River bounding Wye Island on the west about  $\frac{3}{4}$  mile north of Bruffs Island and  $\frac{1}{2}$  mile north of Bordley Point. (See Chart No. 32.)

*Immediate locality.*—Observed station is in cultivated land about 12 feet above high water, 30 yards east by south of edge of bank, 65 yards south of large cherry tree in side of bank at fence, 65 yards southwest of rail fence, 70 yards northeast of a small clump of trees at edge of bank, and 400 yards west by north of a house.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	'	''	
"South" (S 20° 34' E).....	0	00	00	$\frac{1}{2}$ mile.
Left peak of boathouse.....	19	10	..	$\frac{7}{8}$ mile.
"St. Michaels P. E. Church Spire".....	38	07	30	6 $\frac{1}{4}$ miles.
"St. Michaels Water Tank".....	39	30	10	6 $\frac{1}{8}$ miles.
Nail in blaze in locust tree (10 inches diameter).....	49	21	30	64.78 meters.
Peak of house between two chimneys.....	99	02	..	$\frac{1}{2}$ mile.
Near peak of small house.....	111	45	..	$\frac{1}{2}$ mile.
Nail in blaze in tree (8 inches diameter).....	179	42	10	34.39 meters.
Near peak of barn.....	186	34	..	1 $\frac{3}{4}$ miles.
Left corner of house.....	203	36	..	1 $\frac{3}{8}$ miles.
Nail in blaze in fence post.....	246	50	10	63.29 meters.
Near peak of house.....	249	00	..	$\frac{3}{4}$ mile.
Left peak of house.....	296	41	50	$\frac{1}{4}$ mile.

SOUTH.

*General locality.*—On southwestern end of Wye Island on Bordley Point on the northern shore of the junction of the two branches of Wye River bounding Wye Island, about  $\frac{3}{8}$  mile north-northeast of Bruffs Island. (See Chart No. 32.)

*Immediate locality.*—Observed station is in a pasture on a rounded point about 10 feet above high water, 11 yards northeast of edge of field, 13 yards north of edge of field, 22 yards northwest of edge of field, 30 yards southeast of cut in cliff, and 50 yards southwest of point of water bushes at gully.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	'	''	
"Flat" (N 55° 27' E).....	0	00	00	$\frac{1}{2}$ mile.
Right chimney of house.....	19	30	..	1 $\frac{1}{4}$ miles.
Windmill.....	64	34	30	1 $\frac{1}{4}$ miles.
Spindle on barn cupola.....	134	55	20	1 $\frac{1}{4}$ miles.
Left chimney of house in woods.....	153	45	..	$\frac{1}{2}$ mile.
Left peak of building.....	173	45	..	4 $\frac{1}{2}$ miles.
Peak between two chimneys of house.....	244	27	..	$\frac{3}{4}$ mile.
Left chimney of house.....	317	37	..	$\frac{3}{8}$ mile.
Near peak of house.....	343	21	..	2 miles.

## FLAT.

*General locality.*—On Wye Island on the northern shore of the branch of Wye River bounding Wye Island on the south on a point between two coves about 1 mile northeast of Bruffs Island and  $\frac{1}{2}$  mile northeast of Bordley Point. (See Chart No. 32.)

*Immediate locality.*—Observed station is on a marsh point about 1 foot above high water, 8 yards north of shore, 8 yards southwest of shore, 12 yards west of extreme end of point, 17 yards east of south end of line of several trees on edge of bank 3 feet high, and 45 yards east of a black gum tree 5 feet in diameter at ground.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	"	
"Albert" (N 84° 31' E).....	0	00	00	..... $\frac{1}{2}$ mile.
Left corner of tower of house.....	30	33	..	..... $1\frac{1}{4}$ miles.
Windmill.....	62	55	40	..... $1\frac{1}{2}$ miles.
Spindle on barn cupola.....	119	34	..	..... $1\frac{3}{8}$ miles.
Front peak of boathouse.....	134	02	..	..... 1 mile.
Left tangent of black gum tree.....	158	06	40	..... 44 yards.
Near peak of house.....	249	34	..	..... $\frac{3}{4}$ mile.
Spindle on cupola.....	351	11	10	..... $\frac{3}{4}$ mile.
Windmill.....	352	15	30	..... $\frac{3}{4}$ mile.
Near peak of Baldwin house.....	354	50	..	..... $\frac{3}{4}$ mile.

## ALBERT.

*General locality.*—On Wye Island on the northwestern shore of the branch of Wye River bounding Wye Island on the south on a point about  $1\frac{1}{4}$  miles east-northeast of north end of Bruffs Island, and opposite entrance to Lloyd Creek. (See Chart No. 32.)

*Immediate locality.*—Observed station is on a marsh point about 1 foot above high water, 17 yards northwest of shore, 28 yards east of shore, 35 yards south of shore, and 75 yards north-northeast of extreme end of point.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	"	
"Le Seur" (N 1° 03' E).....	0	00	00	..... 300 yards.
Baldwin windmill.....	65	11	40	..... $\frac{3}{8}$ mile.
Flagstaff on Baldwin boat house.....	67	59	..	..... 400 yards.
Windmill on wooden tower.....	125	16	30	..... 1 mile.
Peak of house with several chimneys.....	127	08	..	..... 1 mile.
Chimney outside near end of old house.....	170	05	..	..... 1 mile.
Front peak of boat house.....	231	10	..	..... $1\frac{1}{4}$ miles.
Peak between two chimneys of house.....	269	40	..	..... $1\frac{3}{4}$ miles.
Left peak of house.....	274	45	..	..... $\frac{7}{8}$ mile.
Peak of house.....	347	47	..	..... $\frac{3}{4}$ mile.

## LE SEUR.

*General locality.*—On Wye Island on the northwestern shore of the branch of Wye River bounding Wye Island on the south about  $\frac{1}{4}$  mile north of a prominent point opposite entrance to Lloyd Creek. (See Chart No. 32.)

*Immediate locality.*—Observed station is in a clump of small trees about 3 feet above high water, 11 yards east of shore, 12 yards southwest of shore on line to next point, and 12 yards north by east of shore.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	o	/	''	
"Attila" (N 31° 07' E).....	0	00	00	1/4 mile.
Near peak of large barn.....	56	55	..	5/8 mile.
Spindle on cupola.....	61	52	50	1/4 mile.
Right corner of chimney of Baldwin house..	72	24	..	1/4 mile.
Nail in blaze in walnut tree (4 inches diameter).....	140	45	50	4.11 meters.
Nail in blaze in walnut tree (5 inches diameter).....	201	19	40	7.60 meters.
Nail in blaze in walnut tree (3 inches diameter).....	255	56	30	6.74 meters.
Nail in blaze in walnut tree (3 inches diameter).....	304	08	10	7.27 meters.

ATTILA.

*General locality.*—On Wye Island on the northwestern shore of the branch of Wye River bounding Wye Island on the south about 3/4 mile north of entrance to Lloyd Creek at north side of entrance to a small cove. (See Chart No. 32.)

*Immediate locality.*—Observed station is on slope of a point about 3 feet above high water, 10 yards west of shore, 10 yards north-northeast of shore, and 11 yards northwest of shore.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	o	/	''	
"Tobine" (N 15° 18' E).....	0	00	00	1/4 mile.
Near peak of very large barn.....	97	30	..	3/8 mile.
Near peak of house.....	104	53	..	3/8 mile.
Spindle on cupola.....	128	31	50	1/4 mile.
Left corner of Baldwin house.....	132	48	..	1/4 mile.
Flagpole on wharf house.....	146	43	..	1/4 mile.
Windmill.....	163	31	..	1 1/4 miles.
Nail in blaze in cedar stump (10 inches diameter).....	197	07	20	8.36 meters.
Nail in blaze in cedar tree (8 inches diameter).....	347	34	10	38.64 meters.

TOBINE.

*General locality.*—On Wye Island on the northwestern shore of the branch of Wye River bounding Wye Island on the south about 3/4 mile north of entrance to Lloyd Creek on point at north side of entrance to a small cove. (See Chart No. 32.)

*Immediate locality.*—Observed station is on point of a cultivated field about 6 feet above high water, 4 yards north of edge of field, 4 yards southwest of edge of field, 5 yards west-northwest of point of field, and 1/4 mile east-southeast of a barn with cupola.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	o	/	''	
"Sang" (N 6° 21' W).....	0	00	00	1/4 mile.
Right corner of house.....	16	19	..	3/8 mile.
Near peak of large barn.....	143	19	..	1/2 mile.
Cupola of Baldwin barn.....	173	35	10	1/2 mile.
Right peak of Baldwin house.....	175	17	..	1/2 mile.
Windmill.....	187	35	..	1 1/2 miles.
Near peak of house.....	249	12	..	1 3/8 miles.
Cupola of building.....	304	50	..	1/4 mile.

## SANG.

*General locality.*—On Wye Island on the northwestern shore of the branch of Wye River bounding Wye Island on the south about  $1\frac{1}{4}$  miles north of entrance to Lloyd Creek and  $\frac{3}{8}$  mile west of entrance to Dividing Creek. (See Chart No. 32.)

*Immediate locality.*—Observed station is on bank about 12 feet above high water between two cuts in bank, 2 yards west of edge of bank, 3 yards northwest of edge of bank, 4 yards southwest of edge of bank, 32 yards from bottom of northern cut in bank, 52 yards from bottom of southern cut in bank, and 95 yards south-southwest of tree-lined gully.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	''	
"Turn" (N 48° 08' E).....	0	00	00	..... $\frac{1}{4}$ mile.
Tangent of woods.....	41	45		..... 2 miles.
Tangent of point.....	56	52		..... $\frac{3}{8}$ mile.
Right peak of large barn.....	100	25		..... $\frac{3}{4}$ mile.
Baldwin windmill.....	121	06		..... $\frac{3}{4}$ mile.
Peak of near gable of Baldwin house.....	122	05		..... $\frac{3}{4}$ mile.
Near peak of ell of house.....	199	14		..... $\frac{3}{8}$ mile.
Left corner of house.....	256	56		..... $\frac{1}{4}$ mile.
Left peak of house.....	281	53		..... $\frac{1}{4}$ mile.

## TURN.

*General locality.*—On Wye Island on the northwestern shore of the branch of Wye River bounding Wye Island on the south, about  $\frac{1}{2}$  mile west of entrance to Dividing Creek on point at western side of entrance to a small cove. (See Chart No. 32.)

*Immediate locality.*—Observed station is on bank in a cultivated field, about 8 feet above high water, 5 yards northwest of edge of bank, 6 yards north of edge of bank, 7 yards west of edge of bank, 50 yards south-southwest of entrance to a small creek, and 55 yards east of a dead sycamore tree in field.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	''	
"Go" (S 84° 55' E).....	0	00	00	..... $\frac{1}{8}$ mile.
Near peak of small house.....	32	18		..... $1\frac{1}{8}$ miles.
Right peak of large barn.....	67	07		..... $\frac{3}{4}$ mile.
Baldwin windmill.....	85	55		..... $\frac{7}{8}$ mile.
Near peak of gable of Baldwin house.....	86	21		..... $\frac{7}{8}$ mile.
Nail in blaze in wild cherry tree (3 inches diameter).....	128	20	10	..... 23.08 meters.
Chimney outside near end of house.....	179	44		..... $\frac{3}{8}$ mile.
Nail in blaze in locust tree (4 inches diameter).....	255	50	00	..... 18.85 meters.
Nail in blaze in chestnut stump with second growth (14 inches diameter).....	279	53	10	..... 12.93 meters.

## GO.

*General locality.*—On Wye Island on the northern shore of the branch of Wye River bounding Wye Island on the south, on a point between two coves about  $\frac{1}{4}$  mile west of entrance to Dividing Creek. (See Chart No. 32.)

*Immediate locality.*—Observed station is on grassy beach at high water, about 2 yards south of foot of bank 4 feet high covered with dense growth of young trees, and 37 yards from entrance to a small creek. Cement monument marking reference station is 19.06 meters N 22° 35' E of observed station.



*Marks.*—Observed station is nail in center of 2-inch pine stub projecting 2 inches above 2-inch tile pipe with top 2 inches below surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

*References.*—

	°	'	''	
"Divide" (N 89° 24' E).....	0	00	00	..... 3/8 mile.
Near peak of shanty.....	48	16	..	..... 7/8 mile.
Chimney of house.....	51	46	..	..... 7/8 mile.
Peak of gable on Baldwin house.....	104	12	..	..... 7/8 mile.
Baldwin windmill.....	104	13	30	..... 7/8 mile.
Near corner of square chimney of house.....	159	10	..	..... 3/4 mile.
Cupola on barn.....	164	20	..	..... 3/4 mile.
Nail in blaze in gum tree (4 inches diameter). 249	05	50	.....	6.68 meters.
Nail in blaze in gum tree (2 inches diameter). 272	16	30	.....	5.73 meters.
REFERENCE STATION.....	293	11	20	..... 19.06 meters.
Nail in blaze in gum tree (4 inches diameter). 313	07	10	.....	4.15 meters.

DIVIDE.

*General locality.*—On Wye Island on the northern shore of the branch of Wye River bounding Wye Island on the south, on point at eastern side of entrance to Dividing Creek. (See Chart No. 32.)

*Immediate locality.*—Observed station is in point of woods, about 4 feet above high water, 2 yards west-northwest of edge of bank, 8 yards east-northeast of edge of bank, and 11 yards north-northeast of point of bank.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	''	
"Princess" (N 53° 04' E).....	0	00	00	..... 7/8 mile.
Right tangent of old wharf.....	12	44	..	..... 1/4 mile.
Near peak of large barn.....	50	24	..	..... 1 3/4 miles.
Chimney of house.....	141	53	..	..... 7/8 mile.
Baldwin windmill.....	162	18	30	..... 1 mile.
Right chimney of house.....	189	13	20	..... 2 miles.
Peak of house between two chimneys.....	195	40	..	..... 2 5/8 miles.
Nail in blaze in oak tree (14 inches diameter). 232	30	30	.....	4.05 meters.
Nail in blaze in gnarled oak tree (8 inches diameter).....	280	24	50	..... 9.98 meters.
Nail in blaze in oak tree (30 inches diameter). 316	39	20	.....	8.41 meters.

PRINCESS.

*General locality.*—On Wye Island on the northern shore of the branch of Wye River bounding Wye Island on the south, about 1/8 mile northeast of entrance to Dividing Creek and 3/8 mile west of entrance to Granary Creek. (See Chart No. 32.)

*Immediate locality.*—Observed station is in marsh land, about 1 foot above high water, 4 yards north of shore, 18 yards east by north of a large oak tree at shore, 4 yards south of foot of bank 10 feet high covered with vegetation, and 10 yards west by south of a white oak tree on bank.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	''	
"Philip" (S 83° 05' E).....	0	00	00	..... 3/8 mile.
Chimney of house on Pickerings Creek.....	15	16	..	..... 1 3/4 miles.
Right peak of large barn.....	110	22	..	..... 1 mile.
Baldwin windmill.....	121	01	..	..... 1 1/4 miles.

References—Continued.	°	'	"	
Cupola of Baldwin stable.....	121	40	..	1¼ miles.
Nail in blaze in white oak tree (3 inches diameter).....	163	26	00	5.65 meters.
Nail in blaze in cedar tree (14 inches diameter).....	255	36	20	3.01 meters.
Right tangent of old wharf.....	351	19	..	150 yards.

## PHILIP.

*General locality.*—On Wye Island on the northern shore of the branch of Wye River bounding Wye Island on the south, on western side of entrance to Granary Creek and ½ mile east of entrance to Dividing Creek. (See Chart No. 32.)

*Immediate locality.*—Observed station is about 1 foot above high water, 3 yards north of shore, 9 yards south-southwest of shore of creek, 9 yards west of extreme end of point, and 6 yards southeast of point of bank 4 feet high. Cement monument marking reference station is 4.62 meters N 18° 12' E of observed station.

*Marks.*—Observed station is nail in center of 2-inch cedar stub projecting 2 inches above 2-inch tile pipe with top flush with surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	'	"	
"Granary" (S 63° 59' E).....	0	00	00	¼ mile.
Baldwin windmill.....	113	44	20	1⅜ miles.
Near peak of ell of house.....	141	49	..	1¼ miles.
Nail in blaze in cedar tree (3 inches diameter).....	169	10	50	9.33 meters.
Nail in blaze in pine tree (6 inches diameter).....	210	13	30	18.09 meters.
Nail in blaze in oak tree (7 inches diameter).....	238	45	30	4.41 meters.
REFERENCE STATION.....	262	11	40	4.62 meters.
Tangent of point.....	321	20	..	¼ mile.
Near peak of large building.....	358	32	..	2 miles.

## GRANARY.

*General locality.*—On Wye Island on the northern shore of the branch of Wye River bounding Wye Island on the south on point at eastern side of entrance to Granary Creek. (See Chart No. 32.)

*Immediate locality.*—Observed station is among water bushes on marsh land about 1 foot above high water, 10 yards northeast of shore, 11 yards west of shore, 12 yards north by west of extreme end of point, and 50 yards from trees.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	'	"	
"Morn" (N 89° 30' E).....	0	00	00	⅞ mile.
Large chimney of building.....	24	48	..	1¼ miles.
Right tangent of point.....	85	34	..	¼ mile.
Left end of barn.....	176	08	..	1½ miles.
Left tangent of old wharf.....	199	54	..	½ mile.

## MORN.

*General locality.*—On Wye Island on the northern shore of the branch of Wye River bounding Wye Island on the south about 300 yards east of entrance to Granary Creek and ¾ mile northwest of entrance to Pickerings Creek. (See Chart No. 32.)

*Immediate locality.*—Observed station is about 1 foot above high water, 4 yards northwest of shore, 4 yards northeast of shore, and 6 yards southeast of foot of wooded slope to field 12 feet above high water. Cement monument marking reference station is 3.82 meters N 33° 52' W of observed station.

*Marks.*—Observed station is nail in center of 2-inch cedar stub projecting 2 inches above 2-inch tile pipe with top flush with surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

<i>References.</i> —	o	/	''	
"Bush" (N 83° 20' E).....	0	00	00	..... ¼ mile.
Tangent of point.....	4	01	.....	¼ mile.
Near peak of building.....	32	42	.....	1½ miles.
Tangent of foot of slope.....	56	33	.....	¼ mile.
Right tree on point.....	120	06	.....	¼ mile.
Tangent of woods.....	182	21	.....	⅝ mile.
Nail in blaze in locust tree (6 inches diameter).....	202	15	50	..... 2.49 meters.
Nail in blaze in cedar tree (4 inches diameter).....	241	37	00	..... 5.47 meters.
REFERENCE STATION.....	242	48	00	..... 3.82 meters.
Nail in blaze in locust tree (7 inches diameter).....	244	46	50	..... 6.68 meters.

## BUSH.

*General locality.*—On Wye Island on the northern shore of the branch of Wye River bounding Wye Island on the south on north side of entrance to a small cove about ½ mile east of entrance to Granary Creek and ⅝ mile north-west of entrance to Pickerings Creek. (See Chart No. 32.)

*Immediate locality.*—Observed station is in cultivated land, about 7 feet above high water, 4 yards northeast of edge of bank, 9 yards northwest of point of curve of land, 22 yards west of tangent of land at tree, 30 yards west-northwest of scattering trees, and 50 yards northwest of a point.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

<i>References.</i> —	o	/	''	
"Nub" (S 83° 55' E).....	0	00	00	..... ⅝ mile.
Tangent of point.....	46	27	.....	¼ mile.
Largest cedar tree on point of high bank.....	96	41	.....	¼ mile.
Nail in blaze in locust tree (2 inches diameter).....	102	18	10	..... 3.81 meters.
Tangent of point.....	166	18	.....	¼ mile.
Nail in blaze in hackberry tree (5 inches diameter).....	180	06	00	..... 8.65 meters.
Nail in blaze in walnut tree (10 inches diameter).....	348	25	20	..... 20.04 meters.

## NUB.

*General locality.*—On Wye Island on the northern shore of the branch of Wye River bounding Wye Island on the south on eastern side of entrance to a creek about ⅝ mile east of entrance to Granary Creek and ½ mile north of entrance to Pickerings Creek. (See Chart No. 32.)

*Immediate locality.*—Observed station is on a marsh point about 1 foot above high water, 2 yards east of shore, 20 yards southwest of shore, 45 yards west of shore, 20 yards south of extreme end of point, and 16 yards north-northwest of woods. Cement monument marking reference station is 15.10 meters N 83° 01' E of observed station.

*Marks.*—Observed station is nail in center of 2-inch cedar stub set in 2-inch tile pipe with top flush with surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 5 inches above surface of ground.

References.—	°	'	''	
"Wheel" (S 4° 10' E).....	0	00	00	..... ¼ mile.
Chimney on house.....	30	02	..	..... ¾ mile.
Largest cedar on point of high bank.....	47	16	..	..... ¾ mile.
Large oak tree.....	94	55	..	..... ¾ mile.
Large oak tree.....	143	43	..	..... ¾ mile.
Large oak tree.....	226	17	..	..... 150 yards.
REFERENCE STATION.....	267	11	20	..... 15.10 meters.
Nail in blaze in cedar tree (8 inches diameter).....	296	57	30	..... 16.81 meters.
Nail in blaze in oak tree (5 inches diameter).....	333	04	40	..... 19.64 meters.
Nail in blaze in oak tree (4 inches diameter).....	349	37	20	..... 20.87 meters.

## WHEEL.

*General locality.*—On Wye Island on the northern shore of the branch of Wye River bounding Wye Island on the south on a point about ¾ mile southeast by east of entrance to Granary Creek and ½ mile northwest of entrance to Pickerings Creek. (See Chart No. 32.)

*Immediate locality.*—Observed station is on marsh point south of woods about 1 foot above high water, 2 yards east of shore, 4 yards southeast of point at slight cut in marsh, and 40 yards north of square point of shore. Cement monument marking reference station is 5.26 meters S 86° 47' E of observed station.

*Marks.*—Observed station is nail in center of 2-inch cedar stub set in 2-inch tile pipe projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 5 inches above surface of ground.

References.—	°	'	''	
"Pick" (S 12° 31' E).....	0	00	00	..... ¾ mile.
Left peak of building.....	0	04	..	..... ¾ mile.
Right tangent of woods.....	111	05	..	..... 1 mile.
Large oak tree.....	129	21	..	..... ½ mile.
Nail in blaze in oak tree (14 inches diameter).....	219	10	40	..... 21.66 meters.
Nail in blaze in oak tree (9 inches diameter).....	230	46	50	..... 18.74 meters.
Nail in blaze in cedar tree (6 inches diameter).....	262	26	00	..... 19.26 meters.
REFERENCE STATION.....	285	44	00	..... 5.26 meters.
Left peak of large building.....	299	31	..	..... ¾ mile.
Chimney showing over fence.....	308	54	..	..... ¾ mile.
Right peak of large barn.....	359	34	..	..... ¾ mile.

## PICK.

*General locality.*—Southern shore of the branch of Wye River bounding Wye Island on the south on western side of entrance to Pickerings Creek. (See Chart No. 32.)

*Immediate locality.*—Observed station is in cultivated land about 15 feet above high water, 25 yards southwest of edge of field at line of cedar trees, 22 yards west of gully, 40 yards south-southeast of a small clump of trees beyond small gully, and 300 yards east-southeast of fringe of cedar trees along edge of field northeast to east of gully.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	'	''	
"Corner" (N 77° 46' W).....	0	00	00	..... ¼ mile.
Nail in blaze in cherry tree (6 inches diameter).....	42	54	00	..... 36.64 meters.
Left peak of barn.....	58	21	..	..... 1¼ miles.

References—Continued.

	o	'	''	
Front peak of house.....	104	57	..	1½ miles.
Nail in blaze in cedar tree (6 inches diameter).....	110	11	50	27.24 meters.
Nail in blaze in cedar tree (6 inches diameter).....	134	46	00	26.37 meters.
Near peak of house.....	152	11	..	⅝ mile.
Nail in blaze in hackberry tree (5 inches diameter).....	169	37	50	23.00 meters.
Left peak of large barn.....	243	36	..	¼ mile.
Right peak of house.....	314	37	..	¼ mile.

CORNER.

*General locality.*—Southern shore of the branch of Wye River bounding Wye Island on the south about ¼ mile west of entrance to Pickerings Creek. (See Chart No. 32.)

*Immediate locality.*—Observed station is in cultivated land about 15 feet above high water, 50 yards southwest of edge of bank, 55 yards south of gully, 70 yards north-northwest of trees in depression, and 120 yards west of point of bank.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	o	'	''	
"Right" (N 20° 45' W).....	0	00	00	⅙ mile.
Nail in blaze in large elm tree.....	16	18	00	50.41 meters.
Near peak of building.....	18	21	..	1 mile.
Nail in blaze in one of twin elm trees.....	63	58	40	47.11 meters.
Near peak of house.....	101	49	..	1¼ miles.
Left peak of house with two chimneys.....	113	02	..	1½ miles.
Nail in blaze in oak tree (14 inches diameter).....	162	16	00	61.44 meters.
Near peak of large barn.....	238	11	..	¾ mile.
Right corner of large house.....	275	51	..	1½ miles.
Chimney on middle of large house.....	280	01	..	1 mile.

RIGHT.

*General locality.*—Southern shore of the branch of Wye River bounding Wye Island on the south on a point about ½ mile southeast of entrance to Granary Creek and ½ mile northwest of entrance to Pickerings Creek. (See Chart No. 32.)

*Immediate locality.*—Observed station is in tree-fringed cultivated land about 15 feet above high water, 7 yards south of edge of bank, 9 yards from point of bank at path, 15 yards northwest of edge of bank, and 120 yards east of fence in depression.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	o	'	''	
"Chew" (N 71° 45' W).....	0	00	00	⅙ mile.
Left chimney of long house in woods.....	33	06	..	1 mile.
Nail in blaze in cedar tree (8 inches diameter).....	76	18	00	8.25 meters.
Left one of two large chimneys showing over the trees.....	131	03	..	1 mile.
Left corner of building.....	168	32	..	1½ miles.
Nail in blaze in hickory tree (10 inches diameter).....	182	29	40	10.80 meters.
Nail in blaze in elm tree (10 inches diameter).....	243	35	00	29.80 meters.
Right peak of house.....	269	37	..	¼ mile.
Windmill to right of two large cupolas.....	287	12	..	⅝ mile.

## CHEW.

*General locality.*—Southern shore of the branch of Wye River bounding Wye Island on the south about  $\frac{3}{8}$  mile southeast of entrance to Granary Creek and  $\frac{5}{8}$  mile west-northwest of entrance to Pickering Creek. (See Chart No. 32.)

*Immediate locality.*—Observed station is on marsh point about 1 foot above high water, 6 yards northeast of foot of bank 12 feet high, 12 yards west of point of shore, and 10 yards northwest of shore.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 2 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	"	
"Whale" (N 77° 32' W).....	0	00	00	..... $\frac{1}{8}$ mile.
Large oak tree.....	72	58	..	..... $\frac{1}{4}$ mile.
Tangent of point.....	131	18	..	..... $\frac{3}{8}$ mile.
Left end of building.....	138	38	..	..... $\frac{1}{2}$ mile.
Near peak of building.....	175	22	..	..... $1\frac{1}{4}$ miles.
Near peak of large barn.....	179	07	..	..... 1 mile.
Nail in blaze in cedar tree (10 inches diameter).....	284	33	00	..... 18.19 meters.
Nail in blaze in cedar tree (6 inches diameter).....	348	47	10	..... 9.57 meters.
Nail in blaze in cedar tree (5 inches diameter).....	358	58	20	..... 21.82 meters.

## WHALE.

*General locality.*—Southern shore of the branch of Wye River bounding Wye Island on the south on a point at western side of entrance to a small cove about  $\frac{1}{4}$  mile south of entrance to Granary Creek. (See Chart No. 32.)

*Immediate locality.*—Observed station is on a sand-and-grass point about 2 feet above high water, 2 yards south-southeast of shore, 4 yards west-northwest of shore, 9 yards southwest of extreme point, and 7 yards east by north of foot of a terraced bank about 15 feet high.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	"	
"Matter" (N 77° 03' W).....	0	00	00	..... $\frac{1}{2}$ mile.
Near peak of larger barn.....	52	33	..	..... $\frac{3}{4}$ mile.
Large oak tree.....	115	39	..	..... $\frac{1}{4}$ mile.
Near corner of building.....	175	40	..	..... $1\frac{1}{4}$ miles.
Near peak of large barn.....	178	45	..	..... $1\frac{1}{2}$ miles.
Nail in blaze in cedar tree (10 inches diameter).....	286	06	30	..... 9.40 meters.
Nail in blaze in cedar tree (7 inches diameter).....	309	33	10	..... 5.50 meters.
Nail in blaze in cedar tree (5 inches diameter).....	315	23	40	..... 9.49 meters.

## MATTER.

*General locality.*—Southern shore of the branch of Wye River bounding Wye Island on the south about  $\frac{3}{8}$  mile east-southeast of entrance to Dividing Creek and  $\frac{3}{8}$  mile west-southwest of entrance to Granary Creek. (See Chart No. 32.)

*Immediate locality.*—Observed station is on small grassy point about 1 foot above high water, 3 yards south of shore and 2 yards north of foot of tree-fringed bank 5 feet high. Cement monument marking reference station is 8.58 meters S 0° 32' E of observed station.

*Marks.*—Observed station is nail in center of 2-inch cedar stub set in 2-inch tile pipe with top flush with surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 5 inches above surface of ground.

*References.*—

	°	'	''	
"Deck" (N 78° 05' W).....	0	00	00	200 yards.
Left tangent of wharf.....	62	43		¼ mile.
Near peak of large barn on Pickerings Creek.....	180	05		1¾ miles.
Nail in blaze in cedar tree (14 inches diameter).....	204	10	50	2.31 meters.
REFERENCE STATION.....	257	32	20	8.58 meters.
Nail in blaze in one of twin cedar trees (8 inches diameter).....	276	33	10	3.72 meters.
Nail in blaze in cedar tree (8 inches diameter).....	305	43	30	2.42 meters.

DECK.

*General locality.*—Southern shore of the branch of Wye River bounding Wye Island on the south on a point about ½ mile southeast of entrance to Dividing Creek. (See Chart No. 32.)

*Immediate locality.*—Observed station is at edge of water bushes on a grass point about 1 foot above high water, 4 yards south of shore, 10 yards west of a round point, 20 yards east of shore, and 30 yards north of shore.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	''	
"Quarter" (S 38° 13' W).....	0	00	00	¼ mile.
Chimney of house.....	43	11		1¼ miles.
Tangent of point of land.....	74	32		¼ mile.
Left tangent of old wharf.....	149	46		400 yards.
South peak of large barn.....	170	41		¾ mile.
Tangent of point of land.....	206	49		500 yards.
Left cedar tree on point.....	243	41		200 yards.

QUARTER.

*General locality.*—Southern shore of the branch of Wye River bounding Wye Island on the south about ⅓ mile south-southeast of entrance to Dividing Creek and at east side of entrance to a cove. (See Chart No. 32.)

*Immediate locality.*—Observed station is on bank in a cultivated field about 12 feet above high water, 2 yards southeast of edge of bank, 100 yards south of trees and break in bluff, and 120 yards north of edge of bank at point.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	''	
"Nodim" (N 87° 45' W).....	0	00	00	½ mile.
Near peak of barn.....	1	18		1⅛ miles.
Chimney outside near end of house.....	10	34		1⅞ miles.
Near corner of barn.....	53	27		7⁄8 mile.
Right tangent of old wharf.....	112	25		⅝ mile.
Right peak of large barn.....	304	41		¾ mile.
Baldwin windmill.....	317	20		⅝ mile.
Near peak of house.....	354	43		1¼ miles.

## NODIM.

*General locality.*—Southeastern shore of the branch of Wye River bounding Wye Island on the south about  $\frac{3}{8}$  mile southwest of entrance to Dividing Creek. (See Chart No. 32.)

*Immediate locality.*—Observed station is in cultivated land about 4 feet above high water, 4 yards south of shore, 8 yards southeast of shore, 25 yards southwest of shore of marsh, and 13 yards south of corner of marsh.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	o	'	"	
"Gusta" (S 21° 08' W).....	0	00	00	$\frac{1}{8}$ mile.
Near peak of house.....	42	04	..	$1\frac{3}{8}$ miles.
Left peak of house.....	63	19	..	1 mile.
Chimney outside left end of house.....	134	07	..	$\frac{5}{8}$ mile.
Right corner of house.....	152	55	..	$\frac{3}{4}$ mile.
Right tangent of wharf.....	220	29	..	$\frac{3}{4}$ mile.
Baldwin windmill.....	354	18	..	$\frac{5}{8}$ mile.

## GUSTA.

*General locality.*—Southeastern shore of the branch of Wye River bounding Wye Island on the south about  $\frac{7}{8}$  mile north-northeast of entrance to Lloyd Creek. (See Chart No. 32.)

*Immediate locality.*—Observed station is in a cultivated field about 10 feet above high water, 8 yards east of edge of bank, 12 yards southeast of edge of bank, 17 yards northeast of edge of bank, 35 yards north-northeast of a depression, and 65 yards southwest of end of cut in bank.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	o	'	"	
"Sylvia" (S 22° 57' W).....	0	00	00	$\frac{3}{8}$ mile.
Left tangent of house on Bruffs Island.....	26	06	..	2 miles.
Left chimney of house.....	45	15	..	$1\frac{3}{8}$ miles.
Peak between two chimneys of house.....	51	42	..	2 miles.
Right peak of house.....	80	53	..	1 mile.
Cupola of barn.....	88	46	..	$\frac{5}{8}$ mile.
Left corner of house.....	155	40	..	$\frac{3}{4}$ mile.
Right peak of large barn.....	312	09	..	$\frac{3}{8}$ mile.
Baldwin windmill.....	350	13	..	$\frac{3}{8}$ mile.

## SYLVIA.

*General locality.*—Southeastern shore of the branch of Wye River bounding Wye Island on the south on second prominent point north of entrance to Lloyd Creek. (See Chart No. 32.)

*Immediate locality.*—Observed station is in a cultivated field about 10 feet above high water, 11 yards east by south of edge of bluff, 22 yards northeast of lone locust tree 2 feet in diameter at the edge of the bank, and 400 yards northwest of a large barn.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	o	'	"	
"Baldwins" (S 27° 13' W).....	0	00	00	$\frac{1}{4}$ mile.
Nail in blaze in locust tree (24 inches diameter).....	24	12	20	19.90 meters.
Very large lone tree.....	40	21	..	22 yards.
Nail in blaze in locust tree (6 inches diameter).....	53	42	20	13.37 meters.



References.—Continued.

	°	'	''	
Left peak of barn.....	73	23	..	5/8 mile.
Cupola of building.....	106	19	..	5/8 mile.
Near peak of large house.....	156	37	..	1 mile.
Near peak of large barn.....	273	21	..	5/8 mile.
Baldwin windmill.....	334	37	..	1/4 mile.
Peak of near gable of Baldwin house.....	336	06	..	1/4 mile.
Spindle on cupola.....	336	51	..	1/4 mile.

BALDWINS.

*General locality.*—Southeastern shore of the branch of Wye River bounding Wye Island on the south on a point about 3/8 mile north of entrance to Lloyd Creek. (See Chart No. 32.)

*Immediate locality.*—Observed station is on a short, sharp point of marsh about 100 yards north of a yacht landing, 7 yards northeast of shore, 10 yards southeast of shore, 12 yards east of extreme end of point, and 8 yards west of foot of bank 8 feet high.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	'	''	
"Cousin" (S 25° 13' E).....	0	00	00	1/4 mile.
Flagstaff on yacht-landing house.....	11	27	..	100 yards.
Windmill.....	27	44	..	1 1/8 miles.
Left peak of bell cupola.....	27	55	..	1 1/8 miles.
Spindle on barn cupola.....	62	53	..	2 miles.
Front peak of boathouse on Bruffs Island.....	77	51	..	1 1/2 miles.
Near corner of left chimney of house.....	111	37	..	3/4 mile.
Near peak of barn with cupola.....	175	20	..	5/8 mile.
Near peak of barn.....	215	40	..	1 mile.
Nail in blaze in cedar tree (6 inches diameter).....	248	59	50	7.91 meters.
Nail in blaze in locust tree (5 inches diameter).....	311	47	20	5.36 meters.
Nail in blaze in locust tree (4 inches diameter).....	324	04	50	13.45 meters.

COUSIN.

*General locality.*—Southeastern shore of the branch of Wye River bounding Wye Island on the south about 1 1/2 miles east-northeast of north end of Bruffs Island and at northern side of entrance to Lloyd Creek. (See Chart No. 32.)

*Immediate locality.*—Observed station is in a pasture about 9 feet above high water, 25 yards east of edge of bank, 65 yards south-southeast of a small clump of trees in bottom land, 65 yards north of trees, 60 yards north of edge of a field, and 200 yards south of a house.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	'	''	
"Lloyd" (S 36° 07' W).....	0	00	00	1/2 mile.
Spindle on barn cupola.....	8	04	50	2 miles.
Front peak of boathouse.....	26	05	..	1 1/2 miles.
Left peak of house.....	63	13	..	1 1/8 miles.
Chimney of house.....	91	31	..	3/4 mile.
Peak of near gable of Baldwin house.....	135	42	..	200 yards.
Windmill on large barn.....	187	08	..	1/4 mile.
Right peak of house.....	209	44	..	350 yards.
Left peak of bell cupola.....	333	34	..	1 mile.
Windmill.....	334	19	..	1 mile.

## Survey of Oyster Bars, Queen Annes County, Md.

## LLOYD.

*General locality.*—Southern shore of the branch of East Wye River bounding Wye Island on the south at western side of entrance to Lloyd Creek. (See Chart No. 32.)

*Immediate locality.*—Observed station is in cultivated land about 12 feet above high water, 70 yards southwest of edge of bank, 65 yards south of edge of bank, 65 yards north-northeast of point of woods and bottom land, and 120 yards northwest of an oak tree.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

<i>References.</i> —	°	'	''	
"Edward" (N 84° 02' W).....	0	00	00	..... 3/8 mile.
Near peak of house.....	32	43	..	..... 1 mile.
Left peak of barn.....	52	18	..	..... 1 1/8 miles.
Near peak of house.....	76	14	..	..... 3/8 mile.
Peak of near gable of Baldwin house.....	109	28	..	..... 3/4 mile.
Near peak of barn.....	122	59	..	..... 7/8 mile.
Right peak of large house.....	132	01	..	..... 1 mile.
Large oak tree.....	208	57	30	..... 120 yards.

## EDWARD.

*General locality.*—Southern shore of the branch of Wye River bounding Wye Island on the south on a point at eastern side of entrance to Shaw Bay about 3/4 mile east-northeast of north end of Bruffs Island and 3/8 mile west of entrance to Lloyd Creek. (See Chart No. 32.)

*Immediate locality.*—Observed station is in cultivated land about 8 feet above high water, 8 yards southeast of edge of a bluff which is washing away, and 30 yards southwest of a line of large trees at edge of bank and field.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

<i>References.</i> —	°	'	''	
"Colonel" (S 0° 10' W).....	0	00	00	..... 1/2 mile.
Windmill.....	33	28	20	..... 1 1/4 miles.
Front peak of boathouse.....	64	02	..	..... 3/4 mile.
Peak between two chimneys of house.....	114	10	..	..... 1 3/8 miles.
Near peak of house.....	146	12	..	..... 7/8 mile.
Chimney of house.....	170	06	..	..... 1 1/4 miles.
Nail in blaze in walnut tree (13 inches diameter).....	201	56	40	..... 26.40 meters.
Nail in blaze in locust tree (4 inches diameter).....	216	09	10	..... 26.95 meters.
Nail in blaze in locust tree (10 inches diameter).....	235	55	40	..... 31.55 meters.
Windmill.....	309	41	00	..... 3/8 mile.

## COLONEL.

*General locality.*—Southern shore of Shaw Bay on a point at entrance to a small cove about 1/2 mile from the branch of Wye River bounding Wye Island on the south and 5/8 mile east of Bruffs Island. (See Chart No. 32.)

*Immediate locality.*—Observed station is in a field about 10 feet above high water, 6 yards southeast of edge of bank which is washing away, 9 yards south-southwest of point of bank, and 3 yards west of top of bank lined with cedar, walnut, and oak trees. Cement monument marking reference station is 18.69 meters S 24° 06' E of observed station,

*Marks.*—Observed station is nail in center of 2-inch stub projecting 4 inches above 2-inch tile pipe with top flush with surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

*References.*—

	°	'	''	
"Shaw" (N 68° 12' W).....	0	00	00	..... ¼ mile.
Peak of roof between two chimneys of house.....	19	29	..	..... 1½ miles.
Near peak of house.....	48	21	..	..... 1½ miles.
Peak of near gable of house.....	100	57	..	..... 1¼ miles.
Nail in blaze in oak tree (20 inches diameter).....	110	47	00	..... 5.21 meters.
Nail in blaze in oak tree (6 inches diameter).....	183	33	40	..... 6.46 meters.
Nail in blaze in oak tree (7 inches diameter).....	213	01	40	..... 13.45 meters.
REFERENCE STATION.....	224	05	50	..... 18.69 meters.
Near corner of house on Bruffs Island.....	355	07	..	..... ¼ mile.

SHAW.

*General locality.*—Southern shore of entrance to the branch of Wye River bounding Wye Island on the south on northern end of Bruffs Island about ¾ mile southwest of Bordley Point. (See Chart No. 32.)

*Immediate locality.*—Observed station is in walnut, pine, and cedar woods, about 15 feet above high water, 7 yards southwest of edge of bank, and 100 yards north-northwest of a house.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	''	
"Won" (N 69° 43' W).....	0	00	00	..... ½ mile.
Peak of house between two chimneys.....	39	56	..	..... ½ mile.
Chimney on right end of house.....	77	44	..	..... 1¾ miles.
Near peak of large barn.....	88	54	..	..... 1½ miles.
Near peak of house.....	137	02	..	..... 1½ miles.
Chimney of house.....	174	08	..	..... 1¼ miles.
Right corner of left piazza post.....	234	04	10	..... 100 yards.
Nail in blaze in walnut tree (28 inches diameter).....	235	00	00	..... 29.32 meters.
Nail in blaze in walnut tree (24 inches diameter).....	268	35	20	..... 24.30 meters.
Nail in blaze in walnut tree (15 inches diameter).....	291	48	10	..... 15.98 meters.

BRUFFS.

*General locality.*—Eastern shore of Wye River on northwest point of Bruffs Island about ¾ mile northeast of Bennett Point and ½ mile southwest of Bordley Point. (See Chart No. 32.)

*Immediate locality.*—Observed station is on a marsh point about 1 foot above high water, 10 yards east of shore, 14 yards southwest of shore, 20 yards southeast of point of marsh, and 18 yards west of point of woods.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 7 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

*References.*—

	°	'	''	
"Law" (S 2° 07' W).....	0	00	00	..... ½ mile.
"St. Michaels P. E. Church Spire".....	17	35	20	..... 5¾ miles.
"St. Michaels Water Tank".....	17	50	20	..... 5¼ miles.
Cupola of barn.....	38	15	00	..... 4½ miles.
Near peak of large barn.....	54	30	..	..... 3¾ miles.
Large walnut tree.....	118	55	..	..... ½ mile.
Peak between two chimneys of house.....	156	15	..	..... ¾ mile.
Near corner of house.....	184	29	..	..... 2¾ miles.

References—Continued.	°	'	''	
Right peak of house.....	208	24	..	3/8 mile.
Nail in blaze in tree (4 inches diameter).....	257	20	30	17.38 meters.
Nail in blaze in walnut tree (3 inches diameter).....	278	43	50	27.96 meters.
Nail in blaze in cedar tree (4 inches diameter).....	310	49	30	41.27 meters.
Smoke pipe of building in woods.....	314	28	..	200 yards.

## LAW.

*General locality.*—Southeastern shore of Wye River about 3/4 mile east of Bennett Point and 1/8 mile southwest of south end of Bruffs Island. (See Chart No. 32.)

*Immediate locality.*—Observed station is in cultivated land about 15 feet above high water, 8 yards southeast of edge of a bluff, 45 yards southwest of a wire fence, 100 yards northeast of a clump of trees, and 150 yards northwest of a black walnut tree at edge of field.

*Marks.* Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	'	''	
"James" (S 36° 41' W).....	0	00	00	1/2 mile.
"Rich Neck Water Tower".....	47	20	10	4 1/2 miles.
Chimney of house on Tilghmans Point Farm.	57	48	..	3 3/4 miles.
Cupola of right barn.....	58	51	..	3 3/4 miles.
Near peak of large barn.....	128	41	..	1 1/4 miles.
Right corner of building in woods.....	169	31	..	3/8 mile.
Nail in blaze in cedar tree (4 inches diameter).....	182	21	50	38.67 meters.
Left peak of house.....	199	10	..	2 miles.
Nail in blaze in black walnut tree (7 inches diameter).....	206	30	30	45.23 meters.
Nail in blaze in cedar tree (4 inches diameter).....	224	46	40	59.96 meters.
Black walnut tree (18 inches diameter).....	284	14	..	150 yards.
Right corner of barn.....	297	53	..	1/4 mile.
Large cedar tree.....	338	23	..	100 yards.

## JAMES.

*General locality.*—Eastern shore of Miles River at southern side of entrance to Wye River about 5/8 mile southwest of Bruffs Island and 5/8 mile southeast of Bennett Point. (See Chart No. 32.)

*Immediate locality.*—Observed station is in a cultivated field about 20 feet above high water, 17 yards east of edge of a bluff at shore, and 14 yards south of edge of a bluff 18 feet high with uniform slope to shore.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	'	''	
"Frank" (S 3° 18' W).....	0	00	00	1/4 mile.
"St. Michaels P. E. Church Spire".....	15	09	00	4 1/2 miles.
"St. Michaels Water Tank".....	17	06	00	4 3/8 miles.
South chimney of house.....	63	16	..	4 miles.
South chimney of house on Tilghmans Point Farm.....	97	14	..	3 1/2 miles.
Right tangent of Tilghmans Point.....	109	08	..	3 1/4 miles.
Chimney of small cabin.....	174	03	..	1 3/8 miles.
West gable of barn.....	190	22	..	2 3/4 miles.
Cupola of barn.....	297	26	..	5/8 mile.

FRANK.

*General locality.*—Eastern shore of Miles River about ½ mile south of entrance to Wye River and 1 mile northeast of Herring Island. (See Chart No. 32.)

*Immediate locality.*—Observed station is in cultivated field about 18 feet above high water, 8 yards east of a bluff washed by high water, and 125 yards south of a ditch. Cement monument marking reference station is 25.51 meters S 87° 47' E of observed station.

*Marks.*—Observed station is center of 2-inch tile pipe projecting 2 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—

	°	'	''	
"Wood" (S 12° 55' E).....	0	00	00	¼ mile.
"St. Michaels P. E. Church Spire".....	32	13	00	4¼ miles.
"St. Michaels Water Tank".....	34	18	00	4½ miles.
East gable of barn.....	59	33	00	3 miles.
"Rich Neck Water Tank".....	105	14	00	3½ miles.
South chimney of house on Tilghmans Point				
Farm.....	117	24	..	3½ miles.
Right tangent of Tilghmans Point.....	129	22	..	3¼ miles.
South gable of small house.....	185	22	..	1¼ miles.
REFERENCE STATION.....	285	08	10	25.51 meters.
Cupola on barn.....	289	06	..	¾ mile.
East chimney of house.....	335	53	..	1½ miles.

WOOD.

*General locality.*—Eastern shore of Miles River about 1½ miles southeast of Bennett Point, 1¼ miles east-northeast of Herring Island and ¾ mile north-northwest of entrance to Woodland Creek. (See Chart No. 32.)

*Immediate locality.*—Observed station is in a cultivated field about 18 feet above high water, 18 yards east of shore and top of vertical bank 18 feet high, and 3 yards south of a wire fence.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	'	''	
"Pearson" (N 65° 24' W).....	0	00	00	3¼ miles.
Right tangent of Tilghmans Point.....	5	29	..	3½ miles.
Left tangent of marsh on Bennett Point.....	36	49	..	1½ miles.
West gable of barn.....	127	56	..	½ mile.
"St. Michaels P. E. Church Spire".....	266	53	00	4 miles.
"St. Michaels Water Tank".....	269	09	00	3½ miles.
North chimney of house.....	321	42	..	3 miles.
South chimney of house on Tilghmans Point				
Farm.....	353	51	..	3½ miles.

HERR.

*General locality.*—In Miles River on Herring Island about 1¼ miles southwest of entrance to Wye River. (See Chart No. 32.)

*Immediate locality.*—Observed station is on sandy ground in the center of Herring Island about 2 feet above high water, 30 yards northeast of shore and 30 yards southwest of shore.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	'	"	
"Rich Neck Water Tank" (N 77° 26' W)....	0	00	00	..... 3 miles.
North chimney of house on Tilghmans Point				
Farm.....	16	28	..	..... 2 $\frac{3}{8}$ miles.
Right tangent of Tilghmans Point.....	31	07	..	..... 2 $\frac{1}{4}$ miles.
South gable of barn.....	81	37	..	..... 7 miles.
North chimney of small house.....	108	59	..	..... 2 $\frac{3}{4}$ miles.
Cupola of barn.....	149	17	..	..... 1 $\frac{1}{2}$ miles.
North gable of barn.....	198	40	..	..... 1 $\frac{3}{4}$ miles.
East gable of barn.....	209	40	..	..... 3 miles.
Left chimney of Seth house.....	333	42	..	..... 2 miles.
North chimney of house.....	345	25	..	..... 2 $\frac{3}{8}$ miles.

## OLLIE.

*General locality.*—Eastern shore of Miles River about 1 mile north of entrance to Leeds Creek and  $\frac{3}{4}$  mile northeast of Deep Water Point. (See Chart No. 32.)

*Immediate locality.*—Observed station is in woods about 8 feet above high water, 6 yards west of edge of bank which is washing rapidly, and 8 yards northeast of large pine tree at edge of bank. Cement monument marking reference station is 14.42 meters N 74° 15' W of observed station.

*Marks.*—Observed station is center of 2-inch tile pipe with top flush with surface of ground. Sub-surface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of the ground.

References.—	°	'	"	
"Swing" (S 1° 20' W).....	0	00	00	..... $\frac{3}{4}$ mile.
Nail in blaze in pine tree (3 feet diameter) ..	25	56	00	..... 7.62 meters.
"St. Michaels Water Tank".....	37	58	20	..... 2 $\frac{1}{4}$ miles.
Weather vane on house on Deep Water Point				
Farm.....	57	10	..	..... 1 mile.
Near peak of house.....	91	55	..	..... 1 $\frac{1}{2}$ miles.
Chimney of house on Tilghmans Point Farm. ....	130	38	..	..... 4 $\frac{1}{2}$ miles.
Right tangent of Tilghmans Point.....	140	03	..	..... 4 $\frac{1}{2}$ miles.
"Parsons Island Water Tank".....	157	19	40	..... 7 $\frac{1}{4}$ miles.
Left tangent of main woods on Bennett Point. ....	172	00	..	..... 3 miles.
Chimney on right end of house in woods. ....	180	00	..	..... 4 miles.
Nail in blaze in pine tree (8 inches diameter). ....	240	27	..	..... 10.56 meters.
REFERENCE STATION.....	284	24	40	..... 14.42 meters.
Nail in blaze in pine tree (7 inches diameter). ....	285	22	10	..... 10.55 meters.
Nail in blaze in pine tree (7 inches diameter). ....	316	39	..	..... 12.52 meters.

## DEEWAT.

*General locality.*—Western shore of Miles River on Deep Water Point, about  $\frac{7}{8}$  mile west-northwest of Fairview Point. (See Chart No. 32.)

*Immediate locality.*—Observed station is on sand and grass point about 2 feet above high water, 8 yards southwest of shore, 7 yards northwest of shore, and 10 yards west of extreme end of point.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	'	"	
"St. Michaels Water Tank" (S 33° 08' W)....	0	00	00	..... 1 $\frac{1}{2}$ miles.
Weather vane on Dodson house.....	53	13	..	..... $\frac{1}{4}$ mile.
Tangent of Tilghmans Point.....	117	58	..	..... 4 $\frac{3}{8}$ miles.
Right tangent of Parsons Island.....	133	28	..	..... 7 $\frac{1}{8}$ miles.
Large square chimney of Starr house.....	179	59	..	..... 2 $\frac{3}{8}$ miles.
Large chimney of house.....	212	08	..	..... 1 $\frac{1}{8}$ miles.

## References—Continued.

	°	'	''	
Cupola on Rieman house.....	271	59	..	1¼ miles.
Tangent of Long Point.....	287	02	..	¾ miles.
Steeple.....	295	04	..	4½ to 5 miles.
Large chimney of house.....	297	41	..	2¾ miles.
Large chimney of house.....	309	30	..	2½ miles.
"St. Michaels P. E. Church Spire".....	353	40	40	1½ miles.

## SPAR.

*General locality.*—Southwestern shore of Miles River about 1 mile southeast of entrance to Hambleton Creek and ⅜ mile northwest of Deep Water Point. (See Chart No. 32.)

*Immediate locality.*—Observed station is on cedar-and-locust-fringed shore about 4 feet above high water, 11 yards west of shore, 12 yards southwest of shore, and 15 yards south of shore.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

## References.—

	°	'	''	
"Sara" (N 39° 19' W).....	0	00	00	1 mile.
Chimney of house on Tilghmans Point Farm.....	1	19	..	4 miles.
Near peak of barn beyond Herring Island....	42	38	..	8¾ miles.
Nail in blaze in oak tree (3 inches diameter)..	54	59	00	4.52 meters.
Right tangent of chimney.....	125	32	..	1¼ miles.
Tangent of Deep Water Point.....	181	22	..	¾ mile.
Nail in blaze in locust tree (3 inches diameter).....	240	08	40	6.84 meters.
Nail in blaze in locust tree (4 inches diameter).....	279	53	30	3.58 meters.

## SARA.

*General locality.*—Southwestern shore of Miles River about 3¼ miles south-southeast of northern end of Tilghmans Point 1¼ miles southwest of Herring Island and on point at eastern side of entrance to Hambleton Creek. (See Chart No. 32.)

*Immediate locality.*—Observed station is in a cultivated field about 15 feet above high water, 16 yards southwest of a bluff 12 feet high with uniform slope to shore, and 20 yards east of depression 4 feet deep.

*Marks.*—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

## References.—

	°	'	''	
"Wood" (N 52° 14' E).....	0	00	00	2 miles.
West chimney of house.....	127	40	..	½ mile.
Nail in blaze in hackberry tree (12 inches diameter).....	158	58	50	22.02 meters.
Nail in blaze in cedar tree (12 inches diameter).....	204	12	50	12.66 meters.
Right tangent of Tilghmans Point.....	282	58	..	¾ miles.
"Parsons Island Water Tank".....	297	11	00	6¾ miles.
South gable of barn.....	315	40	..	8 miles.
South gable of house.....	323	03	..	6 miles.
South gable of barn.....	340	49	..	4 miles.

## SETH.

*General locality.*—Southwestern shore of Miles River on a point about 2½ miles south of northern end of Tilghmans Point and ¾ mile northwest of entrance to Porters Creek. (See Chart No. 32.)

*Immediate locality.*—Observed station is in clump of cedar trees about 12 feet above high water, 9 yards southwest of top of vertical bank, washed by high water, 50 yards northwest of extreme end of

point, and 400 yards northeast of a house. Cement monument marking reference station is 9.56 meters S 67° 41' W of observed station.

*Marks.*—Observed station is center of 2-inch tile pipe projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 12 inches above surface of ground.

<i>References.</i> —	°	'	"	
"Herr" (N 79° 07' E).....	0	00	00	..... 2 miles.
Nail in blaze in cedar tree (12 inches diameter).....	145	20	20	..... 10.80 meters.
REFERENCE STATION.....	168	34	30	..... 9.56 meters.
Nail in blaze in cedar tree (6 inches diameter).....	219	59	45	..... 4.44 meters.
South gable of house.....	282	12	..	..... 5½ miles.
South gable of barn.....	305	34	..	..... 6 miles.
West gable of house.....	312	30	..	..... 6 miles.
Cupola on barn.....	356	52	..	..... 3 miles.

## DIXON.

*General locality.*—Southeastern side of Eastern Bay on Tilghmans Point about halfway between Eastern Bay and Miles River, ¾ mile southwest of northern end of point, and 1½ miles northeast of Claiborne Wharf. (See Chart No. 32.)

*Immediate locality.*—Observed station is on top of a 2-story square frame house on Tilghmans Point Farm.

*Marks.*—Observed station is center of upright staff, 3 inches square, set in the center of trap door at apex of square roof.

*References.*—None necessary.

## PEARSON.

*General locality.*—Western shore of Miles River on Tilghmans Point about ¾ mile south-southeast of northern end of point. (See Chart No. 32.)

*Immediate locality.*—Observed station is on wooded bluff about 20 feet above high water, 5 yards west of top of vertical bank at shore, and 100 yards north of first point south of northern end of Tilghmans Point. Cement monument marking reference station is 12.66 meters N 86° 03' W of observed station.

*Marks.*—Observed station is center of 2-inch tile pipe projecting 2 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 6 inches above surface of ground.

<i>References.</i> —	°	'	"	
"Green" (N 45° 46' E).....	0	00	00	..... 3¾ miles.
South gable of barn.....	1	14	..	..... 5 miles.
South chimney of house.....	11	48	..	..... 3½ miles.
West chimney of house.....	26	31	..	..... 2¾ miles.
West gable of barn.....	62	31	..	..... 3½ miles.
East gable of barn.....	76	09	..	..... 4 miles.
West chimney of house.....	111	30	..	..... 3¼ miles.
North chimney of house.....	125	20	..	..... 3½ miles.
Chimney of house.....	130	36	..	..... 2½ miles.
Nail in blaze in white oak tree (8 inches diameter).....	178	09	40	..... 5.31 meters.
REFERENCE STATION.....	228	11	00	..... 12.66 meters.
Nail in blaze in white oak tree (12 inches diameter).....	239	19	20	..... 9.99 meters.
South gable of house on Parsons Island.....	317	17	..	..... 3½ miles.
South gable of barn.....	350	02	..	..... 4¾ miles.



## BOUNDARIES OF OYSTER BARS.

### EXPLANATION.

The law of the United States authorizing the cooperation of the Department of Commerce and Labor in the survey of natural oyster bars of Maryland provides for the designation and employment by the Department of Commerce and Labor of such officers, experts, and other technically qualified persons "as may be necessary to cooperate with the Maryland State Board of Shell Fish Commissioners in making a survey of and locating the natural oyster beds, bars, and rocks in the waters within the State of Maryland." The oyster laws of Maryland provide that the Maryland Shell Fish Commissioners, with the aid of such persons as may be designated by the Government, shall proceed "to have laid out, surveyed, and designated on the said charts the natural beds and bars, and shall cause to be marked and defined as accurately as practicable the limits and boundaries of the natural beds, bars, and rocks as established by said survey, and they shall take true and accurate notes of said survey in writing, and make an accurate report of said survey, setting forth such a description of landmarks as may be necessary to enable the said board, or their successors, to find and ascertain the boundary lines of the said natural oyster beds, bars, and rocks, as shown by a delineation on the maps and charts." The oyster laws of Maryland also provide in another section that there shall "be made a true and accurate survey of the natural oyster beds, bars, and rocks \* \* \* with reference to fixed and permanent objects on the shore, giving courses and distances, to be fully described and set out in a written report of said survey."

Under the provisions of the laws quoted above the State of Maryland, in cooperation with the Department of Commerce and Labor, must define the boundaries of the natural oyster bars "as accurately as practicable" and also "with reference to fixed and permanent objects on the shore, giving courses and distances." The requirement of "as accurately as practicable" is easily fulfilled by definition of the location of the corners of the oyster bars by latitude and longitude. In fact, this method is probably the most satisfactory and accurate one that could be used for all purposes of legal definition or for relocation of the oyster-bar boundaries by competent engineers. Therefore the additional requirement of "giving courses and distances" is superfluous and is only fulfilled in the published definitions on account of the specific provisions of the law making it compulsory. This part of the description of boundaries has involved an immense amount of extra computations in order to prevent technical discrepancies between the latitude and longitude of a corner of an oyster bar and its distance and bearing from objects on shore of known latitude and longitude without adding anything to the accuracy and very little to the convenience of practical use of the descriptions of the oyster-bar boundaries.

As provided by law the boundaries of the oyster bars are all straight lines, but in the work already completed they have inclosed areas of all shapes from triangles to complicated 14-sided figures, and of all sizes from 4 acres to 7,548 acres. The sides have varied in length from 93 to 7,529 yards, and in some cases the corners of the boundaries have been practically at the triangulation stations from which they are located, while in other instances they were over 13,600 yards from the landmarks most available for the purpose of fixing their position.

The varied characteristics of the legal boundaries of the oyster bars indicated by the above statement, together with the complicated requirements of the law under which the survey has been made and the magnitude of the work with the consequent need of fixed and uniform methods, have made the problem of describing the boundaries one of considerable difficulty and great importance.

The boundaries of the oyster bars of Maryland, as established by the Shell Fish Commission and delineated on the Coast and Geodetic Survey charts and projections and on the leasing charts of the commission, are technically defined and described by a method somewhat different from that used in other oyster surveys. But it is believed that the forms finally adopted will fulfill all needs of the survey for both the present and the future.

#### METHOD OF DESCRIBING BOUNDARIES.

The descriptions have been arranged in tabular form, thus avoiding many hundred repetitions of the same words by making one explanation of the tables sufficient for all oyster bars in each county.

*Title.*—At the top of each tabular form is given the legal name of the oyster bar to be described, and the one by which it is known and designated in the published oyster records and on the oyster charts. The adopted name of the oyster bar is the one used locally, as nearly as could be ascertained by the hydrographic engineer of the commission; and when there was no local name in common use a name was selected from one of the prominent features of the vicinity that would naturally suggest the section of the waters where the oyster bar was located.

Underneath the name, in parentheses, is given the general locality of the oyster bar and the serial number of the "Maryland Oyster Chart" on which its legal boundaries are shown.<sup>1</sup>

*First column.*—This column, under the heading of "Corner of bar," gives the number corresponding to the corner of the boundary as shown on the charts and to the number on the buoy marking the actual corner of the bar. The numbers of the corners have been assigned by naming the southernmost point No. 1, thence proceeding in a clockwise direction around the bar. Where a corner of one oyster bar is identical with the corner of the boundaries of one or more other oyster bars, only the number of the corner of the oyster bar being described in the table is given in this column.

*Second and third columns.*—These two columns, under the headings of "Latitude" and "Longitude," give the geographic positions of the corners. These positions have been adopted by the commission as the primary technical definition of the location of the corners, and should be considered as final in case of a dispute arising from discrepancies caused by other means of location. The latitudes and longitudes given in these

<sup>1</sup> These charts can be obtained by application to the Superintendent of the Coast and Geodetic Survey at Washington, D. C.

columns are based on the United States standard datum of the Coast and Geodetic Survey, and the points thus defined can be relocated from distant triangulation stations of the survey, even though all the landmarks and buoys originally used for their location have been destroyed by natural or other causes.

*Fourth and fifth columns.*—These two columns, under the general heading of "True bearing"<sup>1</sup> and the specific headings "Forward" and "Back," give bearings measured from a true north-and-south line. The three "Forward" bearings are from the corner of the boundary designated in the first column to the triangulation stations named on the corresponding lines in the last column, and the three "Back" bearings are from these same stations in the last column to the corresponding corner of boundary in the first column. The difference in minutes of arc between the forward and back bearings shown in some cases is actual and not accidental, and is due to the fact that the computations took into account the spheroidal shape of the earth.

*Sixth column.*—This column, under the heading of "Distance," gives the three computed distances in yards from the corner of the bar noted in the first column to the three triangulation stations named on the corresponding lines in the last column, and vice versa.

*Seventh column.*—This column, under the heading of "U. S. C. & G. S. triangulation station,"<sup>2</sup> gives the names of the landmarks from which were computed the corresponding "Latitude," "Longitude," "True bearing," and "Distance" of the "Corner of the bar" designated in the first column. A full description of the location and markings of these triangulation stations is given in another part of this publication under the heading of "Descriptions of triangulation stations."

#### SURVEYING METHODS FOR RELOCATION OF BOUNDARIES.

There are a number of methods that can be used in the relocation of the actual boundaries of the natural oyster bars as technically described in this publication and delineated on the published charts of the Coast and Geodetic Survey and the leasing charts of the Shell Fish Commission.

The following brief descriptions of five of these more or less different methods assume a certain amount of experience and knowledge on the part of the engineer in the particular kind of surveying under consideration, and are only intended as reminders of ways and means that can be used.

There are two problems that are likely to present themselves to those interested in the boundaries of natural oyster bars: One, to determine whether the buoys marking the corners have been dragged or otherwise moved from their correct positions, and the other, to relocate or reestablish a buoy at the point from which it was removed. The different ways of solving these two problems partly depend upon the instruments possessed by the engineer and his assistants and partly on his training and experience.

(1) *Triangulation.*—This method is the one that will give the greatest accuracy, but on account of its requiring special data and instruments, and being an operation rarely used by engineers not engaged in geodetic surveying, it is recommended only for

<sup>1</sup> The mean magnetic variation for Queen Annes County was 6° 15' west of north in 1911 and increasing at the rate of 1' yearly.

<sup>2</sup> Geographic positions of these triangulation stations can be obtained by application to the Superintendent of the Coast and Geodetic Survey, Washington, D. C.

cases in dispute that can not be settled satisfactorily by some other method. An explanation of this class of work would be too long for a report of this sort, and those not familiar with this method are referred to the publications on the subject by the Coast and Geodetic Survey.

(2) *Hydrographic*.—This method is the most simple and satisfactory one that can be adopted if the surveyor can obtain the use of the necessary instruments and assistants. It is the one best suited for the work of the engineers of the commission in relocating corners of boundaries, as it gives results of the accuracy ordinarily required and is rapid in execution. Besides, it has the advantage of being available whenever three triangulation stations of suitable relative positions are visible from the offshore points needing relocation.

Most navigators and others familiar with the use of a sextant are well acquainted with the graphic three-point method of fixing a position on water, and only a brief description of the operation will be stated.

In the case where there is only one engineer having a single sextant, the three-point method can be used if the two angles determining the position of a buoy are first derived from the "Forward" bearings given in the tabular forms describing the boundaries of the oyster bars. For example, take "Broad Creek" oyster bar, which is the first one described in this publication, and assume that "Corner No. 3," is to be examined as to its position. The angle between the two landmarks "Sandy Point Light" and "Ring" as determined from right to left from the forward bearings from this corner is  $98^{\circ} 09'$  and the angle between "Ring" and "Railway Water Tank" is  $71^{\circ} 08'$ . Having these two angles, the engineer proceeds to the buoy of doubtful location and measures the actual sextant angles between the landmarks for which the calculations were made. If the measured and calculated angles do not agree the buoy is not in its correct position and the boundary corner must be relocated. This is accomplished by moving the boat about until a point is reached where the angles do agree, and this point being the desired location, the buoy can be placed in its correct position.

If the engineer can obtain the use of both a sextant and a three-arm protractor ("position finder"), the availability of the hydrographic method is increased, as the use of the protractor is essential in case of the washing away or destruction of one or more of the landmarks originally used in describing the boundaries. Under these circumstances, any three landmarks of suitable relative position that are visible from the point to be located can be utilized. For example, the engineer can proceed to the buoy of doubtful position and measure the two adjacent sextant angles between the three landmarks selected. These two angles are set off on the three-arm protractor and the actual position of the buoy plotted on the chart by shifting the protractor about until the edge of each of the three arms passes through the center of the symbols on the chart marking the position of the three landmarks selected. The center of the hub of the protractor will indicate on the chart the actual position of the buoy, and if the point thus obtained does not coincide with the true position of the corner of the boundary as given on the chart, the surveyor can proceed to locate the buoy correctly by reversing the operation. This is done by placing the center point of the hub of the protractor over the corner of the boundary in question and measuring on the chart the two adjacent protractor angles between the three selected landmarks. One of the angles thus

obtained is set on the sextant and the boat moved about until the two landmarks are shown by the sextant to subtend the same angle obtained from the protractor. The second angle is then placed on the sextant and the same operation gone through, and so on, first using one angle on the sextant then the other until a point is reached where both observed sextant angles are practically identical with the protractor angles. The point thus located is the desired one and the buoy can be placed to mark the true position of the corner of the boundary in question.

If the engineer possesses two sextants and a protractor, this problem is far easier of solution, as the two angles can be set off on separate sextants and the observer can quickly find the desired point where they agree with the protractor angles by using one sextant after the other without the need of resetting either.

If there are two observers, two sextants, and a protractor, it can be seen that the best conditions for both rapid and accurate hydrographic location of a point is attained. In fact, this is the method by which the buoys at the corners of the boundaries were originally placed by the hydrographic engineer to the commission.

(3) *Magnetic bearings from offshore.*—This method of fixing a position on water is a simple and well-known one in navigation. It is available to anyone having a boat compass and will be of special use to the State fishery force in investigating cases where buoys are supposed to have been moved for illegal purposes.

In the case where a buoy is supposed to have been moved from its true position the observer can take compass bearings to the three landmarks given in the last column of the tables opposite the boundary corner in question. These bearings are then corrected for the local declination,<sup>1</sup> and if the results agree with the published bearings the buoy is correctly located.

In the case where the buoy is not in its correct position, or has disappeared altogether, the desired point can be determined by maneuvering the vessel until the corrected bearings agree with the ones in the tabular descriptions, when the buoy can be anchored in its proper location.

In the case where the landmarks, for which the bearings are published, have been destroyed or washed away, any landmarks whose positions are indicated on the charts can be used. This can be done by getting their bearings directly from the chart by parallel rulers or a protractor and then applying these new bearings in the same manner as the ones published in the tables.

(4) *Magnetic bearings from shore.*—This method will be of special value to engineers having an ordinary surveyor's compass. The compass can be set over the point marking a "triangulation station" on shore, the name of which is given in the last column opposite the "corner" in question. The instrument is then set at the corresponding "back" bearing (corrected for local magnetic declination) given in the fifth column of the tables opposite the "corner" in question. The direction thus determined will give one range on which the desired point must be located. The compass can then be moved to a second triangulation station and another range located in a similar manner. The intersection of these two range lines will give the desired point; but in general it should be checked by an additional range line determined from a third station.

<sup>1</sup> The mean magnetic variation for Queen Annes County is  $6^{\circ} 15'$  west of north in 1911 and increasing at the rate of  $5'$  yearly.

(5) *Horizontal angles measured at landmarks.*—This process is a modification of the triangulation method, and will be useful to engineers who have a transit and desire considerable accuracy.

The instrument is placed over a "triangulation station," the name of which appears in the last column of the tabular description opposite the "corner" in question. The telescope is then pointed to the landmark indicated in the "Descriptions of landmarks" as having a direction of  $0^{\circ} 00' 00''$  from the triangulation station being occupied by the transit. The tabular description of the boundaries is next examined and the "back" bearing of the questionable boundary "corner" from the landmark being occupied is taken out. The angle calculated from this "back" bearing and the bearing given in parentheses alongside the zero landmark in the "Descriptions of landmarks" is then set off on the transit and a range line established on which the desired point must be located. A similar process is then carried on at a second station, and so on until the position of the buoy is satisfactorily fixed.

## BOUNDARIES OF NATURAL OYSTER BARS.

## BROAD CREEK.

(Chesapeake Bay—Chart No. 29.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station.
			Forward	Back		
1	38 58 36.70	76 21 17.00	S 63 30 E	N 63 30 W	1,108	Wash.
			N 34 56 E	S 34 57 W	5,153	Ring.
			N 31 04 W	S 31 05 E	5,534	Sandy Point Light.
2	38 58 42.32	76 21 34.67	S 64 51 E	N 64 51 W	1,610	Wash.
			N 40 14 E	S 40 16 W	5,287	Ring.
			N 27 43 W	S 27 44 E	5,138	Sandy Point Light.
3	39 01 44.75	76 20 05.62	S 71 18 W	N 71 16 E	4,906	Sandy Point Light.
			S 26 51 E	N 26 51 W	2,373	Ring.
			N 82 01 E	S 82 02 W	2,439	Railway Water Tank.
4	39 01 39.96	76 19 43.20	S 74 51 W	N 74 49 E	5,514	Sandy Point Light.
			S 13 51 E	N 13 51 W	2,015	Ring.
			N 74 40 E	S 74 41 W	1,892	Railway Water Tank.
5	38 59 38.62	76 19 57.54	N 21 55 E	S 21 55 W	2,303	Ring.
			N 61 48 W	S 61 50 E	5,610	Sandy Point Light.
			S 23 04 W	N 23 04 E	2,807	Wash.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

LOVE POINT.

(Chesapeake Bay off Love Point—Chart No. 29.)

Corner of bar	Latitude ° / ' / "	Longitude ° / ' / "	True bearing		Distance Yards.	U. S. C. & G. S. triangulation station
			Forward	Back		
1	39 02 07.35	76 19 30.60	S 74 10 E	N 74 09 W	1,552	Railway Water Tank. Amour. Love Point Light.
			N 85 49 E	S 85 50 W	2,303	
			N 56 12 E	S 56 14 W	4,745	
2	39 02 10.90	76 19 54.10	S 75 35 E	N 75 34 W	2,180	Railway Water Tank. Amour. Love Point Light.
			N 89 03 E	S 89 04 W	2,916	
			N 61 05 E	S 61 07 W	5,211	
3	39 03 33.70	76 19 32.30	S 24 45 E	N 24 45 W	3,674	Railway Water Tank. Amour. Love Point Light.
			S 40 28 E	N 40 28 W	3,608	
			S 86 05 E	N 86 04 W	3,998	
4	39 03 18.65	76 18 33.10	S 0 23 W	N 0 23 E	2,827	Railway Water Tank. Amour. Love Point Light.
			S 19 19 E	N 19 19 W	2,370	
			N 84 30 E	S 84 31 W	2,443	
5	39 04 15.35	76 16 34.41	S 31 33 E	N 31 31 W	6,057	Wickes Beach. Stevens. Swan Point 3.
			N 25 49 E	S 25 50 W	6,240	
			N 1 56 W	S 1 56 E	8,703	
6	39 03 53.27	76 16 11.03	S 30 11 E	N 30 10 W	5,112	Wickes Beach. Stevens. Swan Point 3.
			N 18 25 E	S 18 26 W	6,705	
			N 5 24 W	S 5 24 E	9,485	
7	39 02 55.16	76 17 18.66	S 44 10 W	N 44 11 E	2,838	Railway Water Tank. Wickes Beach. Love Point Light.
			S 60 26 E	N 60 24 W	4,981	
			N 24 48 E	S 24 49 W	1,131	

STRONG BAY.

(Lower Chester River—Chart No. 29.)

1	39 00 55.40	76 17 09.16	S 3 37 E	N 3 37 W	2,853	Macum. Wickes Beach. Love Point Light.
			N 68 50 E	S 68 52 W	4,379	
			N 2 32 E	S 2 32 W	5,070	
2	39 01 52.82	76 18 04.90	S 86 08 E	N 86 06 W	5,561	Wickes Beach. Love Point Light. Railway Water Tank.
			N 28 23 E	S 28 23 W	3,556	
			N 85 01 W	S 85 01 E	764	
3	39 01 59.81	76 17 58.12	N 27 36 E	S 27 36 W	3,264	Love Point Light. Amour. Railway Water Tank.
			N 17 50 W	S 17 50 E	443	
			S 79 47 W	N 79 47 E	955	
4	39 01 14.60	76 16 49.55	S 5 30 W	N 5 29 E	3,512	Macum. Wickes Beach. Railway Water Tank.
			N 75 20 E	S 75 22 W	3,688	
			N 03 42 W	S 03 43 E	3,060	

## Survey of Oyster Bars, Queen Annes County, Md.

## BOUNDARIES OF NATURAL OYSTER BARS—continued.

## CARVEL.

(Lower Chester River—Chart No. 29.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
1	38 59 41.98	76 16 57.80	S 70 07 E	N 70 05 W	5,378	Muddy. Wickes Beach. Amour.
			N 43 01 E	S 43 02 W	5,548	
			N 18 46 W	S 18 46 E	5,354	
2	39 00 21.36	76 17 27.50	S 21 18 E	N 21 18 W	1,824	Macum. Wickes Beach. Amour.
			N 59 08 E	S 59 10 W	5,319	
			N 14 07 W	S 14 07 E	3,858	
3	38 59 48.72	76 16 28.53	S 64 22 E	N 64 20 W	4,755	Muddy. Wickes Beach. Amour.
			N 38 13 E	S 38 14 W	4,873	
			N 27 14 W	S 27 15 E	5,446	

## FERRY (QUEEN ANNES COUNTY).

(Lower Chester River—Chart No. 29.)

1	38 59 23.94	76 15 34.62	S 66 55 E	N 66 54 W	3,118	Muddy. Narrows Point. Wickes Beach.	
			N 59 33 E	S 59 35 W	4,695		
			N 18 53 E	S 18 54 W	4,930		
2	39 00 09.66	76 15 58.46	S 52 10 W	N 52 10 E	2,128	Macum. Muddy. Wickes Beach.	
			S 51 40 E	N 51 41 W	4,455		
			N 35 27 E	S 35 28 W	3,833		
3	39 00 29.37	76 15 30.72	S 38 53 E	N 38 52 W	4,405	Muddy. Narrows Point. Wickes Beach.	
			N 87 30 E	S 87 32 W	3,949		
			N 31 17 E	S 31 18 W	2,876		
4	39 00 04.45	76 14 38.00	Thence along county boundary as delineated on Chart No. 29 to corner No. 4.			2,932	Muddy. Narrows Point. Wickes Beach.
			S 28 01 E	N 28 00 W	2,750		
			N 68 25 E	S 68 26 W	3,299		
5	38 59 49.10	76 14 48.41	S 38 34 E	N 38 33 W	2,640	Muddy. Narrows Point. Wickes Beach.	
			N 61 37 E	S 61 38 W	3,218		
			N 5 42 E	S 5 42 W	3,834		



BOUNDARIES OF NATURAL OYSTER BARS—continued.

LONG POINT (CHESTER RIVER).

(Lower Chester River—Charts Nos. 29 and 30.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
1	38 59 03.26	76 13 15.32	N 84 48 E	S 84 49 W	Yards.	Bluebeard. Narrows Point. Muddy.
			N 7 05 E	S 7 05 W	3,528	
			S 56 42 W	N 56 41 E	3,099	
2	38 59 28.93	76 14 37.13	S 44 14 E	N 44 14 W	1,941	Muddy. Narrows Point. Wickes Beach.
			N 48 55 E	S 48 56 W	3,363	
			N 1 04 E	S 1 04 W	4,497	
3	38 59 49.10	76 14 48.41	S 38 34 E	N 38 33 W	2,649	Muddy. Narrows Point. Wickes Beach.
			N 61 37 E	S 61 38 W	3,218	
			N 5 42 E	S 5 42 W	3,834	
4	39 00 04.45	76 14 38.00	S 28 01 E	N 28 00 W	2,932	Muddy. Narrows Point. Wickes Beach.
			N 68 25 E	S 68 26 W	2,750	
			N 1 51 E	S 1 51 W	3,299	
5	38 59 21.24	76 13 13.75	S 36 36 W	N 36 36 E	1,410	Muddy. Bluebeard. Narrows Point.
			S 85 17 E	N 85 16 W	3,484	
			N 7 51 E	S 7 52 W	2,492	

FLOOD POINT.

(Chester River Entrance Kent Island Narrows—Chart No. 29.)

1	38 58 37.28	76 14 44.20	S 20 44 W	N 20 44 E	862	Bridge. Muddy. Thin.
			N 77 07 E	S 77 07 W	1,581	
			N 17 46 E	S 17 46 W	420	
2	38 58 42.52	76 14 47.62	S 12 20 W	N 12 20 E	1,005	Bridge. Muddy. Thin.
			N 83 50 E	S 83 51 W	1,640	
			N 44 21 E	S 44 21 W	312	
Thence from corner No. 2 along the mean low-water line of the shore to corner No. 3, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.						
3	38 58 48.66	76 14 37.20	S 22 22 W	N 22 21 E	1,286	Bridge. Railroad. Muddy.
			S 13 16 E	N 13 16 W	1,641	
			S 88 41 E	N 88 41 W	1,357	
4	38 58 46.95	76 14 30.61	S 30 21 W	N 30 21 E	1,311	Bridge. Railroad. Muddy.
			S 7 32 E	N 7 32 W	1,557	
			N 88 43 E	S 88 43 W	1,184	
5	38 58 39.02	76 14 35.72	S 31 26 W	N 31 26 E	1,013	Bridge. Muddy. Thin.
			N 77 25 E	S 77 26 W	1,351	
			N 15 34 W	S 15 34 E	354	

## Survey of Oyster Bars, Queen Annes County, Md.

## BOUNDARIES OF NATURAL OYSTER BARS—continued.

## KENT ISLAND NARROWS.

(Kent Island Narrows—Chart No. 29.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
1	38 58 11.04	76 14 47.80	S 23 36 E	N 23 36 W	Yards. 1,789 736 1,304	Marshy. Railroad. Thin.
			S 63 09 E	N 63 08 W		
			N 9 51 E	S 9 51 W		
2	38 58 13.40	76 14 55.78	S 8 41 W	N 8 41 E	1,932 960 1,281	Kirwan. Railroad. Thin.
			S 64 34 E	N 64 34 W		
			N 19 46 E	S 19 46 W		
Thence from corner No. 2 along the mean low-water line of the shore to corner No. 3, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.						
3	38 58 42.52	76 14 47.62	S 12 20 W	N 12 20 E	1,005 1,640 312	Bridge. Muddy. Thin.
			N 83 50 E	S 83 51 W		
			N 44 21 E	S 44 21 W		
4	38 58 37.28	76 14 44.20	S 20 44 W	N 20 44 E	862 1,581 420	Bridge. Muddy. Thin.
			N 77 07 E	S 77 07 W		
			N 17 46 E	S 17 46 W		
Thence from corner No. 4 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.						

## BLUNT.

(Lower Chester River—Chart No. 30.)

1	38 58 22.34	76 12 41.74	N 57 08 E	S 57 09 W	3,131 4,484 1,888	Bluebeard. Narrows Point. Muddy.
			N 6 25 W	S 6 26 E		
			N 63 04 W	S 63 05 E		
2	38 58 43.78	76 12 55.80	N 71 59 E	S 72 00 W	3,155 3,735 1,320	Bluebeard. Narrows Point. Muddy.
			N 2 01 W	S 2 01 E		
			N 84 16 W	S 84 16 E		
3	38 59 33.05	76 11 51.36	S 61 35 E	N 61 34 W	1,483 2,334 2,747	Bluebeard. Rain. Narrows Point.
			N 3 00 W	S 3 00 E		
			N 41 42 W	S 41 43 E		
4	38 59 31.02	76 11 24.58	N 13 33 W	S 13 33 E	2,489 3,315 3,983	Rain. Narrows Point. Muddy.
			N 49 48 W	S 49 49 E		
			S 68 29 W	N 68 28 E		

BOUNDARIES OF NATURAL OYSTER BARS—continued.

POPLAR.

(Lower Chester River—Chart No. 30.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° / "	° / "	° / "	° / "	Yards.	
1	38 59 42.84	76 10 51.55	N 55 18 E N 35 42 W S 14 54 W	S 55 18 W S 35 42 E N 14 54 E	2,063 2,489 1,051	Blakeford. Rain. Bluebeard.
2	38 59 48.93	76 11 00.88	S 1 10 W N 63 28 E N 33 36 W	N 1 10 W S 63 29 W S 33 37 E	1,221 2,170 2,180	Bluebeard. Blakeford. Rain.
3	39 00 14.45	76 10 34.15	N 63 26 W S 19 17 W N 85 00 E	S 63 27 E N 19 17 E S 85 01 W	2,135 2,205 1,242	Rain. Bluebeard. Blakeford.
4	39 00 07.93	76 10 25.43	S 27 14 W N 71 58 E N 1 34 W	N 27 13 E S 71 59 W S 1 34 E	2,093 1,060 2,846	Bluebeard. Blakeford. Break.

CARPENTER ISLAND.

(Middle Chester River—Chart No. 30.)

1	39 00 33.76	76 10 47.00	S 70 59 E N 13 56 E N 79 04 W	N 70 59 W S 13 56 W S 79 05 E	1,667 2,033 1,600	Blakeford. Break. Rain.
2	39 01 12.05	76 11 10.98	N 51 13 W S 43 37 W S 50 16 E	S 51 14 E N 43 37 E N 50 15 W	2,489 1,365 2,869	Overton. Rain. Blakeford.
3	39 01 08.78	76 10 30.30	N 3 37 E S 66 26 W S 33 23 E	S 3 37 W N 66 25 E N 33 23 W	794 2,194 2,065	Break. Rain. Blakeford.
4	39 01 07.33	76 10 11.84	N 27 23 W S 71 39 W S 21 13 E	S 27 23 E N 71 38 E N 21 13 W	947 2,630 1,797	Break. Rain. Blakeford.
5	39 00 36.84	76 10 02.42	N 20 05 W N 85 50 W S 31 54 E	S 20 05 E S 85 51 E N 31 54 W	1,990 2,752 762	Break. Rain. Blakeford.

## Survey of Oyster Bars, Queen Annes County, Md.

## BOUNDARIES OF NATURAL OYSTER BARS—continued.

## HORSE RACE.

(Middle Chester River—Chart No. 30.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° / ' "	° / ' "	° / ' "	° / ' "	Yards.	
1	39 01 08.78	76 10 30.30	N 3 37 E S 66 26 W S 33 23 E	S 3 37 W N 66 25 E N 33 23 W	794 2,194 2,065	Break. Rain. Blakeford.
2	39 01 12.05	76 11 10.98	N 51 13 W S 43 37 W S 50 16 E	S 51 14 E N 43 37 E N 50 15 W	2,489 1,365 2,869	Overton. Rain. Blakeford.
3	39 02 00.00	76 11 41.20	S 63 58 E N 32 18 E S 87 04 W	N 63 58 W S 32 18 W N 87 04 E	2,131 1,808 1,147	Break. Fir. Overton.
4	39 02 17.46	76 11 06.57	N 3 22 E S 72 32 W S 33 23 E	S 3 22 W N 72 33 E N 33 22 W	942 2,155 1,825	Fir. Overton. Break.
5	39 01 31.43	76 10 30.47	N 73 14 W S 50 43 W S 24 38 E	S 73 15 E N 50 43 E N 24 38 W	3,139 2,592 2,736	Overton. Rain. Blakeford.

## PINEY POINT (QUEEN ANNES COUNTY).

(Middle Chester River—Chart No. 30.)

1	39 02 00.00	76 11 41.20	S 63 58 E N 32 18 E S 87 04 W	N 63 58 W S 32 18 W N 87 04 E	2,131 1,808 1,147	Break. Fir. Overton.
Thence along county boundary as delineated by Chart No. 30 to Corner No. 2.						
2	39 03 18.25	76 11 43.76	S 21 47 W S 42 56 E N 81 22 E	N 21 46 E N 42 56 W S 81 23 W	2,905 1,517 1,097	Overton. Fir. Gordon.
3	39 02 59.93	76 11 14.07	S 27 08 E N 45 49 E N 65 12 W	N 27 08 W S 45 49 W S 65 12 E	555 1,251 2,234	Fir. Gordon. Bay Bush Point.
4	39 02 41.86	76 11 25.76	S 32 45 E N 78 14 E N 39 07 E	N 32 44 W S 78 14 W S 39 07 W	2,790 572 1,914	Break. Fir. Gordon.
5	39 02 17.46	76 11 06.57	N 3 22 E S 72 32 W S 33 23 E	S 3 22 W N 72 33 E N 33 22 W	942 2,155 1,825	Fir. Overton. Break.

BOUNDARIES OF NATURAL OYSTER BARS—CONTINUED.

HELLS DELIGHT.

(Middle Chester River—Chart No. 30.)

Corner of bar	Latitude ° / '	Longitude ° / '	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
			° / '	° / '		
1	39 02 59.93	76 11 14.07	S 27 08 E	N 27 08 W	Yards. 555 1,251 2,234	Fir. Gordon. Bay Bush Point.
			N 45 49 E	S 45 49 W		
			N 65 12 W	S 65 12 E		
2	39 03 18.25	76 11 43.76	S 21 47 W	N 21 46 E	2,905 1,517 1,697	Overton. Fir. Gordon.
			S 42 56 E	N 42 56 W		
			N 81 22 E	S 81 23 W		
3	39 04 10.82	76 10 59.06	S 18 20 E	N 18 10 W	1,599 2,359 3,309	Gordon. Reeds. Holton Point.
			S 76 40 E	N 76 39 W		
			N 68 41 E	S 68 42 W		
4	39 04 02.56	76 10 33.54	S 7 44 W	N 7 44 E	1,251 1,646 2,830	Gordon. Reeds. Holton Point.
			S 80 43 E	N 80 42 W		
			N 58 26 E	S 58 27 W		

REEDS.

(Reed's Creek—Chart No. 30.)

1	39 03 30.37	76 09 42.66	N 19 17 E	S 19 17 W	868 636 105	Reeds. Bird. Grove.
			N 48 32 W	S 48 32 E		
			S 31 00 W	N 31 00 E		
2	39 03 36.60	76 09 49.85	S 24 16 E	N 24 16 W	328 773 357	Grove. Reeds. Bird.
			N 37 58 E	S 37 58 W		
			N 53 45 W	S 53 44 E		
3	39 03 38.95	76 09 34.61	N 8 04 E	S 8 04 W	536 701 463	Reeds. Bird. Grove.
			N 79 09 W	S 79 10 E		
			S 35 01 W	N 35 01 E		

ROBINS COVE.

(Middle Chester River—Chart No. 30.)

1	39 04 17.42	76 09 38.05	S 27 09 W	N 27 09 E	1,310 784 1,367	Bird. Reeds. Holton Point.
			S 22 11 E	N 22 11 W		
			N 44 12 E	S 44 12 W		
2	39 04 20.62	76 09 44.92	S 18 09 W	N 18 08 E	1,340 941 1,429	Bird. Reeds. Holton Point.
			S 21 36 E	N 21 36 W		
			N 52 26 E	S 52 27 W		
3	39 04 36.15	76 09 34.31	S 21 11 W	N 21 10 E	1,927 1,400 923	Bird. Reeds. Holton Point.
			S 2 45 E	N 2 45 W		
			N 67 50 E	S 67 51 W		
4	39 04 33.58	76 09 28.20	S 26 37 W	N 26 36 E	1,913 1,316 819	Bird. Reeds. Holton Point.
			S 4 04 W	N 4 04 E		
			N 57 56 E	S 57 56 W		

## Survey of Oyster Bars, Queen Annes County, Md.

## BOUNDARIES OF NATURAL OYSTER BARS—continued.

## OLD FIELD.

(Middle Chester River—Chart No. 30.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
1	39 03 55.67	76 10 11.82	S 36 17 W	N 36 16 E	Yards.	Gordon. Reeds. Holton Point.
			S 88 11 E	N 88 11 W	1,250	
			N 47 03 E	S 47 04 W	1,054	
2	39 04 02.56	76 10 33.54	S 7 44 W	N 7 44 E	1,251	Gordon. Reeds. Holton Point.
			S 80 43 E	N 80 42 W	1,646	
			N 58 26 E	S 58 27 W	2,830	
3	39 04 10.82	76 10 59.06	S 18 20 E	N 18 19 W	1,599	Gordon. Reeds. Holton Point.
			S 76 40 E	N 76 39 W	2,359	
			N 68 41 E	S 68 42 W	3,399	
4	39 05 00.50	76 10 15.60	S 27 27 E	N 27 26 W	2,501	Reeds. Holton Point. Spaniard Point 2, Upper.
			S 76 18 E	N 76 17 W	1,997	
			N 63 30 E	S 63 31 W	2,750	
5	39 05 32.73	76 09 29.24	S 24 49 E	N 24 48 W	1,719	Holton Point. Corsica. Spaniard Point 2, Upper.
			S 69 30 E	N 69 30 W	1,407	
			N 83 33 E	S 83 33 W	1,251	
6	39 05 23.33	76 09 16.60	S 17 23 E	N 17 23 W	1,302	Holton Point. Corsica. Spaniard Point 2, Upper.
			S 79 54 E	N 79 53 W	1,002	
			N 63 20 E	S 63 20 W	1,019	
7	39 05 08.76	76 09 33.12	S 47 36 E	N 47 36 W	1,114	Holton Point. Corsica. Spaniard Point 2, Upper.
			N 77 28 E	S 77 29 W	1,450	
			N 54 48 E	S 54 48 W	1,646	

## HOLTON POINT.

(Entrance Corsica River—Chart No. 30.)

1	39 04 46.68	76.08 44.98	N 88 01 E	S 88 01 W	567	Earle. Corsica. Holton Point.
			N 8 19 E	S 8 19 W	1,072	
			S 89 05 W	N 89 05 E	442	
2	39 05 08.76	76 09 33.12	S 47 36 E	N 47 36 W	1,114	Holton Point. Corsica. Spaniard Point 2, Upper.
			N 77 28 E	S 77 29 W	1,456	
			N 54 48 E	S 54 48 W	1,646	
3	39 05 23.33	76 09 16.60	S 17 23 E	N 17 23 W	1,302	Holton Point. Corsica. Spaniard Point 2, Upper.
			S 79 54 E	N 79 53 W	1,002	
			N 63 20 E	S 63 20 W	1,019	
4	39 05 13.48	76 09 07.72	S 9 42 E	N 9 42 W	924	Holton Point. Corsica. Spaniard Point 2, Upper.
			N 78 15 E	S 78 16 W	769	
			N 40 30 E	S 40 30 W	1,043	
5	39 05 06.92	76 08 41.24	S 38 05 W	N 38 05 E	876	Holton Point. Earle. Swepson.
			S 35 12 E	N 35 12 W	812	
			S 80 26 E	N 80 26 W	779	

Survey of Oyster Bars, Queen Annes County, Md.

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BOUNDARIES OF NATURAL OYSTER BARS continued

TOWN POINT.

(Corsica River—Chart No. 30.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station		
			Forward	Back				
			° / ' "	° / ' "				
1	39 04 40.98	76 07 56.52	N 24 25 E	S 24 25 W	805	Engineer.		
			N 28 39 W	S 28 39 E			850	Swepson.
			N 73 21 W	S 73 21 E			739	Earle.
2	39 04 56.98	76 08 20.33	S 71 59 W	N 71 59 E	1,146	Holton Point.		
			S 14 03 W	N 14 03 E	338	Earle.		
			S 47 23 E	N 47 23 W	1,118	Hydrographic.		
3	39 04 46.68	76 08 44.98	N 88 01 E	S 88 01 W	567	Earle.		
			N 8 10 E	S 8 10 W	1,072	Corsica.		
			S 89 05 W	N 89 05 E	442	Holton Point.		
4	39 05 06.92	76 08 41.24	S 38 05 W	N 38 05 E	876	Holton Point.		
			S 35 12 E	N 35 12 W	812	Earle.		
			S 80 26 E	N 80 26 W	779	Swepson.		
5	39 04 56.57	76 07 59.97	N 55 15 W	S 55 15 E	385	Swepson.		
			S 63 02 W	N 63 02 E	692	Earle.		
			S 21 09 E	N 21 09 W	796	Hydrographic.		

EMORY WHARF.

(Corsica River—Chart No. 30.)

1	39 04 40.98	76 07 56.52	N 24 25 E	S 24 25 W	805	Engineer.		
			N 28 39 W	S 28 39 E			850	Swepson.
			N 73 21 W	S 73 21 E			739	Earle.
2	39 04 56.57	76 07 59.97	N 55 15 W	S 55 15 E	385	Swepson.		
			S 63 02 W	N 63 02 E	692	Earle.		
			S 21 09 E	N 21 09 W	796	Hydrographic.		
3	39 04 49.41	76 07 31.24	N 36 29 W	S 36 29 E	558	Engineer.		
			S 43 01 W	N 43 01 E	686	Hydrographic.		
			S 23 45 E	N 23 45 W	657	Ruth.		

## Survey of Oyster Bars, Queen Annes County, Md.

## BOUNDARIES OF NATURAL OYSTER BARS—continued.

## EARLE COVE.

(Corsica River—Chart No. 30.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
1	39 04 29.18	76 08 04.65	N 66 14 E	S 66 14 W	Yards.	Hydrographic. Swepton. Corsica.
			N 9 36 W	S 9 36 E	448	
			N 28 44 W	S 28 45 E	1,159	
2	39 04 33.48	76 08 09.74	N 86 14 E	S 86 15 W	545	Hydrographic. Swepton. Corsica.
			N 3 25 W	S 3 25 E	1,001	
			N 27 04 W	S 27 05 E	1,694	
3	39 04 37.95	76 08 01.72	N 29 21 E	S 29 21 W	958	Engineer. Swepton. Earle.
			N 17 42 W	S 17 42 E	889	
			N 61 12 W	S 61 12 E	652	
4	39 04 32.82	76 07 58.16	N 20 27 E	S 20 27 W	1,075	Engineer. Swepton. Earle.
			N 19 38 W	S 19 38 E	1,084	
			N 53 47 W	S 53 47 E	823	

Thence from corner No. 4 along the mean low water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide

## SHIP POINT.

(Corsica River—Chart No. 30.)

1	39 04 47.45	76 07 10.09	S 66 58 W	N 66 57 E	1,112	Hydrographic. Ruth. Bath.	
			S 28 32 W	N 28 32 E			610
			N 89 25 E	S 89 25 W			662
2	39 04 48.55	76 07 19.82	S 58 24 W	N 58 24 E	902	Hydrographic. Ruth. Bath.	
			S 3 33 W	N 3 33 E	573		
			S 87 44 E	N 87 43 W	919		
3	39 04 52.90	76 07 19.08	S 51 50 W	N 51 49 E	1,002	Hydrographic. Ruth. Bath.	
			S 4 22 W	N 4 22 E	722		
			S 78 29 E	N 78 28 W	918		
4	39 04 51.25	76 07 10.08	S 61 11 W	N 61 10 E	1,169	Hydrographic. Ruth. Bath.	
			S 23 43 W	N 23 43 E	725		
			S 79 06 E	N 79 05 W	674		



BOUNDARIES OF NATURAL OYSTER BARS—continued.

POSSUM POINT.

(Corsica River—Chart No. 30.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station		
			Forward	Back				
1	39 04 46.63	76 06 54.57	S 14 07 W	N 14 07 E	795	Melfield.		
			N 83 38 E	S 83 38 W			256	Bath.
			N 32 46 W	S 32 46 E			232	Ship.
2	39 04 50.64	76 06 57.25	S 68 15 W	N 68 15 E	1,465	Hydrographic.		
			S 44 21 W	N 44 21 E	900	Ruth.		
			S 71 46 E	N 71 45 W	341	Bath.		
3	39 04 57.82	76 06 44.53	S 65 09 W	N 65 09 E	1,869	Hydrographic.		
			S 47 25 W	N 47 24 E	1,308	Ruth.		
			S 1 38 W	S 1 38 E	348	Bath.		
4	39 04 56.40	76 06 39.66	S 67 59 W	N 67 59 E	1,967	Hydrographic.		
			S 52 30 W	N 52 29 E	1,376	Ruth.		
			S 24 37 W	N 24 37 E	331	Bath.		

SPANIARD POINT.

(Middle Chester River—Chart No. 30.)

1	39 05 23.33	76 09 16.60	S 17 23 E	N 17 23 W	1,302	Holton Point.
			S 79 54 E	N 79 53 W	1,002	Corsica.
			N 63 20 E	S 63 20 W	1,019	Spaniard Point 2, Upper.
2	39 05 32.73	76 09 29.24	S 24 49 E	N 24 48 W	1,719	Holton Point.
			S 69 30 E	N 69 30 W	1,407	Corsica.
			N 83 33 E	S 83 33 W	1,251	Spaniard Point 2, Upper.
3	39 05 53.20	76 09 05.65	S 30 33 E	N 30 34 W	1,374	Corsica.
			S 48 35 E	N 48 35 W	831	Spaniard Point 2, Upper.
			N 32 20 E	S 32 20 W	1,067	Brown.
4	39 06 05.75	76 08 16.82	S 67 57 E	N 67 56 W	1,554	Chester.
			N 62 55 E	S 62 56 W	1,988	Deep Point 2.
			N 56 06 W	S 56 07 E	857	Brown.
5	39 06 00.63	76 08 14.36	S 73 22 E	N 73 21 W	1,436	Chester.
			N 57 43 E	S 57 43 W	2,017	Deep Point 2.
			N 50 02 W	S 50 02 E	1,014	Brown.
6	39 05 46.26	76 08 49.00	S 30 27 E	N 30 27 W	366	Spaniard Point 2, Upper.
			N 73 03 E	S 73 04 W	1,025	Evans.
			N 6 41 E	S 6 41 W	1,144	Brown.

## Survey of Oyster Bars, Queen Annes County, Md.

## BOUNDARIES OF NATURAL OYSTER BARS—continued.

## EMORY HOLLOW.

(Middle Chester River—Chart No. 30.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
1	39 05 56.60	76 08 04.60	S 76 11 E	N 76 11 W	Yards.	Chester. Deep Point 2. Brown.
			N 50 03 E	S 50 04 W	1,153	
			N 52 42 W	S 52 43 E	1,890	
2	39 06 00.63	76 08 14.56	S 73 22 E	N 73 21 W	1,436	Chester. Deep Point 2. Brown.
			N 57 43 E	S 57 43 W	2,017	
			N 50 02 W	S 50 02 E	1,014	
3	39 06 05.75	76 08 16.82	S 67 57 E	N 67 56 W	1,554	Chester. Deep Point 2. Brown.
			N 62 55 E	S 62 56 W	1,988	
			N 56 06 W	S 56 07 E	857	
4	39 06 23.28	76 07 08.81	S 16 26 W	N 16 26 E	1,225	Chester. Corpse. Deep Point 2.
			S 84 36 E	N 84 35 W	576	
			N 3 04 W	S 3 04 E	314	
5	39 06 18.51	76 07 03.33	S 25 49 W	N 25 49 E	1,126	Chester. Corpse. Deep Point 2.
			N 76 05 E	S 76 05 W	443	
			N 18 43 W	S 18 43 E	502	
6	39 05 58.62	76 07 29.60	S 83 54 W	N 83 54 E	1,112	Evans. Chester. Corpse.
			S 30 11 E	N 30 11 W	397	
			N 55 15 E	S 55 15 W	1,364	

## SHEEP (QUEEN ANNES COUNTY).

(Middle Chester River—Chart No. 30.)

1	39 06 18.51	76 07 03.33	S 25 49 W	N 25 49 E	1,126	Chester. Corpse. Deep Point 2.
			N 76 05 E	S 76 05 W	443	
			N 18 43 W	S 18 43 E	502	
2	39 06 23.28	76 07 08.81	S 16 26 W	N 16 26 E	1,225	Chester. Corpse. Deep Point 2.
			S 84 36 E	N 84 36 W	576	
			N 3 04 W	S 3 04 E	314	
3	39 06 34.74	76 06 47.60	S 2 09 E	N 2 09 W	441	Corpse. Indian. Thorn.
			N 59 13 E	S 59 13 W	794	
			N 14 19 E	S 14 20 W	900	
4	39 06 32.37	76 06 45.00	N 51 37 E	S 51 37 W	783	Indian. Thorn. Deep Point 2.
			N 9 12 E	S 9 13 W	965	
			N 89 20 W	S 89 21 E	643	

BOUNDARIES OF NATURAL OYSTER BARS—continued.

MUMMYS COVE.

(Middle Chester River—Chart No. 30.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
			° / ' "	° / ' "		
1	39 06 47.25	76 06 28.65	S 65 15 W	N 65 14 E	1,180	Deep Point 2. Thorn.
			N 31 29 W	S 31 29 E	527	
			N 16 47 E	S 16 47 W	1,147	
2	39 06 50.40	76 06 32.73	S 58 06 W	N 58 05 E	1,136	Deep Point 2. Thorn.
			N 26 06 W	S 26 06 E	383	
			N 23 54 E	S 23 54 W	1,077	
3	39 07 04.97	76 06 16.27	N 79 53 E	S 79 54 W	538	Ashland. Shippen.
			N 0 27 E	S 0 27 W	494	
			S 76 09 W	N 76 09 E	619	
4	39 06 59.70	76 06 10.52	N 54 17 E	S 54 17 W	466	Ashland. Shippen.
			N 12 22 W	S 12 22 E	688	
			N 87 44 W	S 87 45 E	752	

HOLLYDAY (QUEEN ANNES COUNTY).

(Middle Chester River—Chart No. 30.)

1	39 07 39.14	76 05 20.98	S 26 23 W	N 26 23 E	322	Burns. Starkley. Jarrett.
			N 81 18 E	S 81 18 W	548	
			N 27 27 E	S 27 27 W	911	
2	39 07 45.52	76 05 27.55	S 3 23 E	N 3 23 W	504	Burns. Starkley. Jarrett.
			S 79 31 E	N 79 31 W	726	
			N 44 58 E	S 44 59 W	839	
3	39 07 53.80	76 05 00.86	N 89 29 E	S 89 30 W	1,051	Booker. Jarrett. Oyster.
			N 19 07 W	S 19 07 E	333	
			S 84 25 W	N 84 25 E	1,159	
4	39 07 50.40	76 05 00.81	N 83 16 E	S 83 16 W	1,058	Booker. Jarrett. Oyster.
			N 14 25 W	S 14 25 E	442	
			N 89 54 W	S 89 54 E	1,155	

BOOKER WHARF.

(Middle Chester River—Chart No. 30.)

1	39 08 08.80	76 04 14.09	N 14 56 W	S 14 57 E	949	Cake. Melton. Booker.
			N 53 36 W	S 53 36 E	517	
			S 19 39 W	N 19 39 E	527	
2	39 08 09.25	76 04 19.93	S 2 40 W	N 2 40 E	512	Booker. Journey. Cake.
			N 56 21 E	S 56 22 W	466	
			N 5 46 W	S 5 46 E	911	
3	39 08 16.10	76 04 20.35	S 1 00 W	N 1 00 E	743	Booker. Journey. Cake.
			N 86 37 E	S 86 37 W	399	
			N 6 50 W	S 6 50 E	677	
4	39 08 16.25	76 04 12.41	N 23 21 W	S 23 21 E	728	Cake. Melton. Booker.
			N 83 09 W	S 83 09 E	463	
			S 16 30 W	N 16 30 E	780	

## Survey of Oyster Bars, Queen Annes County, Md.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

## NORTHWEST (QUEEN ANNES COUNTY).

(Middle Chester River—Chart No. 30.)

Corners of bar	Latitude		Longitude		True bearing				Distance Yards.	U. S. C. & G. S. triangulation station		
					Forward		Back					
	°	'	°	'	°	'	°	'				
1	39	08	30.	13	76	04	28.	43	S 53 39 E	N 53 39 W	759	Journey. Cake. Pomona.
									N 33 40 E	S 33 40 W	238	
									N 75 40 W	S 75 40 E	948	
2	39	08	49.	02	76	04	53.	37	S 59 11 E	N 59 10 W	916	Cake. Bill. Taste.
									N 06 46 E	S 06 46 W	036	
									N 39 52 W	S 39 52 E	538	
3	39	08	54.	27	76	04	46.	60	N 4 24 E	S 4 24 W	721	Make. Taste. Pomona.
									N 63 01 W	S 63 01 E	586	
									S 37 17 W	N 37 17 E	728	
4	39	08	33.	26	76	04	27.	72	N 82 09 W	S 82 09 E	946	Pomona. Melton. Journey.
									S 6 22 W	N 6 22 E	522	
									S 46 51 E	N 46 51 W	812	

## BRICK HOUSE.

(Chesapeake Bay—Off Kent Island—Chart No. 31.)

1	38	55	40.	93	76	22	25.	00	N 43 59 E	S 44 00 W	1,379	Craney. Sandy Point Light. Thomas Point Shoal Light.
									N 5 42 W	S 5 43 E	10,718	
									S 59 16 W	N 59 14 E	6,905	
2	38	55	41.	83	76	22	57.	65	N 62 07 E	S 62 07 W	2,056	Craney. Sandy Point Light. Thomas Point Shoal Light.
									N 1 07 W	S 1 07 E	10,638	
									S 54 57 W	N 54 55 E	6,200	
3	38	56	45.	73	76	22	47.	84	S 52 34 E	N 52 33 W	1,063	Craney. Wash. Sandy Point Light.
									N 40 10 E	S 40 11 W	4,001	
									N 3 08 W	S 3 08 E	8,402	
4	38	57	54.	10	76	21	53.	66	S 2 10 E	N 2 10 W	3,502	Craney. Wash. Sandy Point Light.
									N 64 17 E	S 64 18 W	2,172	
									N 17 01 W	S 17 02 E	6,458	
5	38	57	38.	73	76	21	24.	70	S 11 57 W	N 11 57 E	3,047	Craney. Wash. Sandy Point Light.
									N 39 17 E	S 39 17 W	1,887	
									N 21 37 W	S 21 38 E	7,199	
6	38	56	05.	58	76	22	28.	00	N 81 12 E	S 81 12 W	1,040	Craney. Sandy Point Light. Thomas Point Shoal Light.
									N 5 44 W	S 5 44 E	0,883	
									S 53 20 W	N 53 18 E	7,302	

BOUNDARIES OF NATURAL OYSTER BARS—continued.

GUM THICKET.

(Chesapeake Bay—Off Kent Island—Chart No. 31.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
			° / ' / "	° / ' / "		
1	38 52 08.37	76 22 45.10	N 10 20 E	S 10 20 W	8,294	Craney. Thomas Point Shoal Light. Bloody Point Bar Light.
			N 56 03 W	S 56 05 E	6,516	
			S 15 46 W	N 15 46 E	4,459	
2	38 52 08.42	76 23 02.35	N 13 23 E	S 13 24 W	8,387	Craney. Thomas Point Shoal Light. Bloody Point Bar Light.
			N 53 42 W	S 53 44 E	6,144	
			S 10 00 W	N 10 00 E	4,370	
3	38 53 02.63	76 23 14.86	N 10 44 E	S 10 45 W	6,726	Craney. Thomas Point Shoal Light. Bloody Point Bar Light.
			N 68 38 W	S 68 40 E	4,964	
			S 3 59 W	N 3 59 E	6,136	
4	38 54 04.55	76 22 49.73	N 20 46 E	S 20 47 W	4,537	Craney. Thomas Point Shoal Light. Bloody Point Bar Light.
			S 86 59 W	N 86 57 E	5,292	
			S 7 23 W	N 7 23 E	8,278	
5	38 54 05.44	76 22 29.22	N 14 14 E	S 14 15 W	4,346	Craney. Thomas Point Shoal Light. Bloody Point Bar Light.
			S 86 58 W	N 86 56 E	5,833	
			S 11 12 W	N 11 11 E	8,399	

KENT POINT.

(Chesapeake Bay—Off Bloody Point—Chart No. 31.)

1	38 50 01.13	76 23 31.08	S 4 59 E	N 4 58 W	7,688	Valliant. Haddaway Tenk.
			S 37 30 E	N 37 28 W	8,834	
			N 86 33 E	S 86 34 W	2,242	
2	38 51 05.68	76 23 37.00	N 15 31 E	S 15 33 W	10,663	Craney. Thomas Point Shoal Light. Bloody Point Bar Light.
			N 35 04 W	S 35 06 E	7,028	
			S 4 07 E	N 4 07 W	2,183	
3	38 52 08.42	76 23 02.35	N 13 23 E	S 13 24 W	8,387	Craney. Thomas Point Shoal Light. Bloody Point Bar Light.
			N 53 42 W	S 53 44 E	6,144	
			S 10 00 W	N 10 00 E	4,370	
4	38 52 08.37	76 22 45.10	N 10 20 E	S 10 20 W	8,294	Craney. Thomas Point Shoal Light. Bloody Point Bar Light.
			N 56 03 W	S 56 05 E	6,516	
			S 15 46 W	N 15 46 E	4,459	
5	38 50 56.25	76 22 54.85	N 40 18 W	S 40 20 E	7,960	Thomas Point Shoal Light. Bloody Point Bar Light. Valliant.
			S 27 11 W	N 27 11 E	2,090	
			S 1 44 W	N 1 44 E	9,522	
6	38 50 16.48	76 22 40.82	N 36 40 W	S 36 42 E	9,241	Thomas Point Shoal Light. Bloody Point Bar Light. Valliant.
			S 68 39 W	N 68 38 E	1,423	
			S 4 37 W	N 4 36 E	8,203	

## Survey of Oyster Bars, Queen Annes County, Md.

## BOUNDARIES OF NATURAL OYSTER BARS—continued.

## LONG POINT (EASTERN BAY).

(Eastern Bay—Chart No. 31.)

Cor- ner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° / ' "	° / ' "	° / ' "	° / ' "	Yards.	
1	38 51 18.40	76 10 54.33	N 82 32 W	S 82 32 E	1,123	Straight.
			S 39 22 E	N 39 20 W	4,250	Kemp Tower.
			S 77 01 E	N 76 59 W	5,453	Rich Neck Water Tank.
2	38 51 25.33	76 10 46.67	S 83 39 W	N 83 39 E	793	Straight.
			S 40 38 E	N 40 37 W	4,639	Kemp Tower.
			S 75 30 E	N 75 28 W	5,825	Rich Neck Water Tank.
3	38 51 53.78	76 10 32.60	N 36 50 W	S 36 51 E	1,071	Mouth.
			S 47 54 W	N 47 53 E	1,562	Straight.
			S 30 36 E	N 30 35 W	5,204	Kemp Tower.
4	38 52 45.28	76 10 47.60	S 15 40 W	N 15 40 E	913	Mouth.
			S 53 43 E	N 53 42 W	7,025	Rich Neck Water Tank.
			N 40 03 E	S 46 04 W	3,972	Turkey.
5	38 52 37.54	76 10 15.83	S 60 18 W	N 60 18 E	1,248	Mouth.
			S 51 06 E	N 51 04 W	6,201	Rich Neck Water Tank.
			N 33 50 E	S 33 49 W	3,033	Turkey.
6	38 52 16.19	76 10 29.57	N 32 32 E	S 32 33 W	4,433	Turkey.
			N 82 00 W	S 82 00 E	729	Mouth.
			S 34 29 W	N 34 29 E	2,187	Straight.
7	38 51 50.00	76 10 15.73	N 47 50 W	S 47 50 E	1,467	Mouth.
			S 60 10 W	N 60 09 E	1,848	Straight.
			S 26 52 E	N 26 51 W	4,879	Kemp Tower.

## BODKIN SHOALS.

(Eastern Bay—Chart No. 31.)

1	38 51 58.65	76 18 27.46	N 73 37 W	S 73 38 E	2,460	Mouth.
			S 67 10 W	N 67 09 E	3,121	Straight.
			S 11 20 E	N 11 20 W	4,736	Kemp Tower.
2	38 52 19.47	76 18 56.95	S 89 40 W	N 89 40 E	1,582	Mouth.
			S 17 44 E	N 17 43 W	5,612	Kemp Tower.
			S 52 48 E	N 52 46 W	5,433	Rich Neck Water Tank.
3	38 53 06.03	76 18 54.67	S 41 19 E	N 41 17 W	6,463	Rich Neck Water Tank.
			N 67 39 E	S 67 40 W	3,505	Needle.
			N 35 27 E	S 35 28 W	2,525	Turkey.
4	38 53 14.22	76 18 24.42	S 48 05 E	N 48 04 W	5,764	Dixon.
			N 66 36 E	S 66 37 W	2,663	Needle.
			N 20 33 E	S 20 33 W	1,902	Turkey.
5	38 53 20.65	76 17 59.50	N 64 49 E	S 64 49 W	1,975	Needle.
			N 0 24 E	S 0 24 W	1,564	Turkey.
			S 56 13 W	N 56 12 E	3,726	Mouth.
6	38 53 36.26	76 16 50.40	N 60 04 W	S 60 05 E	3,823	Parsons Island Water Tank.
			N 32 57 E	S 32 57 W	374	Needle.
			N 56 35 W	S 56 36 E	1,884	Turkey.

BOUNDARIES OF NATURAL OYSTER BARS continued.

BODKIN SHOALS Continued.

Corner of bar	Latitude			Longitude			True bearing		Distance	U. S. C. & G. S. triangulation station	
	°	'	"	°	'	"	Forward	Back			
7	38	53	15.14	76	17	04.90	N 18 45 E	S 18 45 W	Yard.	Needle	
							S 39 13 W	S 39 13 E			1,084
							S 67 26 W	N 67 24 E			2,258
8	38	52	32.28	76	16	44.32	N 31 40 W	S 31 40 E	3,753	Turkey	
							S 85 01 W	N 84 59 E			5,098
							S 12 35 E	N 12 34 W			3,809
Thence along county boundary as delineated on Chart No. 31 to corner No. 9.											
9	38	52	11.20	76	17	26.07	N 86 08 W	S 86 10 E	3,987	Mouth	
							S 7 44 W	N 7 44 E			5,114
							S 57 54 E	N 57 55 W			3,246
Thence along county boundary as delineated on Chart No. 31 to corner No. 10.											
10	38	51	59.14	76	17	42.52	N 79 11 W	S 79 12 E	3,609	Mouth.	
							S 3 07 W	N 3 07 E			4,667
							S 67 31 E	N 67 30 W			3,445

BRICK HOUSE HILL.

(Eastern Bay—Chart No. 31.)

1	38	52	49.80	76	19	18.59	S 44 26 W	N 44 25 E	1,445	Mouth.	
							S 48 40 E	N 48 38 W			6,522
							N 38 49 E	S 38 50 W			3,342
2	38	52	50.80	76	19	26.63	S 36 53 W	N 36 53 E	1,332	Mouth.	
							S 49 39 E	N 49 37 W			6,705
							N 41 54 E	S 41 55 W			3,451
3	38	53	11.10	76	19	16.02	S 31 06 W	N 31 06 E	2,044	Mouth.	
							N 43 59 E	S 44 01 W			6,688
							N 47 24 E	S 47 25 W			2,786
4	38	53	10.08	76	19	07.41	S 37 17 W	N 37 16 E	2,157	Mouth.	
							S 42 41 E	N 42 39 W			6,790
							N 43 09 E	S 43 10 W			2,632

BUNKER HILL.

(Eastern Bay—Chart No. 31.)

1	38	52	58.18	76	19	42.94	S 23 43 E	N 23 42 W	7,265	Kemp Tower.	
							S 50 22 E	N 50 20 W			7,195
							N 49 41 E	S 49 42 W			3,589
2	38	52	58.43	76	19	51.90	S 25 23 E	N 25 21 W	7,370	Kemp Tower.	
							S 51 29 E	N 51 27 W			7,383
							N 52 07 E	S 52 08 W			3,767
3	38	53	14.63	76	19	53.42	S 23 56 E	N 23 55 W	7,884	Kemp Tower.	
							S 48 31 E	N 48 28 W			7,765
							N 59 36 E	S 59 38 W			3,493
4	38	53	11.33	76	19	39.50	S 21 46 E	N 21 44 W	7,630	Kemp Tower.	
							S 47 17 E	N 47 14 W			7,418
							N 54 38 E	S 54 39 W			3,246

## Survey of Oyster Bars, Queen Annes County, Md.

## BOUNDARIES OF NATURAL OYSTER BARS—continued.

## TURKEY POINT.

(Eastern Bay—Chart No. 31.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° / ' "	° / ' "	° / ' "	° / ' "	Yards.	
1	38 53 20.65	76 17 59.50	N 64 49 E	S 64 49 W	1,975	Needle. Turkey. Mouth.
			N 0 24 E	S 0 24 W	1,504	
			S 56 13 W	N 56 12 E	3,726	
2	38 54 01.60	76 18 06.30	N 46 06 E	S 46 06 W	265	Turkey. Batts. Matta.
			N 51 24 W	S 51 24 E	2,098	
			N 79 29 W	S 79 29 E	3,388	
3	38 53 58.58	76 17 29.90	S 66 28 E	N 66 27 W	1,098	Needle. Cox. Turkey.
			N 10 52 W	S 10 52 E	1,340	
			N 69 40 W	S 69 40 E	820	
4	38 53 36.26	76 16 59.40	N 60 04 W	S 60 05 E	3,823	Parsons Island Water Tank. Needle. Turkey.
			N 32 57 E	S 32 57 W	374	
			N 56 35 W	S 56 36 E	1,884	

## MIDDLE BLOCK.

(Eastern Bay—Chart No. 31.)

1	38 53 14.22	76 18 24.42	S 48 05 E	N 48 04 W	5,764	Dixon. Needle. Turkey.
			N 66 36 E	S 66 37 W	2,663	
			N 20 33 E	S 20 33 W	1,992	
2	38 53 51.90	76 18 32.00	N 0 14 E	S 0 14 W	3,243	Dell. Batts. Matta.
			N 30 28 W	S 30 28 E	1,898	
			N 70 24 W	S 70 25 E	2,817	
Thence from corner No. 2 along the mean low water line of the shore to corner No. 3, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.						
3	38 53 57.08	76 18 11.38	S 79 31 E	N 79 30 W	2,136	Needle. Turkey. Batts.
			N 43 21 E	S 43 21 W	461	
			N 45 51 W	S 45 52 E	2,099	
4	38 54 01.60	76 18 06.30	N 46 06 E	S 46 06 W	265	Turkey. Batts. Matta.
			N 51 24 W	S 51 24 E	2,098	
			N 79 29 W	S 79 29 E	3,388	
5	38 53 20.65	76 17 59.50	N 64 49 E	S 64 49 W	1,975	Needle. Turkey. Mouth.
			N 0 24 E	S 0 24 W	1,504	
			S 56 13 W	N 56 12 E	3,726	



BOUNDARIES OF NATURAL OYSTER BARS—continued.

WILD GROUND.

(Eastern Bay—Chart No. 31.)

Corner of bar	Latitude			Longitude			True bearing		Distance	U. S. C. & G. S. triangulation station		
	°	'	"	°	'	"	Forward	Back				
1	38	53	06.03	76	18	54.67	S 41 19 E	N 41 17 W	6,463	Rich Neck Water Tank.		
							N 67 39 E	S 67 40 W			3,595	Needle.
							N 35 27 E	S 35 28 W			2,525	Turkey.
2	38	53	45.50	76	19	39.87	S 8 48 W	N 8 48 E	2,945	Mouth.		
							S 41 26 E	N 41 24 W			8,250	Rich Neck Water Tank.
							N 74 43 E	S 74 43 W			2,754	Turkey.
3	38	54	05.60	76	19	43.00	N 88 59 E	S 89 00 W	2,738	Turkey.		
							N 37 43 E	S 37 44 W			1,484	Batts.
							N 58 23 W	S 58 24 E			920	Matta.
4	38	53	51.90	76	18	32.00	N 0 14 E	S 0 14 W	3,243	Dell.		
							N 30 28 W	S 30 28 E			1,898	Batts.
							N 70 24 W	S 70 25 E			2,817	Matta.
5	38	53	14.22	76	18	24.42	S 48 05 E	N 48 04 W	5,764	Dixon.		
							N 66 36 E	S 66 37 W			2,663	Needle.
							N 20 33 E	S 20 33 W			1,902	Turkey.

PINE TREE.

(Eastern Bay—Chart No. 31.)

1	38	53	37.70	76	19	54.16	S 1 36 W	N 1 36 E	2,640	Mouth.		
							N 86 50 E	S 86 51 W			4,816	Needle.
							N 71 56 E	S 71 57 W			3,190	Turkey.
2	38	53	37.90	76	20	02.86	S 3 21 E	N 3 21 W	2,659	Mouth.		
							N 87 03 E	S 87 05 W			5,046	Needle.
							N 73 14 E	S 73 16 W			3,497	Turkey.
3	38	53	49.34	76	19	49.85	S 3 32 W	N 3 32 E	3,046	Mouth.		
							S 88 28 E	N 88 26 W			4,697	Needle.
							N 78 27 E	S 78 28 W			2,979	Turkey.

GREEVES COVE.

(Cox Creek—Chart No. 31.)

1	38	54	28.94	76	20	21.80	S 78 54 E	N 78 52 W	3,833	Turkey.		
							N 78 39 E	S 78 40 W			1,970	Batts.
							N 15 58 E	S 15 58 W			971	Then.
2	38	54	30.76	76	20	33.95	S 78 55 E	N 78 54 W	4,159	Turkey.		
							N 81 45 E	S 81 46 W			2,275	Batts.
							N 48 36 E	S 48 36 W			1,738	Some.
3	38	54	34.87	76	20	36.40	S 77 15 E	N 77 14 W	4,250	Turkey.		
							N 85 23 E	S 85 23 W			2,323	Batts.
							N 53 33 E	S 53 33 W			1,701	Some.

## BOUNDARIES OF NATURAL OYSTER BARS—continued.

## GREEVES COVE—Continued.

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
4	38 54 39.70	76 20 25.23	S 74 03 E	N 74 01 W	4,006	Turkey.
			N 80 18 E	S 80 19 W	2,021	Batts.
			N 51 42 E	S 51 43 W	1,368	Some.
Thence from corner No. 4 along the mean low-water line of the shore to corner No. 5, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.						
5	38 54 45.24	76 20 22.72	S 17 10 E	N 17 10 W	893	Matta.
			S 85 14 E	N 85 13 W	1,962	Batts.
			N 37 13 E	S 37 13 W	482	Then.
6	38 54 46.80	76 20 04.50	S 81 42 E	N 81 41 W	1,491	Batts.
			N 40 56 E	S 40 56 W	865	Some.
			N 29 40 W	S 29 40 E	382	Then.
7	38 54 33.60	76 20 12.72	S 75 44 E	N 75 43 W	3,633	Turkey.
			N 35 14 E	S 35 14 W	1,289	Some.
			N 2 04 E	S 2 04 W	778	Then.

## MATTAPEX.

(Cox Creek—Chart No. 31.)

1	38 54 27.39	76 19 31.84	N 54 25 E	S 54 25 W	756	Batts.
			N 46 47 W	S 46 48 E	1,439	Then.
			S 76 50 W	N 76 50 E	1,106	Matta.
2	38 54 30.65	76 19 41.35	N 4 06 W	S 4 06 E	1,155	Some.
			N 42 22 W	S 42 22 E	1,185	Then.
			S 66 21 W	N 66 21 E	902	Matta.
3	38 54 33.60	76 20 12.72	S 75 44 E	N 75 43 W	3,633	Turkey.
			N 35 14 E	S 35 14 W	1,289	Some.
			N 2 04 E	S 2 04 W	778	Then.
4	38 54 46.80	76 20 04.50	S 81 42 E	N 81 41 W	1,491	Batts.
			N 40 56 E	S 40 56 W	865	Some.
			N 29 40 W	S 29 40 E	382	Then.
5	38 54 58.98	76 20 02.56	S 11 29 W	N 11 29 E	1,344	Matta.
			S 66 16 E	N 66 17 W	1,555	Batts.
			N 67 30 E	S 67 30 W	515	Some.
6	38 54 56.33	76 19 49.20	N 23 25 E	S 23 25 W	313	Some.
			N 89 03 W	S 89 03 E	592	Then.
			S 26 46 W	N 26 46 E	1,376	Matta.
7	38 54 58.90	76 19 39.52	N 33 13 W	S 33 13 E	239	Some.
			S 84 49 W	N 84 48 E	851	Then.
			S 33 38 W	N 33 38 E	1,579	Matta.
8	38 54 43.13	76 19 41.20	N 6 45 W	S 6 45 E	737	Some.
			N 60 27 W	S 60 27 E	923	Then.
			S 46 41 W	N 46 41 E	1,141	Matta.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

SHIPPING CREEK.

(Cox Creek—Chart No. 31.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station.
			Forward	Back		
	° / ' / "	° / ' / "	° / ' / "	° / ' / "	Yards.	
1	38 54 05.15	76 19 58.28	N 88 50 E	S 88 50 W	3.142	Turkey.
			N 47 47 E	S 47 47 W	1.771	Batts.
			N 37 22 W	S 37 22 E	027	Matta.
2	38 54 20.61	76 20 08.82	S 82 23 E	N 82 21 W	3.440	Turkey.
			N 67 12 E	S 67 12 W	1.724	Batts.
			N 3 32 W	S 3 32 E	1.217	Then.
3	38 54 30.65	76 19 41.35	N 4 06 W	S 4 06 E	1.155	Some.
			N 42 22 W	S 42 22 E	1.185	Then.
			S 66 21 W	N 66 21 E	902	Matta.
4	38 54 27.39	76 19 31.84	N 54 25 E	S. 54 25 W	756	Batts.
			N 46 47 W	S 46 48 E	1,430	Then.
			S 76 50 W	N 76 50 E	1,160	Matta.
5	38 54 05.60	76 19 43.00	N 88 59 E	S 89 00 W	2,738	Turkey.
			N 37 43 E	S 37 44 W	1,484	Batts.
			N 58 23 W	S 58 24 E	920	Matta.

BATTS NECK.

(Cox Creek—Chart No. 31.)

1	38 53 51.90	76 18 32.00	N 0 14 E	S 0 14 W	3.243	Dell.
			N 30 28 W	S 30 28 E	1.898	Batts.
			N 70 24 W	S 70 25 E	2.817	Matta.
2	38 54 05.60	76 19 43.00	N 88 59 E	S 89 00 W	2,738	Turkey.
			N 37 43 E	S 37 44 W	1,484	Batts.
			N 58 23 W	S 58 24 E	020	Matta.
3	38 54 27.39	76 19 31.84	N 54 25 E	S 54 25 W	756	Batts.
			N 46 47 W	S 46 48 E	1,430	Then.
			S 76 50 W	N 76 50 E	1,160	Matta.
4	38 54 34.66	76 18 59.50	N 22 15 E	S 22 16 W	1,047	Dell.
			N 50 46 W	S 50 46 E	307	Batts.
			S 75 33 W	N 75 32 E	1,093	Matta.

## BOUNDARIES OF NATURAL OYSTER BARS—continued.

## RINGOLD MIDDLEGROUND.

(Cox Creek—Chart No. 31.)

Corner of bar	Latitude			Longitude			True bearing		Distance	U. S. C. & G. S. triangulation station
	°	'	"	°	'	"	Forward	Back		
1	38	53	51.90	76	18	32.00	N 0 14 E	S 0 14 W	Yards. 3,243 1,898 2,817	Dell. Batts. Matta.
							N 30 28 W	S 30 28 E		
							N 70 24 W	S 70 25 E		
2	38	54	34.66	76	18	59.50	N 22 15 E	S 22 16 W	1,947 307 1,993	Dell. Batts. Matta.
							N 50 46 W	S 50 46 E		
							S 75 33 W	N 75 32 E		
3	38	54	36.10	76	18	15.70	N 13 22 W	S 13 22 E	1,802 1,400 1,074	Dell. Batts. Turkey.
							N 84 02 W	S 84 02 E		
							S 24 04 E	N 24 04 W		
4	38	54	20.58	76	18	06.96	N 15 51 W	S 15 52 E	2,367 1,755 502	Dell. Batts. Turkey.
							N 67 35 W	S 67 36 E		
							S 24 26 E	N 24 26 W		
5	38	54	07.46	76	18	17.10	N 7 57 W	S 7 57 E	2,745 1,753 3,075	Dell. Batts. Matta.
							N 50 38 W	S 50 39 E		
							N 82 08 W	S 82 10 E		
6	38	54	01.60	76	18	06.30	N 46 06 E	S 46 06 W	265 2,098 3,388	Turkey. Batts. Matta.
							N 51 24 W	S 51 24 E		
							N 79 29 W	S 79 29 E		
7	38	53	57.08	76	18	11.38	S 79 31 E	N 79 30 W	2,136 461 2,090	Needle. Turkey. Batts.
							N 43 21 E	S 43 21 W		
							N 45 51 W	S 45 52 E		

Thence from corner No. 7 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

## ERICKSON SANDS.

(Cox Creek—Chart No. 31.)

1	38	54	34.66	76	18	59.50	N 22 15 E	S 22 16 W	1,947 307 1,993	Dell. Batts. Matta.
							N 50 46 W	S 50 46 E		
							S 75 33 W	N 75 32 E		
2	38	54	57.62	76	18	39.60	N 11 43 E	S 11 43 W	1,050 945 958	Dell. Top. Batts.
							N 46 53 W	S 46 53 E		
							S 52 44 W	N 52 44 E		
3	38	54	54.40	76	18	16.10	N 10 40 W	S 10 40 E	1,206 1,510 1,460	Dell. Top. Batts.
							N 60 02 W	S 60 03 E		
							S 71 09 W	N 71 09 E		
4	38	54	36.10	76	18	15.70	N 13 22 W	S 13 22 E	1,802 1,400 1,074	Dell. Batts. Turkey.
							N 84 02 W	S 84 02 E		
							S 24 04 E	N 24 04 W		

BOUNDARIES OF NATURAL OYSTER BARS—continued.

PEA HILL.

(Cox Creek—Chart No. 31.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° / ' "	° / ' "	° / ' "	° / ' "	Yards.	
1	38 54 54.40	76 18 16.10	N 19 40 W	S 19 40 E	1,206	Dell.
			N 60 02 W	S 60 03 E	1,510	Top.
			S 71 09 W	N 71 09 E	1,460	Batts.
2	38 54 57.62	76 18 39.60	N 11 43 E	S 11 43 W	1,050	Dell.
			N 40 53 W	S 40 53 E	945	Top.
			S 52 44 W	N 52 44 E	958	Batts.
3	38 55 11.26	76 18 45.30	N 32 37 E	S 32 37 W	674	Dell.
			N 71 00 W	S 71 00 E	571	Top.
			S 30 29 W	N 30 28 E	1,206	Batts.
4	38 55 26.11	76 18 44.46	N 78 56 E	S 78 56 W	348	Dell.
			N 18 20 W	S 18 20 E	1,263	Ware.
			S 60 43 W	N 60 43 E	644	Top.
5	38 55 13.30	76 18 16.58	N 38 15 W	S 38 16 E	635	Dell.
			N 84 50 W	S 84 51 E	1,301	Top.
			S 51 03 W	N 51 03 E	1,760	Batts.

STEVENS.

(Cox Creek—Chart No. 31.)

1	38 55 11.26	76 18 45.30	N 32 37 E	S 32 37 W	674	Dell.
			N 71 00 W	S 71 00 E	571	Top.
			S 30 29 W	N 30 28 E	1,206	Batts.
2	38 55 12.42	76 18 57.05	S 34 43 E	N 34 42 W	2,683	Turkey.
			N 51 51 E	S 51 51 W	855	Dell.
			N 2 16 W	S 2 16 E	1,601	Ware.
3	38 55 19.60	76 19 00.21	S 33 21 E	N 33 21 W	2,930	Turkey.
			N 69 16 E	S 69 16 W	808	Dell.
			N 0 43 E	S 0 43 W	1,418	Ware.
Thence from corner No. 3 along the mean low-water line of the shore to corner No. 4, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.						
4	38 55 31.72	76 19 13.30	S 21 27 E	N 21 27 W	541	Top.
			S 83 39 E	N 83 39 W	1,108	Dell.
			N 53 45 E	S 53 45 W	1,259	Tom.
5	38 55 34.62	76 19 00.00	S 14 12 W	N 14 12 E	621	Top.
			S 73 39 E	N 73 39 W	783	Dell.
			N 45 48 E	S 45 48 W	927	Tom.
6	38 55 26.11	76 18 44.46	N 78 56 E	S 78 56 W	348	Dell.
			N 18 20 W	S 18 20 E	1,263	Ware.
			S 60 43 W	N 60 43 E	644	Top.

## Survey of Oyster Bars, Queen Annes County, Md.

## BOUNDARIES OF NATURAL OYSTER BARS—continued.

## JONES HOLE.

(Cox Creek—Chart No. 31.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
			° / ' "	° / ' "		
1	38 55 26.11	76 18 44.46	N 78 56 E	S 78 56 W	348	Dell. Ware. Top.
			N 18 20 W	S 18 20 E	1,263	
			S 60 43 W	N 60 43 E	644	
2	38 55 34.62	76 19 00.00	S 14 12 W	N 14 12 E	621	Top. Dell. Tom.
			S 73 39 E	N 73 39 W	783	
			N 45 48 E	S 45 48 W	927	
3	38 55 41.86	76 18 56.58	S 54 53 E	N 54 53 W	607	Dell. Tom. Ware.
			N 55 00 E	S 55 00 W	702	
			N 6 40 W	S 6 40 E	671	
4	38 55 48.90	76 18 58.50	S 45 22 E	N 45 22 W	1,000	Dell. Tom. Ware.
			N 75 12 E	S 75 12 W	947	
			N 3 39 W	S 3 39 E	431	
5	38 56 01.78	76 18 48.73	S 21 46 E	N 21 46 W	1,223	Dell. Tom. Greek.
			S 53 50 E	N 53 50 W	456	
			N 42 26 E	S 42 27 W	1,073	
6	38 55 57.20	76 18 42.72	N 30 52 E	S 30 53 W	1,102	Greek. Ware. Top.
			N 71 17 W	S 71 17 E	468	
			S 24 01 W	N 24 01 E	1,493	

## POND MARSH.

(Cox Creek—Chart No. 31.)

1	38 55 57.20	76 18 42.72	N 30 52 E	S 30 53 W	1,102	Greek. Ware. Top.
			N 71 17 W	S 71 17 E	468	
			S 24 01 W	N 24 01 E	1,493	
2	38 56 01.78	76 18 48.73	S 21 46 E	N 21 46 W	1,223	Dell. Tom. Greek.
			S 53 50 E	N 53 50 W	456	
			N 42 26 E	S 42 27 W	1,073	
3	38 56 06.34	76 18 51.02	S 45 23 E	N 45 23 W	601	Tom. Greek. Tuxon.
			N 50 52 E	S 50 53 W	1,012	
			N 4 58 E	S 4 58 W	1,179	
4	38 56 07.92	76 18 56.05	S 49 41 E	N 49 41 W	736	Tom. Greek. Tuxon.
			N 57 28 E	S 57 29 W	1,087	
			N 11 48 E	S 11 49 W	1,146	
5	38 56 26.53	76 19 11.72	S 88 09 E	N 88 09 W	1,331	Greek. Liver. Coffee.
			N 4 07 W	S 4 07 E	449	
			N 78 52 W	S 78 52 E	270	
6	38 56 31.40	76 18 56.38	S 80 30 W	N 80 30 E	679	Coffee. Ware. Greek.
			S 4 45 W	N 4 45 E	1,007	
			S 77 23 E	N 77 23 W	948	
7	38 56 24.24	76 18 26.81	N 8 54 E	S 8 54 W	669	Ville. Tuxon. Ware.
			N 43 10 W	S 43 11 E	783	
			S 48 32 W	N 48 32 E	1,150	
8	38 55 59.52	76 18 37.10	N 10 40 W	S 10 40 E	1,429	Tuxon. Ware. Tom.
			N 83 04 W	S 83 04 E	595	
			S 17 47 E	N 17 47 W	202	

*Survey of Oyster Bars, Queen Annes County, Md.*

BOUNDARIES OF NATURAL OYSTER BARS continued.

ISLAND COVE.

(Cox Creek Chart No. 31)

Corner of bar	Latitude ° ' "	Longitude ° ' "	True bearing		Distance	U. S. C & G. S. triangulation station	
			Forward	Back			
1	38 56 26.53	76 19 11.72	S 88 09 E	N 88 09 W	Yards. 1,331	Greek	
			N 4 07 W	S 4 07 E			419
			N 78 52 W	S 78 52 E			270
2	38 56 32.46	76 19 35.90	S 68 19 E	N 68 18 W	400	Coffee.	
			N 70 15 E	S 70 15 W			645
			N 2 44 E	S 2 44 W			600
3	38 56 42.00	76 19 43.12	S 75 20 E	N 75 19 W	2,229	Greek.	
			S 82 34 E	N 82 34 W			804
			N 38 09 E	S 38 09 W			354
4	38 56 52.40	76 19 28.60	S 66 11 W	N 66 11 E	178	Samuel.	
			S 12 19 E	N 12 19 W			840
			S 35 40 E	N 35 40 W			2,432
5	38 56 38.40	76 19 13.24	N 54 51 W	S 54 51 E	694	Samuel.	
			S 32 56 W	N 32 56 E			414
			S 33 59 E	N 33 59 W			1,813
6	38 56 31.40	76 18 56.38	S 80 30 W	N 80 30 E	679	Coffee.	
			S 4 45 W	N 4 45 E			1,007
			S 77 23 E	N 77 23 W			948

## Survey of Oyster Bars, Queen Annes County, Md.

## BOUNDARIES OF NATURAL OYSTER BARS—continued.

## ROOKS.

(Cox Creek—Chart No. 31.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ' "	° ' "	° ' "	° ' "	Yards.	
1	38 56 24.24	76 18 26.81	N 8 54 E	S 8 54 W	669	Ville.
			N 43 10 W	S 43 11 E	785	Tuxon.
			S 48 32 W	N 48 32 E	1,150	Ware.
2	38 56 31.40	76 18 56.38	S 80 30 W	N 80 30 E	679	Coffee.
			S 4 45 W	N 4 45 E	1,007	Ware.
			S 77 23 E	N 77 23 W	948	Greek.
3	38 56 41.66	76 18 37.67	S 38 02 E	N 38 02 W	702	Greek.
			N 79 16 E	S 79 16 W	397	Ville.
			N 25 59 E	S 25 59 W	682	Timber.
4	38 56 48.16	76 18 48.02	S 77 37 E	N 77 37 W	678	Ville.
			N 55 23 E	S 55 23 W	694	Timber.
			N 1 39 W	S 1 39 E	338	Steve.
5	38 56 52.57	76 18 35.24	S 47 54 E	N 47 54 W	440	Ville.
			N 43 44 E	S 43 44 W	340	Timber.
			N 61 19 W	S 61 19 E	395	Steve.
6	38 56 43.85	76 18 22.88	N 9 32 W	S 9 32 E	547	Timber.
			S 81 57 W	N 81 57 E	645	Tuxon.
			S 3 57 E	N 3 57 W	628	Greek.
Thence from corner No. 6 along the mean low water line of the shore to corner No. 7, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.						
7	38 56 28.50	76 18 11.22	N 44 21 W	S 44 21 E	1,401	Steve.
			N 65 42 W	S 65 42 E	1,038	Tuxon.
			S 67 31 W	N 67 30 E	285	Greek.
8	38 56 25.18	76 18 18.70	N 10 06 W	S 10 06 E	628	Ville.
			N 35 05 W	S 35 05 E	1,300	Steve.
			N 87 41 W	S 87 41 E	67	Greek.
9	38 56 27.30	76 18 20.64	N 6 02 W	S 6 02 E	561	Ville.
			N 56 11 W	S 56 11 E	841	Tuxon.
			S 49 50 W	N 49 49 E	1,341	Ware.



BOUNDARIES OF NATURAL OYSTER BARS—continued.

THOMPSONS.

(Cox Creek—Chart No. 31.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
			° / ' "	° / ' "		
1	38 56 48.16	76 18 48.02	S 77 37 E	N 77 37 W	678	Ville.
			N 55 23 E	S 55 23 W	664	Timber.
			N 1 39 W	S 1 39 E	338	Steve.
2	38 57 02.40	76 18 46.74	S 80 55 E	N 80 55 W	545	Timber.
			N 8 15 E	S 8 15 W	503	Landing.
			N 51 16 W	S 51 16 E	495	Thompson.
3	38 57 03.10	76 18 54.30	S 81 32 E	N 81 32 W	745	Timber.
			N 29 45 E	S 29 45 W	547	Landing.
			N 33 14 W	S 33 14 E	343	Thompson.
4	38 57 13.24	76 19 00.40	S 31 56 E	N 31 56 W	598	Steve.
			N 72 56 E	S 72 57 W	452	Landing.
			N 10 02 E	S 10 02 W	632	Hope.
5	38 57 37.50	76 18 47.92	S 48 07 W	N 48 07 E	294	Hope.
			S 22 11 W	N 22 11 E	943	Thompson.
			S 0 32 W	N 0 32 E	1,325	Steve.
6	38 57 17.18	76 18 44.00	S 10 14 W	N 10 14 E	651	Steve.
			S 38 33 E	N 38 33 W	747	Timber.
			N 3 06 W	S 3 06 E	408	Knock.
Thence from corner No. 6 along the mean low water line of the shore to corner No. 7; excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.						
7	38 57 13.24	76 18 40.36	S 84 21 W	N 84 20 E	558	Thompson.
			S 22 37 W	N 22 37 E	550	Steve.
			S 39 19 E	N 39 18 W	584	Timber.
8	38 57 07.06	76 18 26.80	S 80 27 W	N 80 27 E	925	Thompson.
			S 62 15 W	N 62 15 E	642	Steve.
			S 31 33 W	N 31 32 E	1,025	Tuxon.
9	38 56 52.57	76 18 35.24	S 47 54 E	N 47 54 W	440	Ville.
			N 43 44 E	S 43 44 W	340	Timber.
			N 61 19 W	S 61 19 E	395	Steve.

JOHNSON ISLAND.

(Crab Alley Bay—Chart No. 31.)

1	38 55 24.75	76 16 46.80	S 41 07 W	N 41 07 E	2,111	Cox.
			S 75 54 E	N 75 54 W	1,666	Norman.
			N 34 40 E	S 34 40 W	1,662	Over.
2	38 55 30.85	76 16 58.97	S 30 44 E	N 30 44 W	2,090	Cox.
			S 72 32 E	N 72 31 W	2,061	Norman.
			N 20 49 W	S 20 49 E	1,182	Tull.
3	38 55 54.98	76 16 59.34	S 54 03 E	N 54 02 W	2,441	Norman.
			N 74 46 E	S 74 47 W	1,322	Over.
			N 54 38 W	S 54 38 E	503	Tull.
4	38 56 03.90	76 16 26.66	S 89 34 W	N 89 34 E	1,271	Tull.
			S 32 45 E	N 32 46 W	2,060	Norman.
			N 83 36 E	S 83 36 W	417	Over.

## Survey of Oyster Bars, Queen Annes County, Md.

## BOUNDARIES OF NATURAL OYSTER BARS—continued.

## CRAB ALLEY LUMPS.

(Crab Alley Bay—Charts Nos. 31 and 32.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station		
			Forward	Back				
	° / ' "	° / ' "	° / ' "	° / ' "	Yards.			
1	38 55 00.00	76 16 46.54	S 72 54 E N 75 34 E N 23 05 E	N 72 53 W S 75 35 W S 23 00 W	3,112 1,692 2,393	Parsons Norman. Over.	Island	Water [Tank.]
2	38 55 24.75	76 16 46.80	S 41 07 W S 75 54 E N 34 40 E	N 41 07 E N 75 54 W S 34 40 W	2,111 1,696 1,662	Cox. Norman. Over.		
3	38 56 03.90	76 16 26.66	S 89 34 W S 32 45 E N 83 36 E	N 89 34 E N 32 40 W S 83 36 W	1,271 2,060 417	Tull. Norman. Over.		
4	38 55 51.92	76 16 08.26	N 8 48 W N 77 21 W S 25 22 E	S 8 48 E S 77 21 E N 25 21 W	450 1,799 1,471	Over. Tull. Norman.		
5	38 55 00.00	76 16 00.00	N 44 23 E N 42 37 W S 73 56 W	S 44 23 W S 42 37 E N 73 54 E	580 2,914 2,729	Norman. Tull. Cox.		

## CEDAR ISLAND.

(Crab Alley Bay—Chart No. 31.)

1	38 54 46.17	76 17 31.86	S 34 48 W S 83 52 E N 38 38 E	N 34 47 E N 83 50 W S 38 39 W	352 4,193 3,415	Cox. Parsons Over.	Island	Water [Tank.]
2	38 55 00.92	76 17 50.90	S 31 34 E N 83 19 E N 50 30 E	N 31 33 W S 83 21 W S 30 31 W	2,982 3,357 3,443	Needle. Norman. Over.		
3	38 55 43.39	76 17 35.13	S 2 58 W S 70 22 E N 71 35 E	N 2 58 E N 70 21 W S 71 36 W	2,222 3,090 2,338	Cox. Norman. Over.		
4	38 55 39.02	76 17 21.60	S 12 49 W S 70 46 E N 11 58 E	N 12 49 E N 70 45 W S 11 59 W	2,125 2,714 848	Cox. Norman. Tull.		
5	38 55 27.30	76 17 24.08	S 13 37 W S 79 15 E N 11 09 W	N 13 37 E N 79 14 W S 11 09 E	1,725 2,075 1,249	Cox. Norman. Tull.		
6	38 55 30.85	76 16 58.97	S 30 44 E S 72 32 E N 20 49 W	N 30 44 W N 72 31 W S 20 49 E	2,090 2,061 1,182	Cox. Norman. Tull.		
7	38 55 24.75	76 16 46.80	S 41 07 W S 75 54 E N 34 40 E	N 41 07 E N 75 54 W S 34 40 W	2,111 1,696 1,662	Cox. Norman. Over.		
8	38 55 00.00	76 16 46.54	S 72 54 E N 75 34 E N 23 05 E	N 72 53 W S 75 35 W S 23 06 W	3,112 1,692 2,393	Parsons Norman. Over.	Island	Water [Tank.]

BOUNDARIES OF NATURAL OYSTER BARS—continued.

NORMANS FINE EYES.

(Eastern Bay—Charts Nos. 31 and 32.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station				
			Forward	Back						
			° / ' "	° / ' "						
1	38 54 23.01	76 16 46.20	N 83 37 E	S 83 38 W	2,984	Parsons	Island	Water	[Tank.	
			N 44 19 W	S 44 20 E						2,333
			N 70 42 W	S 70 43 E						1,487
2	38 55 00.00	76 16 46.54	N 72 54 E	N 72 53 W	3,112	Parsons	Island	Water	[Tank.	
			N 75 34 E	S 75 35 W						1,092
			N 23 05 E	S 23 06 W						2,393
3	38 55 00.00	76 16 00.00	N 44 23 E	S 44 23 W	580	Norman.				
			N 42 37 W	S 42 37 E						2,914
			S 73 56 W	N 73 54 E						2,729
4	38 54 47.63	76 15 58.00	N 73 37 E	N 73 36 W	1,767	Parsons	Island	Water	[Tank.	
			N 23 13 W	S 23 13 E						912
			S 82 47 W	N 82 46 E						2,096
5	38 54 37.00	76 15 16.13	N 31 50 W	S 31 50 E	1,410	Norman.				
			S 55 27 W	N 55 26 E						3,058
			S 54 20 E	N 54 20 W						619
6	38 54 29.50	76 15 40.98	N 84 40 E	N 84 39 W	1,164	Parsons.				
			N 3 30 W	S 3 30 E						1,453
			N 85 00 W	S 85 01 E						3,134
7	38 54 33.30	76 16 07.13	N 89 34 E	N 89 33 W	1,937	Parsons	Island	Water	[Tank.	
			N 24 26 E	S 24 26 W						1,452
			N 86 55 W	S 86 36 E						2,438

COX NECK.

(Eastern Bay—Chart No. 31.)

1	38 54 03.40	76 16 57.90	N 73 07 E	S 73 08 W	3,421	Parsons	Island	Water	[Tank.	
			N 39 45 E	S 39 45 W						3,030
			N 43 33 W	S 43 33 E						1,591
2	38 54 05.63	76 17 31.13	N 77 31 E	S 77 32 W	4,250	Parsons	Island	Water	[Tank.	
			N 11 35 W	S 11 35 E						1,100
			S 86 20 W	N 86 20 E						738
3	38 54 40.83	76 17 37.30	N 86 27 E	N 86 25 W	4,320	Parsons	Island	Water	[Tank.	
			N 70 15 E	S 70 16 W						3,162
			N 11 55 E	S 11 50 W						2,853
4	38 54 46.17	76 17 31.86	S 34 48 W	N 34 47 E	352	Cox.				
			S 83 52 E	N 83 50 W						4,193
			N 38 38 E	S 38 39 W						3,415
5	38 55 00.00	76 16 46.54	N 72 54 E	N 72 53 W	3,112	Parsons	Island	Water	[Tank.	
			N 75 34 E	S 75 35 W						1,092
			N 23 05 E	S 23 06 W						2,393
6	38 54 23.01	76 16 46.20	N 83 37 E	S 83 38 W	2,984	Parsons	Island	Water	[Tank.	
			N 44 19 W	S 44 20 E						2,333
			N 70 42 W	S 70 43 E						1,487

## Survey of Oyster Bars, Queen Annes County, Md.

## BOUNDARIES OF NATURAL OYSTER BARS—continued.

## BODKIN ISLAND.

(Eastern Bay—Charts Nos. 31 and 32.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station		
			Forward	Back				
			° / ' "	° / ' "				
1	38 54 03.40	76 16 57.90	N 73 07 E	S 73 08 W	Yards.	Parsons Island Water [Tank.	Cox.	Norman.
			N 39 45 E	S 39 45 W	3,421			
			N 43 33 W	S 43 33 E	3,030 1,591			
2	38 54 23.01	76 16 46.20	N 83 37 E	S 83 38 W	2,984	Parsons Island Water [Tank.	Cox.	Norman.
			N 44 19 W	S 44 20 E	2,333			
			N 70 42 W	S 70 43 E	1,487			
3	38 54 33.30	76 16 07.13	S 89 34 E	N 89 33 W	1,937	Parsons Island Water [Tank.	Cox.	Norman.
			N 24 26 E	S 24 26 W	1,452			
			N 86 35 W	S 86 36 E	2,438			
4	38 54 05.40	76 16 28.53	N 27 14 E	S 27 14 W	2,545	Norman. Needle.	Cox.	Needle.
			N 59 51 W	S 59 52 E	2,162			
			N 42 23 W	S 42 23 E	904			

## PARSONS ISLAND.

(Eastern Bay—Chart No. 32.)

1	38 53 36.00	76 15 37.82	N 31 15 E	S 31 16 W	2,242	Parsons Island Water [Tank.	Cox.	Norman.
			N 3 01 W	S 3 01 E	3,259			
			N 57 03 W	S 57 04 E	3,820			
2	38 53 58.40	76 16 16.00	N 61 50 E	S 61 50 W	2,461	Parsons Island Water [Tank.	Cox.	Norman.
			N 18 28 E	S 18 28 W	2,634			
			N 59 00 W	S 59 01 E	2,567			
3	38 54 06.43	76 16 13.60	N 67 04 E	S 67 05 W	2,287	Parsons Island Water [Tank.	Cox.	Norman.
			N 19 05 E	S 19 05 W	2,358			
			N 65 05 W	S 65 06 E	2,496			
4	38 54 07.22	76 15 49.00	N 59 21 E	S 59 21 W	1,695	Parsons Island Water [Tank.	Cox.	Norman.
			N 3 12 E	S 3 12 W	2,205			
			N 70 37 W	S 70 38 E	3,086			
5	38 54 29.50	76 15 40.98	S 84 40 E	N 84 39 W	1,164	Parsons. Needle.	Cox.	Norman.
			N 3 30 W	S 3 30 E	1,453			
			N 85 00 W	S 85 01 E	3,134			
6	38 54 37.00	76 15 16.13	N 31 50 W	S 31 50 E	1,410	Norman. Needle.	Cox.	Parsons.
			S 55 27 W	N 55 26 E	3,058			
			S 54 20 E	N 54 20 W	619			
7	38 53 59.10	76 15 18.07	N 8 32 E	S 8 32 W	3,164	Alley. Needle.	Cox.	Norman.
			N 15 37 W	S 15 38 E	2,570			
			S 79 31 W	N 79 31 E	2,509			

BOUNDARIES OF NATURAL OYSTER BARS - continued.

BUCKHORN.

(Prospect Bay—Chart No. 32.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
			° / ' "	° / ' "		
1	38 57 44.82	76 14 50.80	S 46 27 E	N 46 27 W	1,098	Marshy. Railroad. Bridge.
			N 53 08 E	S 53 08 W	920	
			N 7 45 W	S 7 45 E	973	
2	38 57 54.01	76 15 09.06	S 50 07 E	N 50 07 W	1,663	Marshy. Railroad. Bridge.
			N 78 45 E	S 78 46 W	1,240	
			N 28 08 E	S 28 08 W	741	
3	38 58 01.44	76 15 05.70	S 42 03 E	N 42 03 W	1,774	Marshy. Railroad. Bridge.
			S 89 34 E	N 89 33 W	1,128	
			N 32 55 E	S 32 56 W	480	
4	38 57 58.14	76 14 56.20	S 37 53 E	N 37 53 W	1,528	Marshy. Railroad. Bridge.
			N 83 20 E	S 83 20 W	884	
			N 1 14 E	S 1 14 W	514	
5	38 58 00.05	76 14 48.18	Thence from corner No. 4 along the mean low-water line of the shore to corner No. 5, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.			
			S 29 47 E	N 29 47 W	1,463	Marshy. Railroad. Bridge.
			N 86 44 E	S 86 44 W	667	
			N 23 58 W	S 23 58 E	492	

## Survey of Oyster Bars, Queen Annes County, Md.

## BOUNDARIES OF NATURAL OYSTER BARS—continued.

## WELL COVE.

(Prospect Bay—Chart No. 32.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
			° / ' / "	° / ' / "		
1	38 57 20.22	76 14 36.28	N 14 21 E	S 14 21 W	Yards. 1,426 814 2,189	Railroad. Kirwan. Dull.
			S 81 45 W	N 81 45 E		
			S 18 44 W	N 18 43 E		
2	38 57 44.82	76 14 50.80	S 46 27 E	N 46 27 W	1,098 920 973	Marshy. Railroad. Bridge.
			N 53 08 E	S 53 08 W		
			N 7 45 W	S 7 45 E		
3	38 58 00.05	76 14 48.18	S 29 47 E	N 29 47 W	1,463 607 492	Marshy. Railroad. Bridge.
			N 86 44 E	S 86 44 W		
			N 23 58 W	S 23 58 E		
Thence from corner No. 3 along the mean low water line of the shore to corner No. 4, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.						
4	38 58 04.54	76 14 52.38	S 30 30 E	N 30 30 W	1,650 785 1,543	Marshy. Railroad. Thin.
			S 81 42 E	N 81 42 W		
			N 12 52 E	S 12 52 W		
5	38 58 05.70	76 14 48.08	S 26 22 E	N 26 22 W	1,631 681 1,483	Marshy. Railroad. Thin.
			S 77 04 E	N 77 04 W		
			N 8 56 E	S 8 56 W		
6	38 57 55.78	76 14 36.16	S 20 02 E	N 20 01 W	1,199 395 787	Marshy. Railroad. Bridge.
			N 62 31 E	S 62 32 W		
			N 41 00 W	S 41 00 E		
7	38 57 45.77	76 14 30.41	N 35 38 W	S 35 38 E	1,146 1,369 850	Bridge. Kirwan. Marshy.
			S 44 31 W	N 44 31 E		
			S 18 11 E	N 18 11 W		
8	38 57 30.64	76 14 15.04	N 36 38 W	S 36 39 E	1,797 1,442 2,734	Bridge. Kirwan. Dull.
			S 71 04 W	N 71 03 E		
			S 27 30 W	N 27 30 E		
Thence from corner No. 8 along the mean low water line of the shore to corner No. 9, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.						
9	38 57 22.38	76 14 20.57	N 2 58 W	S 2 58 E	1,310 1,234 2,419	Railroad. Kirwan. Dull.
			S 81 10 W	N 81 10 E		
			S 27 29 W	N 27 29 E		

BOUNDARIES OF NATURAL OYSTER BARS continued.

SANDY POINT.

(Prospect Bay—Chart No. 32.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° / ' / "	° / ' / "	° / ' / "	° / ' / "	Yards.	
1	38 57 21.80	76 15 12.78	S 44 47 E N 89 11 E N 44 42 E	N 44 46 W S 89 12 W S 44 43 W	2,462 1,376 1,869	Bonnet. Marshy. Railroad.
Thence from corner No. 1 along the mean low water line of the shore to corner No. 2, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.						
2	38 57 22.31	76 15 23.96	S 48 52 E N 89 55 E N 50 52 E	N 48 51 W S 89 56 W S 50 53 W	2,694 1,669 2,077	Bonnet. Marshy. Railroad.
3	38 57 27.81	76 15 30.82	S 48 34 E S 84 20 E N 57 50 E	N 48 33 W N 84 19 W S 57 51 W	2,947 1,859 2,114	Bonnet. Marshy. Railroad.
4	38 57 54.01	76 15 09.06	S 50 07 E N 78 45 E N 28 08 E	N 50 07 W S 78 46 W S 28 08 W	1,663 1,240 741	Marsy. Railroad. Bridge.
5	38 57 44.82	76 14 50.80	S 46 27 E N 53 08 E N 7 45 W	N 46 27 W S 53 08 W S 7 45 E	1,098 920 973	Marsy. Railroad. Bridge.
6	38 57 37.63	76 15 03.60	S 65 35 E N 53 29 E N 9 41 E	N 65 35 W S 53 29 W S 9 41 W	1,245 1,335 1,224	Marsy. Railroad. Bridge.
Thence from corner No. 6 along the mean low water line of the shore to corner No. 7, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.						
7	38 57 31.44	76 15 13.18	S 40 05 E S 77 34 E N 52 52 E	N 40 05 W N 77 33 W S 52 53 W	2,710 1,418 1,662	Bonnet. Marshy. Railroad.

HOG ISLAND.

(Prospect Bay—Chart No. 32.)

1	38 57 20.22	76 14 36.28	N 14 21 E S 81 45 W S 18 44 W	S 14 21 W N 81 45 E N 18 43 E	1,426 814 2,189	Railroad. Kirwan. Dull.
2	38 57 20.52	76 14 49.96	S 33 37 E N 85 22 E N 27 29 E	N 33 37 W S 85 22 W S 27 29 W	2,047 776 1,545	Bonnet. Marshy. Railroad.
3	38 57 37.63	76 15 03.60	S 65 35 E N 53 29 E N 9 41 E	N 65 35 W S 53 29 W S 9 41 W	1,245 1,335 1,224	Marsy. Railroad. Bridge.
4	38 57 44.82	76 14 50.80	S 46 27 E N 53 08 E N 7 45 W	N 46 27 W S 53 08 W S 7 45 E	1,098 920 973	Marsy. Railroad. Bridge.

## Survey of Oyster Bars, Queen Annes County, Md.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

WALTER WHITE.

(Prospect Bay—Chart No. 32.)

Cor- ner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° / ' "	° / ' "	° / '	° / '	Yards.	
1	38 56 25.62	76 14 33.54	N 78 09 E	S 78 09 W	716	Bonnet.
			N 26 58 W	S 26 58 E	1,935	Kirwan.
			S 73 19 W	N 73 19 E	809	Dull.
2	38 56 37.34	76 15 04.08	S 46 20 W	N 46 20 E	949	New Barn Cupola.
			S 80 38 E	N 80 38 W	1,526	Bonnet.
			N 36 55 E	S 36 55 W	1,907	Marshy.
3	38 57 23.90	76 15 04.12	S 39 38 E	N 39 38 W	2,361	Bonnet.
			S 87 26 E	N 87 26 W	1,148	Marshy.
			N 40 50 E	S 40 50 W	1,661	Railroad.
4	38 57 20.52	76 14 49.06	S 33 37 E	N 33 37 W	2,047	Bonnet.
			N 85 22 E	S 85 22 W	776	Marshy.
			N 27 29 E	S 27 29 W	1,545	Railroad.
5	38 57 20.22	76 14 36.28	N 14 21 E	S 14 21 W	1,426	Railroad.
			S 81 45 W	N 81 45 E	814	Kirwan.
			S 18 44 W	N 18 43 E	2,189	Dull.
6	38 57 07.56	76 14 35.66	S 30 50 E	N 30 50 W	1,476	Bonnet.
			N 38 29 E	S 38 29 W	639	Marshy.
			N 69 19 W	S 69 19 E	878	Kirwan.

## PROSPECT.

(Prospect Bay—Chart No. 32.)

1	38 56 25.62	76 14 33.54	N 78 09 E	S 78 09 W	716	Bonnet.
			N 26 58 W	S 26 58 E	1,935	Kirwan.
			S 73 19 W	N 73 19 E	809	Dull.
2	38 57 07.56	76 14 35.66	S 30 50 E	N 30 50 W	1,476	Bonnet.
			N 38 29 E	S 38 29 W	639	Marshy.
			N 69 19 W	S 69 19 E	878	Kirwan.
3	38 57 08.86	76 14 18.78	N 24 07 W	S 24 07 E	2,384	Bridge.
			N 78 07 W	S 78 08 E	2,294	Kirwan.
			S 34 33 W	N 34 32 E	2,053	Dull.
4	38 56 28.00	76 14 19.97	N 79 00 E	S 79 00 W	350	Bonnet.
			N 36 54 W	S 36 55 E	2,056	Kirwan.
			S 74 34 W	N 74 34 E	1,175	Dull.



BOUNDARIES OF NATURAL OYSTER BARS—continued.

DOMINION.

(Prospect Bay—Chart No. 32.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
			° / ' / "	° / ' / "		
1	38 55 54.10	76 14 30.30	N 26 58 E	S 26 58 W	1,357	Bonnet.
			N 46 01 W	S 46 01 E	1,195	Dull.
			S 46 30 W	N 46 30 E	1,088	Alley.
2	38 55 55.64	76 14 52.48	N 46 01 E	S 46 01 W	1,668	Bonnet.
			N 19 32 W	S 19 32 E	827	Dull.
			N 52 52 W	S 52 54 E	1,245	New Barn Cupola.
3	38 56 11.72	76 15 21.64	S 22 45 E	N 22 45 W	1,457	Alley.
			N 04 19 E	S 04 20 W	546	Dull.
			N 47 00 W	S 47 00 E	306	New Barn Cupola.
Thence from corner No. 3 along the mean low-water line of the shore to corner No. 4, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.						
4	38 56 19.44	76 15 11.92	N 3 57 E	S 3 57 W	1,938	Kirwan.
			S 83 52 W	N 83 52 E	482	New Barn Cupola.
			S 10 41 E	N 10 40 W	1,633	Alley.
5	38 56 19.48	76 15 06.87	N 0 00 E	S 0 00 W	1,932	Kirwan.
			S 85 04 W	N 85 04 E	616	New Barn Cupola.
			S 6 12 E	N 6 11 W	1,614	Alley.
Thence from corner No. 5 along the mean low-water line of the shore to corner No. 6, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.						
6	38 56 17.28	76 15 02.60	N 88 19 W	S 88 20 E	725	New Barn Cupola.
			S 2 18 E	N 2 17 W	1,532	Alley.
			N 73 43 E	S 73 44 W	1,528	Bonnet.
7	38 56 25.62	76 14 33.54	N 78 09 E	S 78 09 W	716	Bonnet.
			N 26 58 W	S 26 58 E	1,935	Kirwan.
			S 73 19 W	N 73 19 E	809	Dull.

BIBBY.

(Prospect Bay—Chart No. 32.)

1	38 55 40.54	76 15 05.90	S 26 59 E	N 26 50 W	327	Alley.
			N 3 26 E	S 3 26 W	1,200	Dull.
			N 26 52 W	S 26 52 E	1,413	New Barn Cupola.
2	38 55 48.28	76 15 27.44	S 52 20 E	N 52 20 W	904	Alley.
			N 32 07 E	S 32 07 W	1,213	Dull.
			N 4 04 W	S 4 04 E	1,002	New Barn Cupola.
3	38 56 11.72	76 15 21.64	S 22 45 E	N 22 45 W	1,457	Alley.
			N 04 19 E	S 04 20 W	546	Dull.
			N 47 00 W	S 47 00 E	306	New Barn Cupola.
4	38 55 55.64	76 14 52.48	N 46 01 E	S 46 01 W	1,668	Bonnet.
			N 19 32 W	S 19 32 E	827	Dull.
			N 52 52 W	S 52 54 E	1,245	New Barn Cupola.
5	38 55 43.66	76 15 05.48	N 44 38 E	S 44 38 W	2,195	Bonnet.
			N 3 12 E	S 3 12 W	1,184	Dull.
			N 29 21 W	S 29 21 E	1,328	New Barn Cupola.

## Survey of Oyster Bars, Queen Annes County, Md.

## BOUNDARIES OF NATURAL OYSTER BARS—continued.

## NORMANS MARSH.

(Prospect Bay—Chart No. 32.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
			° / ' / "	° / ' / "		
1	38° 55' 09.76"	76° 14' 32.20"	N 62 15 E	S 62 14 W	3,139	Brian Reference Station.
			N 44 44 W	S 44 44 E	1,051	Alley. [Tank.
			S 24 26 W	N 24 26 E	1,367	Parsons Island Water
2	38° 55' 18.62"	76° 14' 56.14"	S 2 25 E	N 2 25 W	1,545	Parsons Island Water
			N 71 10 E	S 71 11 W	3,601	Tank. Brian Reference Station.
			N 13 42 W	S 13 42 E	458	Alley.
Thence from corner No. 2 along the mean low-water line of the shore to corner No. 3, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.						
3	38° 55' 43.66"	76° 15' 05.48"	N 44 38 E	S 44 38 W	2,195	Bonnet.
			N 3 12 E	S 3 12 W	1,184	Dull.
			N 29 21 W	S 29 21 E	1,328	New Barn Cupola.
4	38° 55' 55.64"	76° 14' 52.48"	N 46 01 E	S 46 01 W	1,668	Bonnet.
			N 19 32 W	S 19 32 E	827	Dull.
			N 52 52 W	S 52 54 E	1,245	New Barn Cupola.
5	38° 55' 54.10"	76° 14' 30.30"	N 26 58 E	S 26 58 W	1,357	Bonnet.
			N 46 01 W	S 46 01 E	1,195	Dull.
			S 46 30 W	N 46 30 E	1,088	Alley.
6	38° 55' 37.10"	76° 14' 36.84"	N 26 07 W	S 26 07 E	1,564	Dull.
			S 74 06 W	N 74 06 E	642	Alley.
			S 11 34 W	N 11 33 E	2,211	Parsons Island [Tank. Water
7	38° 55' 16.34"	76° 14' 18.94"	N 7 16 E	S 7 16 W	2,503	Bonnet.
			N 64 17 W	S 64 17 E	1,208	Alley.
			S 31 57 W	N 31 57 E	1,729	Parsons Island [Tank. Water

BOUNDARIES OF NATURAL OYSTER BARS continued

HOOD.

(Prospect Bay—Chart No. 32.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
			° / ' "	° / ' "		
1	38 55 00.74	76 14 05.56	N 49 38 E	S 49 38 W	Yards. 2,725 1,784 1,786	Brian Reference Station. Alley. Parsons.
			N 53 54 W	S 53 55 E		
			N 49 25 W	S 49 25 E		
2	38 55 40.74	76 14 23.86	N 15 02 E	S 15 02 W	1,719 1,004 2,420	Bonnet. Alley. Parsons
			S 72 43 W	N 72 42 E		
			S 18 56 W	N 18 56 E		
3	38 56 28.00	76 14 19.97	N 79 00 E	S 79 00 W	350 2,056 1,175	Bonnet. Kirwan. Dull.
			S 36 54 W	S 36 55 E		
			S 74 34 W	N 74 34 E		
4	38 56 24.54	76 14 05.44	S 62 54 E	N 62 53 W	2,328 188 1,528	Brian Reference Station. Bonnet. Dull.
			N 12 04 W	S 12 04 E		
			S 82 38 W	N 82 37 E		
5	38 56 31.94	76 13 50.00	S 81 34 W	N 81 34 E	451 2,746 4,590	Bonnet. Alley. Parsons.
			S 42 22 W	N 42 21 E		
			S 22 38 W	N 22 37 E		
6	38 56 26.46	76 13 37.50	N 81 18 W	S 81 18 E	784 2,853 4,563	Bonnet. Alley. Parsons.
			S 49 50 W	N 49 49 E		
			S 27 21 W	N 27 20 E		
7	38 56 24.74	76 13 28.26	N 80 09 W	S 80 10 E	1,033 3,008 4,393	Bonnet. Alley. Parsons
			S 53 40 W	N 53 40 E		
			S 36 49 W	N 36 48 E		
8	38 55 25.69	76 13 46.50	N 83 51 W	S 83 52 E	1,954 2,732 4,407	Alley. Parsons. Green.
			S 42 52 W	N 42 52 E		
			S 31 36 E	N 31 35 W		

[Tank. Water]

[Tank. Water]

## Survey of Oyster Bars, Queen Annes County, Md.

## BOUNDARIES OF NATURAL OYSTER BARS—continued.

## CABIN CREEK.

(Prospect Bay—Chart No. 32.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
			° / ' "	° / ' "		
1	38 55 25.09	76 13 46.50	N 83 51 W	S 83 52 E	1,954	Alley.
			S 42 52 W	N 42 52 E	2,732	Parsons.
			S 31 36 E	N 31 35 W	4,407	Green.
2	38 56 24.74	76 13 28.26	N 80 09 W	S 80 10 E	1,033	Bonnet.
			S 53 40 W	N 53 40 E	3,008	Alley.
			S 30 49 W	N 30 48 E	4,393	Parsons Island Tank. Water
3	38 56 48.84	76 13 17.88	S 63 47 W	N 63 47 E	1,440	Bonnet.
			S 40 06 W	N 40 05 E	3,742	Alley.
			S 23 34 E	N 23 34 W	2,052	Brian Reference Station.
Thence from corner No. 3 along the mean low-water line of the shore to corner No. 4, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.						
4	38 56 37.44	76 13 03.46	S 81 26 W	N 81 26 E	1,691	Bonnet.
			S 54 19 W	N 54 17 E	3,788	Alley.
			S 34 39 W	N 34 38 E	5,107	Parsons Island Tank. Water
5	38 56 34.10	76 13 05.89	S 85 04 W	N 85 03 E	1,614	Bonnet.
			S 55 09 W	N 55 08 E	3,671	Alley.
			S 34 47 W	N 34 46 E	4,978	Parsons Island Tank. Water
6	38 56 30.96	76 12 58.60	S 88 41 E	N 88 41 W	1,800	Bonnet.
			S 58 10 W	N 58 09 E	3,775	Alley.
			S 37 17 W	N 37 16 E	5,005	Parsons Island Tank. Water
7	38 56 42.20	76 12 53.22	S 78 01 W	N 78 01 E	1,985	Bonnet.
			S 54 41 W	N 54 40 E	4,101	Alley.
			S 30 02 W	N 30 01 E	5,394	Parsons Island Tank. Water
Thence from corner No. 7 along the mean low-water line of the shore to corner No. 8, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.						
8	38 56 34.64	76 12 50.76	S 85 32 W	N 85 31 E	2,012	Bonnet.
			S 58 12 W	N 58 10 E	4,015	Alley.
			S 38 16 W	N 38 14 E	5,230	Parsons Island Tank. Water
9	38 56 21.86	76 12 46.22	N 82 39 W	S 82 40 E	2,143	Bonnet.
			S 64 30 W	N 64 28 E	3,912	Alley.
			S 42 25 W	N 42 24 E	4,978	Parsons Island Tank. Water
Thence from corner No. 9 along the mean low-water line of the shore to corner No. 10, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.						
10	38 56 11.36	76 12 53.74	N 71 57 W	S 71 58 E	2,028	Bonnet.
			S 68 13 W	N 68 12 E	3,589	Alley.
			S 42 31 W	N 42 30 E	4,806	Parsons.
11	38 55 35.86	76 13 02.36	S 15 37 E	N 15 38 W	4,254	Green.
			N 35 19 E	S 35 19 W	712	Brian Reference Station.
			N 42 59 W	S 42 59 E	2,495	Bonnet.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

SAW MILL CREEK.  
(Prospect Bay—Chart No. 32.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
1	38° 54' 13.35"	76° 13' 26.94"	N 42 52 W	S 42 53 E	Yards.	Alley. Parsons. Green.
			N 79 35 W	S 79 36 E	3,613	
			S 53 46 E	N 53 46 W	2,414	
2	38° 54' 41.45"	76° 13' 50.46"	N 47 13 W	S 47 14 E	2,504	Alley. Parsons. Green.
			S 73 46 W	N 73 45 E	1,827	
			S 46 51 E	N 46 52 W	3,307	
3	38° 55' 25.69"	76° 13' 46.50"	N 83 51 W	S 83 52 E	1,954	Alley. Parsons. Green.
			S 42 52 W	N 42 52 E	2,732	
			S 31 36 E	N 31 35 W	4,407	
4	38° 55' 35.86"	76° 13' 02.36"	S 15 37 E	N 15 38 W	4,254	Green. Brian Reference Station. Bonnet.
			N 35 19 E	S 35 19 W	712	
			N 42 59 W	S 42 59 E	2,495	
5	38° 55' 28.16"	76° 12' 22.94"	N 36 43 W	S 36 44 E	1,049	Brian Reference Station. Alley. Parsons.
			N 88 15 W	S 88 16 E	4,146	
			S 62 49 W	N 62 47 E	4,565	
6	38° 54' 32.72"	76° 12' 41.92"	N 2 41 W	S 2 41 E	2,713	Brian Reference Station. Parsons. Green.
			S 86 32 W	N 86 30 E	3,507	
			S 17 09 E	N 17 08 W	2,059	

PARSONS ISLAND NARROWS.

(Eastern Bay—Chart No. 32.)

1	38° 54' 41.66"	76° 15' 05.88"	S 47 18 E	N 47 18 W	437	Parsons Island	Water [Tank.]
			N 5 00 E	S 5 00 W	1,701		
			N 44 15 W	S 44 15 E	1,452		
2	38° 55' 19.95"	76° 15' 06.88"	N 23 25 E	S 23 25 W	439	Alley. Norman.	[Tank.] Island
			S 75 43 W	N 75 43 E	1,018		
			S 12 22 E	N 12 22 W	1,626		
3	38° 55' 19.18"	76° 15' 02.16"	N 6 40 E	S 6 40 W	432	Alley. Norman.	[Tank.] Island
			S 78 32 W	N 78 32 E	1,134		
			S 8 09 E	N 8 09 W	1,578		
Thence from corner No. 3 along the mean low water line of the shore to corner No. 4, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.							
4	38° 55' 09.30"	76° 14' 59.22"	N 2 04 W	S 2 04 E	762	Alley. Norman.	[Tank.] Island
			N 84 49 W	S 84 49 E	1,193		
			S 6 48 E	N 6 48 W	1,238		
5	38° 54' 56.56"	76° 14' 18.61"	N 51 47 E	S 51 48 W	3,081	Brian Reference Station. Alley.	[Tank.] Island
			N 42 39 W	S 42 39 E	1,620		
			S 49 07 W	N 49 07 E	1,222		
6	38° 54' 44.00"	76° 14' 34.13"	N 50 32 E	S 50 33 W	3,666	Brian Reference Station. Alley.	[Tank.] Island
			N 23 05 W	S 23 05 E	1,755		
			S 53 51 W	N 53 51 E	638		
7	38° 54' 56.62"	76° 14' 49.52"	N 13 23 W	S 13 23 E	1,223	Alley. Norman.	[Tank.] Island
			N 69 39 W	S 69 40 E	1,540		
			S 7 45 W	N 7 45 E	809		

## Survey of Oyster Bars, Queen Annes County, Md.

## BOUNDARIES OF NATURAL OYSTER BARS—continued.

## BALD EAGLE.

(Eastern Bay—Chart No. 32.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
			° ' "	° ' "		
1	38° 53' 29.64"	76° 14' 33.38"	N 18 02 W	S 18 02 E	2,012	Parsons. Needle. Dixon.
			N 81 38 W	S 81 39 E	3,684	
			S 22 26 W	N 22 25 E	4,728	
2	38° 54' 00.00"	76° 14' 09.88"	S 73 32 E	N 73 31 W	3,050	Green. Brian Reference Station. Parsons.
			N 29 52 E	S 29 53 W	4,397	
			N 54 23 W	S 54 24 E	1,528	
3	38° 54' 27.78"	76° 14' 10.76"	N 31 06 W	S 31 06 E	2,525	Alley. Parsons. Green.
			S 87 48 W	N 87 47 E	1,220	
			S 58 34 E	N 58 33 W	3,455	
4	38° 54' 27.88"	76° 13' 57.24"	N 37 34 W	S 37 34 E	2,723	Alley. Parsons. Green.
			S 88 10 W	N 88 10 E	1,576	
			S 55 09 E	N 55 08 W	3,158	
5	38° 54' 04.37"	76° 13' 42.15"	S 65 14 E	N 65 13 W	2,416	Green. Brian Reference Station. Parsons.
			N 21 43 E	S 21 43 W	3,946	
			N 69 23 W	S 69 24 E	2,108	
6	38° 53' 30.70"	76° 13' 57.36"	N 22 04 W	S 22 05 E	4,410	Alley. Needle. Dixon.
			N 83 47 W	S 83 49 E	4,622	
			S 32 00 W	N 31 59 E	5,196	

## MILL HILL.

(Eastern Bay—Chart No. 32.)

1	38° 53' 38.92"	76° 12' 38.14"	S 73 10 E	N 73 10 W	530	Green. Brian Reference Station. Parsons.
			N 2 52 W	S 2 52 E	4,530	
			N 66 25 W	S 66 26 E	3,993	
2	38° 53' 43.94"	76° 13' 10.82"	S 76 44 E	N 76 43 W	1,406	Green. Brian Reference Station. Parsons.
			N 8 17 E	S 8 18 W	4,401	
			N 62 58 W	S 62 59 E	3,142	
3	38° 53' 50.80"	76° 13' 31.74"	S 73 57 E	N 73 56 W	1,998	Green. Brian Reference Station. Parsons.
			N 16 02 E	S 16 03 W	4,290	
			N 61 57 W	S 61 56 E	2,546	
4	38° 54' 13.35"	76° 13' 26.94"	N 42 52 W	S 42 53 E	3,613	Alley. Parsons. Green.
			N 79 35 W	S 79 36 E	2,414	
			S 53 46 E	N 53 46 W	2,223	
5	38° 54' 32.72"	76° 12' 41.92"	N 2 41 W	S 2 41 E	2,713	Brian Reference Station. Parsons. Green.
			S 86 32 W	N 86 30 E	3,567	
			S 17 09 E	N 17 08 W	2,059	

BOUNDARIES OF NATURAL OYSTER BARS—continued.

GREENWOOD CREEK.

(Eastern Bay—Chart No. 32.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
1	38 53 11.96	76 12 10.20	N 16 53 W	S 16 53 E	790	Green.
			S 52 48 W	N 52 46 E	5,741	Pearson.
			S 4 05 W	N 4 05 E	4,121	Benn.
2	38 53 20.70	76 12 13.48	N 17 13 W	S 17 14 E	482	Green.
			S 49 59 W	N 49 58 E	5,858	Pearson.
			S 2 41 W	N 2 41 E	4,410	Benn.
3	38 53 22.08	76 12 09.06	N 32 02 W	S 32 02 E	489	Green.
			S 50 22 W	N 50 20 E	5,978	Pearson.
			S 4 09 W	N 4 09 E	4,464	Benn.
4	38 53 13.24	76 12 05.60	N 26 12 W	S 26 12 E	794	Green.
			S 53 11 W	N 53 09 E	5,865	Pearson.
			S 5 42 W	N 5 42 E	4,174	Benn.

PROSPECT POINT.

(Eastern Bay—Chart No. 32.)

1	38 52 49.46	76 12 22.68	N 3 46 E	S 3 46 W	1,518	Green.
			S 57 25 W	N 57 23 E	5,037	Pearson.
			S 0 36 E	N 0 36 W	3,353	Benn.
2	38 52 55.00	76 12 29.68	N 12 05 E	S 12 05 W	1,357	Green.
			S 54 28 W	N 54 26 E	4,989	Pearson.
			S 3 34 E	N 3 34 W	3,545	Benn.
3	38 53 06.78	76 12 15.16	N 6 03 W	S 6 03 E	936	Green.
			S 53 25 W	N 53 23 E	5,533	Pearson.
			S 2 22 W	N 2 22 E	3,940	Benn.
4	38 53 01.44	76 12 08.54	N 13 49 W	S 13 49 E	1,143	Green.
			S 55 59 W	N 55 57 E	5,571	Pearson.
			S 5 08 W	N 5 08 E	3,771	Benn.

## Survey of Oyster Bars, Queen Annes County, Md.

## BOUNDARIES OF NATURAL, OYSTER BARS—continued.

## BUGBY.

(Eastern Bay—Chart No. 32.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° / ' / "	° / ' / "	° / '	° / '	Yards.	
1	38 52 07.64	76 14 09.20	S 26 44 E	N 26 43 W	4,554	Herr.
			S 55 41 E	N 55 40 W	3,444	Benn.
			N 44 50 E	S 44 51 W	4,123	Green.
2	38 52 36.14	76 14 11.60	S 31 14 W	N 31 14 E	2,647	Pearson.
			S 45 03 E	N 45 02 W	4,109	Benn.
			N 56 32 E	S 56 33 W	3,561	Green.
3	38 53 43.94	76 13 10.82	S 76 44 E	N 76 43 W	1,466	Green.
			N 8 17 E	S 8 18 W	4,401	Brian Reference Station.
			N 62 58 W	S 62 59 E	3,142	Parsons.
4	38 53 38.92	76 12 38.14	S 73 10 E	N 73 10 W	530	Green.
			N 2 52 W	S 2 52 E	4,530	Brian Reference Station.
			N 66 25 W	S 66 26 E	3,993	Parsons.
5	38 52 53.04	76 12 51.34	N 31 32 E	S 31 32 W	1,635	Green.
			S 50 55 W	N 50 54 E	4,494	Pearson.
			S 12 50 E	N 12 50 W	3,562	Benn.
6	38 52 31.38	76 12 21.20	N 1 38 E	S 1 38 W	2,125	Green.
			S 63 51 W	N 63 49 E	4,771	Pearson.
			S 0 04 W	N 0 04 E	2,742	Benn.
7	38 52 18.46	76 13 01.34	S 62 40 W	N 62 38 E	3,630	Pearson.
			S 24 35 E	N 24 35 W	2,536	Benn.
			N 23 36 E	S 23 37 W	2,793	Green.
8	38 52 08.96	76 13 31.06	S 61 07 W	N 61 06 E	2,788	Pearson.
			S 42 48 E	N 42 47 W	2,797	Benn.
			N 33 26 E	S 33 27 W	3,451	Green.

## COFFEE.

(Eastern Bay—Chart No. 32.)

1	38 51 07.52	76 13 33.22	S 28 10 E	N 28 10 W	2,317	Herr.
			N 87 25 E	S 87 26 W	1,897	Benn.
			N 21 35 E	S 21 36 W	5,325	Green.
2	38 52 08.96	76 13 31.06	S 61 07 W	N 61 06 E	2,788	Pearson.
			S 42 48 E	N 42 47 W	2,797	Benn.
			N 33 26 E	S 33 27 W	3,451	Green.
3	38 52 18.46	76 13 01.34	S 62 40 W	N 62 38 E	3,630	Pearson.
			S 24 35 E	N 24 35 W	2,536	Benn.
			N 23 36 E	S 23 37 W	2,793	Green.
4	38 52 04.38	76 12 33.48	N 7 14 E	S 7 14 W	3,952	Green.
			S 73 09 W	N 73 07 E	4,137	Pearson.
			S 9 53 E	N 9 53 W	1,867	Benn.
5	38 51 43.28	76 12 45.24	N 10 30 E	S 10 30 W	3,810	Green.
			S 82 30 W	N 82 28 E	3,681	Pearson.
			S 29 22 E	N 29 22 W	1,286	Benn.
6	38 51 29.80	76 12 20.80	N 0 41 E	S 0 41 W	4,199	Green.
			S 89 37 W	N 89 35 E	4,293	Pearson.
			S 1 12 W	N 1 12 E	668	Benn.



BOUNDARIES OF NATURAL OYSTER BARS continued.

PERSIMMON TREE.

(Miles River—Chart No. 32.)

Corner of bar	Latitude ° / ' / ''	Longitude ° / ' / ''	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
			° / ' / ''	° / ' / ''		
1	38 50 39.24	76 12 20.10	S 35 12 W S 75 46 E N 71 09 E	N 35 11 E N 75 45 W S 71 09 W	3,530 734 778	Sara. Frank. James.
Thence along county boundary as delineated on Chart No. 32 to corner No. 2.						
2	38 50 48.30	76 13 17.28	S 9 22 W S 77 40 E N 63 33 E	N 9 22 E N 77 39 W S 63 34 W	3,234 2,271 1,648	Sara. Frank. Benn.
3	38 51 07.52	76 13 33.22	S 28 19 E N 87 25 E N 21 35 E	N 28 19 W S 87 26 W S 21 36 W	2,317 1,897 5,325	Herr. Benn. Green.
4	38 51 29.86	76 12 20.80	N 0 41 E S 89 37 W S 1 12 W	S 0 41 W N 89 35 E N 1 12 E	4,199 4,293 668	Green. Pearson. Benn.
5	38 51 19.38	76 12 26.20	N 2 25 E N 85 32 W S 22 13 E	S 2 25 W S 85 33 E N 22 13 W	4,556 4,104 340	Green. Pearson. Benn.

SHIPPEN HOLE.

(Wye River—Chart No. 32.)

1	38 51 01.04	76 12 07.44	S 32 34 W S 39 44 E N 40 34 E	N 32 33 E N 39 44 W S 40 35 W	2,161 620 1,374	Herr. James. Bruffs.
2	38 51 05.78	76 12 14.70	S 26 07 W S 42 41 E N 50 50 E	N 26 07 E N 42 41 W S 50 51 W	2,207 875 1,390	Herr. James. Bruffs.
3	38 51 18.46	76 12 00.60	S 29 09 W S 56 06 E N 57 24 E	N 29 08 E N 50 05 W S 57 24 W	2,758 810 846	Herr. Law. Bruffs.
4	38 51 38.88	76 11 55.38	S 12 54 W S 67 59 E N 10 28 W	N 12 54 E N 67 59 W S 10 28 E	647 620 113	Hough. Bruffs. Won.
5	38 51 40.30	76 11 46.76	N 13 13 E N 75 39 W S 28 43 W	S 13 13 W S 75 39 E N 28 43 E	660 256 773	Nose. Won. Hough.
6	38 51 11.30	76 11 56.38	S 33 52 W S 69 15 E N 40 47 E	N 33 52 E N 69 15 W S 40 48 W	2,010 607 621	Herr. Law. Bruffs.

## Survey of Oyster Bars, Queen Annes County, Md.

## BOUNDARIES OF NATURAL OYSTER BARS—continued.

· MILLS.

(Wye River—Chart No. 32.)

Corner of bar	Latitude ° / ' "	Longitude ° / ' "	True bearing				Distance	U. S. C. & G. S. triangulation station
			Forward		Back			
			° / ' "	° / ' "	° / ' "	° / ' "		
1	38 51 38.88	76 11 55.38	S 12 54 W	N 12 54 E	647	Hough.		
			S 67 59 E	N 67 59 W			620	Bruffs.
			N 10 28 W	S 10 28 E			113	Won.
2	38 51 50.10	76 11 57.08	S 5 11 E	N 5 11 W	268	Won.		
			S 45 25 E	N 45 25 W			871	Bruffs.
			N 38 52 E	S 38 52 W			786	Nose.
3	38 52 03.76	76 11 36.74	N 47 08 E	S 47 08 W	553	Snout.		
			N 15 43 W	S 15 43 E			157	Nose.
			S 35 08 W	N 35 08 E			890	Won.
4	38 52 12.66	76 11 33.18	N 2 06 E	S 2 06 W	604	Stop.		
			S 42 38 W	N 42 38 E			201	Nose.
			S 7 58 E	N 7 58 W			1,332	Shaw.
5	38 51 51.30	76 11 24.38	S 4 30 W	N 4 30 E	601	Shaw.		
			S 86 02 E	N 86 02 W			390	South.
			N 5 43 E	S 5 44 W			801	Snout.
6	38 51 40.30	76 11 46.76	N 13 13 E	S 13 13 W	960	Nose.		
			N 75 39 W	S 75 39 E			256	Won.
			S 28 43 W	N 28 43 E			773	Hough.

· HOBBS.

(Wye River—Chart No. 32.)

1	38 52 03.76	76 11 36.74	N 47 08 E	S 47 08 W	553	Snout.		
			N 15 43 W	S 15 43 E			157	Nose.
			S 35 08 W	N 35 08 E			890	Won.
2	38 52 22.34	76 11 37.50	S 2 44 W	N 2 44 E	476	Nose.		
			S 59 35 E	N 59 35 W			494	Snout.
			N 27 21 E	S 27 21 W			296	Stop.
3	38 52 28.04	76 11 29.30	S 25 22 E	N 25 22 W	480	Snout.		
			N 76 31 E	S 76 31 W			522	Leaven.
			N 48 32 W	S 48 32 E			107	Stop.
1	38 52 55.02	76 11 42.08	S 12 01 E	N 12 01 W	466	Orb.		
			N 73 07 E	S 73 07 W			2,615	Twixt.
			N 22 20 E	S 22 20 W			451	Piney.
5	38 52 51.05	76 11 33.48	N 75 02 E	S 75 02 W	425	Star.		
			N 5 46 W	S 5 46 E			553	Piney.
			S 28 29 W	N 28 29 E			299	Orb.
6	38 52 28.58	76 11 22.98	N 77 58 W	S 77 58 E	253	Snout.		
			S 5 20 W	N 5 20 E			463	Snout.
			N 73 07 E	S 73 07 W			357	Leaven.
7	38 52 12.66	76 11 33.18	N 2 06 E	S 2 06 W	604	Stop.		
			S 42 38 W	N 42 38 E			201	Nose.
			S 7 58 E	N 7 58 W			1,332	Shaw.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

BAXTERS HOLLOW.

(Wye River—Chart No. 32.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
			° / ' / "	° / ' / "		
1	38 52 51.05	76 11 33.48	N 75 02 E	S 75 02 W	425	Star. Piney. Orb.
			N 5 46 W	S 5 46 E	553	
			S 28 29 W	N 28 29 E	299	
2	38 52 55.02	76 11 42.08	S 12 01 E	N 12 01 W	406	Orb. Twixt. Piney.
			N 73 07 E	S 73 07 W	2,615	
			N 22 20 E	S 22 20 W	451	
3	38 53 15.04	76 11 25.26	S 46 28 W	N 46 28 E	375	Piney. Twixt. Ferry.
			N 87 39 E	S 87 40 W	2,060	
			N 67 42 E	S 67 42 W	378	
4	38 53 18.30	76 11 10.28	N 64 25 E	S 64 25 W	1,214	Owe. Ferry. Darce.
			N 52 52 W	S 52 52 E	56	
			S 0 09 W	N 0 09 E	386	
5	38 53 14.48	76 11 08.88	S 8 23 W	N 8 23 E	260	Darce. Wide. Ferry.
			S 86 45 E	N 86 44 W	1,270	
			N 26 37 W	S 26 37 E	182	
6	38 53 09.78	76 11 24.06	S 73 49 W	N 73 49 E	292	Piney. Twixt. Ferry.
			N 82 43 E	S 82 44 W	2,068	
			N 46 51 E	S 46 51 W	469	

PACA.

(Wye River—Chart No. 32.)

1	38 53 13.58	76 10 38.88	S 74 41 W	N 74 41 E	860	Darce. Wide. Owe.
			S 84 59 E	N 84 59 W	479	
			N 21 21 E	S 21 21 W	734	
2	38 53 14.48	76 11 08.88	S 8 23 W	N 8 23 E	260	Darce. Wide. Ferry.
			S 86 45 E	N 86 44 W	1,270	
			N 26 37 W	S 26 37 E	182	
3	38 53 18.30	76 11 10.28	N 64 25 E	S 64 25 W	1,214	Owe. Ferry. Darce.
			N 52 52 W	S 52 52 E	56	
			S 0 09 W	N 0 09 E	386	
4	38 53 25.72	76 10 35.20	N 77 24 W	S 77 25 E	993	Ferry. Wide. Owe.
			S 40 07 E	N 40 06 W	580	
			N 31 50 E	S 31 50 W	323	
5	38 53 15.28	76 10 31.94	S 71 22 E	N 71 22 W	311	Wide. Owe. Ferry.
			N 7 39 E	S 7 39 W	631	
			N 82 41 W	S 82 41 E	1,064	

Survey of Oyster Bars, *Queen Annes County, Md.*

## BOUNDARIES OF NATURAL OYSTER BARS—continued.

## BRYAN.

(Wye River—Chart No. 32.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
1	38 53 15.28	76 10 31.94	S 71 22 E	N 71 22 W	Yards. 311 631 1,064	Wide. Owe. Ferry.
			N 7 39 E	S 7 39 W		
			N 82 41 W	S 82 41 E		
2	38 53 25.72	76 10 35.20	N 77 24 W	S 77 25 E	993 589 323	Ferry. Wide. Owe.
			S 40 07 E	N 40 06 W		
			N 31 50 E	S 31 50 W		
3	38 53 28.30	76 10 22.88	S 5 52 E	N 5 52 W	541 565 243	Wide. Aller. Owe.
			N 47 53 E	S 47 53 W		
			N 39 38 W	S 39 38 E		
4	38 53 46.42	76 10 23.88	N 68 20 W	S 68 20 E	210 443 231	Hook. Owe. Chin.
			S 16 50 W	N 16 50 E		
			N 00 00 E	S 00 00 W		
5	38 53 38.26	76 10 14.86	N 78 16 E	S 78 16 W	212 276 396	Aller. Chin. Owe.
			N 1 52 W	S 1 52 E		
			S 67 51 W	N 67 51 E		
6	38 53 18.40	76 10 18.66	N 27 03 W	S 27 03 E	585 212 305	Owe. Wide. Twist.
			S 15 18 W	N 15 18 E		
			S 84 33 E	N 84 33 W		

## WYE ISLAND.

(Wye River—Chart No. 32.)

1	38 52 57.94	76 10 38.40	N 43 43 E	S 43 44 W	671 1,237 893	Wide. Owe. Darce.
			N 11 52 E	S 11 52 W		
			N 70 22 W	S 70 22 E		
2	38 53 08.74	76 11 10.50	N 6 13 W	S 6 13 E	359 1,066 63	Ferry. Twist. Darce.
			N 79 55 E	S 79 56 W		
			S 4 14 E	N 4 14 W		
3	38 53 11.22	76 11 09.78	N 11 59 W	S 11 59 E	278 1,064 140	Ferry. Twist. Darce.
			N 82 39 E	S 82 39 W		
			S 5 30 W	N 5 30 E		
4	38 53 13.18	76 10 57.72	S 88 20 E	N 88 20 W	974 429 395	Wide. Ferry. Darce.
			N 61 13 W	S 61 13 E		
			S 57 14 W	N 57 14 E		
5	38 53 08.52	76 10 42.28	N 77 12 E	S 77 12 W	582 863 741	Wide. Ferry. Darce.
			N 65 05 W	S 65 05 E		
			S 85 37 W	N 85 37 E		
6	38 53 13.58	76 10 38.88	S 74 41 W	N 74 41 E	860 479 734	Darce. Wide. Owe.
			S 84 59 E	N 84 59 W		
			N 21 21 E	S 21 21 W		
7	38 53 15.28	76 10 31.94	S 71 22 E	N 71 22 W	311 631 1,064	Wide. Owe. Ferry.
			N 7 39 E	S 7 39 W		
			N 82 41 W	S 82 41 E		

BOUNDARIES OF NATURAL OYSTER BARS—continued.

DRUM POINT.

(Wye River—Chart No. 32.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
1	38 52 56.70	76 11 21.80	S 52 03 E	N 52 03 W	131	Star.
			N 43 29 E	S 43 29 W	207	Twixt.
			N 45 17 W	S 45 18 E	512	Piney.
2	38 52 56.66	76 11 29.36	S 29 04 W	N 29 04 E	517	Orb.
			S 75 19 E	N 75 19 W	313	Star.
			N 24 27 W	S 24 27 E	397	Piney.
3	38 53 09.32	76 11 21.10	N 35 34 E	S 35 34 W	413	Ferry.
			S 80 14 W	N 80 14 E	387	Piney.
			S 9 31 E	N 9 31 W	513	Star.
4	38 53 11.22	76 11 09.78	N 11 59 W	S 11 59 E	278	Ferry.
			N 82 39 E	S 82 39 W	1,664	Twixt.
			S 5 30 W	N 5 30 E	149	Darce.
5	38 53 08.74	76 11 10.50	N 6 13 W	S 6 13 E	359	Ferry.
			N 79 55 E	S 79 56 W	1,606	Twixt.
			S 4 14 E	N 4 14 W	63	Darce.

WYE RIVER MIDDLEGROUND.

(Wye River—Chart No. 32.)

1	38 52 28.26	76 11 18.82	N 1 37 E	S 1 37 W	879	Star.
			N 79 55 W	S 79 55 E	302	Stop.
			S 8 26 W	N 8 26 E	454	Snout.
2	38 52 38.54	76 11 26.36	S 29 06 W	N 29 06 E	325	Stop.
			S 61 38 E	N 61 37 W	489	Leaven.
			N 22 48 E	S 22 48 W	577	Star.
3	38 52 56.66	76 11 29.36	S 29 04 W	N 29 04 E	517	Orb.
			S 75 19 E	N 75 19 W	313	Star.
			N 24 27 W	S 24 27 E	397	Piney.
4	38 52 56.70	76 11 21.80	S 52 03 E	N 52 03 W	131	Star.
			N 43 29 E	S 43 29 W	207	Twixt.
			N 45 17 W	S 45 18 E	512	Piney.
5	38 52 44.36	76 11 14.38	N 15 22 W	S 15 22 E	348	Star.
			S 86 45 W	N 86 44 E	046	Orb.
			S 14 57 E	N 14 57 W	444	Leaven.
6	38 52 28.52	76 11 13.88	N 43 48 E	S 43 48 W	147	Leaven.
			N 83 36 W	S 83 36 E	490	Stop.
			S 23 15 W	N 23 16 E	499	Snout.

## Survey of Oyster Bars, Queen Annes County, Md.

## BOUNDARIES OF NATURAL OYSTER BARS—continued.

HESS.

(Wye River—Chart No. 32.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° / "	° / "	° / "	° / "	Yards.	
1	38 51 41.26	76 11 04.68	N 84 54 W	S 84 54 E	728	Edward. South. Shaw.
			N 22 44 W	S 22 44 E	338	
			S 65 16 W	N 65 16 E	624	
2	38 51 44.72	76 11 17.94	N 48 21 E	S 48 21 W	293	South. Nose. Shaw.
			N 34 09 W	S 34 09 E	959	
			N 29 53 W	S 29 53 E	435	
3	38 52 15.60	76 11 30.14	S 41 12 W	N 41 12 E	329	Nose. Snout. Stop.
			S 84 26 E	N 84 26 W	233	
			N 6 45 W	S 6 45 E	493	
4	38 52 18.68	76 11 19.94	N 30 51 E	S 30 51 W	509	Leaven. Stop. Snout.
			N 40 14 W	S 40 14 E	506	
			S 16 23 W	N 16 23 E	131	
5	38 51 50.72	76 11 07.52	Thence from corner No. 4 along the mean low-water line of the shore to corner No. 5, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.			
			S 82 24 W	N 82 24 E	57	South.
			S 40 18 W	N 40 17 E	761	Shaw.
			S 72 22 E	N 72 22 W	840	Edward.

## STONE WHARF.

(Wye River—Chart No. 32.)

1	38 51 50.80	76 10 58.08	N 42 27 E	S 42 27 W	731	Flat. South. Shaw.
			S 88 06 W	N 88 06 E	395	
			S 51 48 W	N 51 48 E	943	
2	38 51 53.74	76 11 02.82	S 58 41 W	N 58 41 E	210	South. Edward. Flat.
			S 62 13 E	N 62 13 W	764	
			N 54 34 E	S 54 34 W	759	
3	38 52 04.80	76 10 53.60	S 41 14 W	N 41 14 E	642	South. Edward. Flat.
			S 30 42 E	N 30 43 W	849	
			N 79 54 E	S 79 54 W	381	
4	38 52 04.54	76 10 45.78	S 53 01 W	N 53 01 E	787	South. Edward. Flat.
			S 17 28 E	N 17 28 W	756	
			N 65 53 E	S 65 53 W	185	

BOUNDARIES OF NATURAL OYSTER BARS—continued.

RACE HORSE (QUEEN ANNES COUNTY).

(Wye River—Chart No. 32.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
			° / ' "	° / ' "		
1	38 51 41.04	76 10 59.44	N 82 59 E	S 83 00 W	592	Edward. South. Shaw.
			N 40 06 W	S 40 06 E	417	
			S 70 13 W	N 70 12 E	749	
2	38 51 54.38	76 10 51.82	S 45 39 E	N 45 39 W	540	Edward. Flat. South.
			N 38 09 E	S 38 09 W	531	
			S 74 28 W	N 74 27 E	488	
3	38 51 58.16	76 10 41.72	N 11 59 E	S 11 59 W	297	Flat. South. Edward.
			S 79 39 W	N 79 39 E	780	
			S 13 20 E	N 13 20 W	519	
4	38 51 56.76	76 10 34.74	S 8 00 W	N 8 00 E	463	Edward. Albert. Flat.
			N 57 01 E	S 57 02 W	753	
			N 19 54 W	S 19 54 E	360	
Thence along county boundary as delineated on Chart No. 32 to corner No. 1.						

WHETSTONE.

(Wye River—Chart No. 32.)

1	38 51 55.86	76 10 09.00	S 7 36 W	N 7 36 E	503	Lloyd. Cousin. Albert.
			N 60 57 E	S 60 57 W	572	
			N 5 59 W	S 5 59 E	443	
2	38 52 01.18	76 10 15.58	N 81 42 E	S 81 43 W	680	Cousin. Albert. Flat.
			N 25 59 E	S 25 59 W	291	
			N 73 15 W	S 73 15 E	655	
3	38 52 06.62	76 10 07.68	N 39 44 E	S 39 44 W	424	Baldwins. Albert. Lloyd.
			N 46 06 W	S 46 06 E	113	
			S 6 42 W	N 6 42 E	867	
4	38 52 17.26	76 10 09.48	N 28 08 E	S 28 08 W	396	Attila. Le Seur. Albert.
			S 74 46 W	N 74 46 E	30	
			S 6 48 W	N 6 48 E	282	
5	38 52 27.72	76 10 00.40	N 7 52 E	S 7 52 W	385	Tobine. Attila. Le Seur.
			S 85 38 W	N 85 38 E	52	
			S 36 37 W	N 36 37 E	449	
6	38 52 26.50	76 09 57.10	S 1 19 W	N 1 19 E	344	Baldwins. Sylvia. Gusta.
			S 85 52 E	N 85 52 W	163	
			N 41 24 E	S 41 24 W	490	
Thence along county boundary as delineated on Chart No. 32 to corner No. 7.						
7	38 52 20.62	76 10 01.72	N 4 25 W	S 4 25 E	236	Attila. Le Seur. Baldwins.
			S 62 33 W	N 62 33 E	262	
			S 37 57 E	N 37 57 W	185	
Thence along county boundary as delineated on Chart No. 32 to corner No. 8.						
8	38 52 10.38	76 10 01.42	S 54 43 E	N 54 43 W	397	Cousin. Baldwins. Le Seur.
			N 28 00 E	S 28 00 W	226	
			N 47 03 W	S 47 04 E	329	
Thence along county boundary as delineated on Chart No. 32 to corner No. 1.						

## Survey of Oyster Bars, Queen Annes County, Md.

## BOUNDARIES OF NATURAL OYSTER BARS—continued.

## MELVIN.

(Wye River—Chart No. 32.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
			° / ' "	° / ' "		
1	38 52 26.50	76 09 57.10	S 1 19 W	N 1 19 E	344	Baldwins.
			S 85 52 E	N 85 52 W	163	Sylvia.
			N 41 24 E	S 41 24 W	490	Gusta.
2	38 52 27.72	76 10 00.40	N 7 52 E	S 7 52 W	385	Tobine.
			S 85 38 W	N 85 38 E	52	Attila.
			S 36 37 W	N 36 37 E	449	Le Seur.
3	38 52 39.03	76 09 58.40	S 15 18 W	N 15 18 E	400	Attila.
			S 81 14 E	N 81 14 W	362	Gusta.
			N 6 21 W	S 6 21 E	458	Sang.
4	38 52 59.52	76 09 50.37	S 48 08 W	N 48 08 E	352	Sang.
			S 28 33 E	N 28 33 W	533	Nodim.
			S 84 55 E	N 84 55 W	327	Go.
5	38 52 52.64	76 09 45.28	S 80 31 W	N 80 31 E	396	Sang.
			S 26 53 E	N 26 53 W	265	Nodim.
			N 43 23 E	S 43 23 W	280	Go.
Thence along county boundary as delineated on Chart No. 32 to corner No. 1.						

## DIVIDING.

(Wye River—Chart No. 32.)

1	38 52 52.18	76 09 12.82	N 81 40 E	S 81 40 W	382	Deck.
			N 5 04 E	S 5 04 W	226	Divide.
			N 71 47 W	S 71 47 E	699	Go.
Thence along county boundary as delineated on Chart No. 32 to corner No. 2.						
2	38 52 52.48	76 09 30.12	N 65 37 E	S 65 37 W	523	Divide.
			N 44 54 W	S 44 54 E	294	Go.
			S 50 31 W	N 50 31 E	362	Nodim.
Thence along county boundary as delineated on Chart No. 32 to corner No. 3.						
3	38 52 52.64	76 09 45.28	S 80 31 W	N 80 31 E	396	Sang.
			S 26 53 E	N 26 53 W	265	Nodim.
			N 43 23 E	S 43 23 W	280	Go.
4	38 52 59.52	76 09 50.37	S 48 08 W	N 48 08 E	352	Sang.
			S 28 33 E	N 28 33 W	533	Nodim.
			S 84 55 E	N 84 55 W	327	Go.
5	38 52 58.74	76 09 37.94	N 85 25 W	S 85 25 E	329	Turn.
			S 9 29 W	N 9 29 E	448	Nodim.
			N 86 36 E	S 86 36 W	682	Divide.
6	38 52 57.50	76 09 13.60	S 60 48 W	N 60 47 E	819	Nodim.
			S 19 34 E	N 19 34 W	460	Quarter.
			N 41 06 E	S 41 06 W	62	Divide.



BOUNDARIES OF NATURAL OYSTER BARS—continued.

SHAWNS WHARF.

(Wye River—Chart No. 32.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
1	38 52 52.18	76 09 12.82	N 81 40 E	S 81 40 W	Yards.	Deek. Divide. Go.
			N 5 04 E	S 5 04 W	382	
			N 71 47 W	S 71 47 E	699	
2	38 52 57.50	76 09 13.60	S 60 48 W	N 60 47 E	810	Nodim. Quarter. Divide.
			S 19 34 E	N 19 34 W	460	
			N 41 06 E	S 41 06 W	62	
3	38 53 03.94	76 09 00.30	N 78 37 W	S 78 37 E	67	Princess. Deek. Philip.
			S 7 58 E	N 7 57 W	344	
			S 83 41 E	N 83 41 W	515	
4	38 53 01.38	76 08 39.78	N 44 04 W	S 44 04 E	42	Philip. Matter. Whale.
			S 49 04 W	N 49 04 E	441	
			S 43 34 E	N 43 34 W	645	
5	38 52 57.70	76 08 40.66	N 2 04 W	S 2 04 E	154	Philip. Matter. Whale.
			S 62 01 W	N 62 01 E	351	
			S 53 44 E	N 53 44 W	580	
6	38 52 59.30	76 08 55.38	N 88 09 W	S 88 09 E	440	Divide. Deek. Philip.
			S 23 55 W	N 23 55 E	202	
			N 75 22 E	S 75 23 W	296	
Thence along county boundary as delineated on Chart No. 32 to corner No. 1.						

GRANARY POINT.

(Wye River—Chart No. 32.)

1	38 52 51.88	76 08 22.72	N 62 21 E	S 62 21 W	242	Morn. Granary. Matter.
			N 6 15 E	S 6 15 W	112	
			N 87 41 W	S 87 41 E	784	
2	38 52 53.94	76 08 22.64	N 81 44 E	S 81 45 W	643	Bush. Morn. Whale.
			N 78 35 E	S 78 35 W	217	
			S 2 02 W	N 2 02 E	217	
3	38 52 54.20	76 08 10.39	S 55 46 W	N 55 46 E	400	Whale. Chew. Bush.
			S 14 44 W	N 14 44 E	291	
			N 75 04 E	S 75 04 W	325	
4	38 52 51.88	76 08 10.46	N 44 07 W	S 44 07 E	155	Morn. Granary. Matter.
			N 70 25 W	S 70 26 E	330	
			N 88 21 W	S 88 22 E	1,106	



## APPENDICES.

### APPENDIX A.—LAWS RELATING TO THE COOPERATION OF THE COAST AND GEODETIC SURVEY AND BUREAU OF FISHERIES WITH THE MARYLAND SHELL FISH COMMISSION.

The work of the Coast and Geodetic Survey and of the Bureau of Fisheries, in cooperation with the Maryland Shell Fish Commission, in surveying the oyster bars, establishing permanent landmarks at triangulation stations, and preparing for publication the necessary charts and technical and legal descriptions of boundaries and landmarks shown on these charts, has been executed in compliance with a request from the governor of the State of Maryland to the Secretary of Commerce and Labor, and by the authority of the following laws of the United States and Maryland:

[Act of Congress approved May 26, 1906.]

AN ACT To authorize the Secretary of Commerce and Labor to cooperate, through the Bureau of the Coast and Geodetic Survey and the Bureau of Fisheries, with the shellfish commissioners of the State of Maryland in making surveys of the natural oyster beds, bars, and rocks in the waters within the State of Maryland.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That the Secretary of Commerce and Labor be, and he is hereby, authorized and directed, upon the request of the governor of the State of Maryland, to designate such officers, experts, and employees of the Bureau of the Coast and Geodetic Survey and of the Bureau of Fisheries as may be necessary to cooperate with the Maryland State board of shellfish commissioners in making a survey of and locating the natural oyster beds, bars, and rocks in the waters within the State of Maryland; and the Secretary of Commerce and Labor is hereby authorized and directed to furnish to the officers, experts, and employees of said Bureaus so detailed as aforesaid such instruments, appliances, and steam launches as may be necessary to make the survey aforesaid; and the Secretary of Commerce and Labor is hereby authorized to have made in the Bureau of the Coast and Geodetic Survey all the plats necessary to show the results of the aforesaid survey and the locations of the said natural oyster beds, bars, and rocks in the waters within the State of Maryland, and to furnish to the board of shellfish commissioners of the State of Maryland such copies as may be necessary, and for this purpose to employ, in the District of Columbia and elsewhere, such technically qualified persons as may be necessary to carry out the purpose of this act.

SEC. 2. That the Secretary of Commerce and Labor is hereby further authorized to have erected or constructed by the officers so detailed as aforesaid, while making such survey, such structures as may be necessary to mark the points of triangulation, so that the same may be used for such future work of the Coast and Geodetic Survey as the said Bureau may be hereafter required to perform in prosecuting the Government coast survey of the navigable waters of the United States located within the State of Maryland.

\* \* \* \* \*  
SEC. 4. That this act shall take effect from the date of its passage.

[Act of Congress approved June 30, 1906.]

AN ACT Making appropriations for sundry civil expenses of the Government or the fiscal year ending June thirtieth, nineteen hundred and seven, and for other purposes.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and seven, namely: \* \* \*

*Survey of Oyster Bars, Queen Annes County, Md.*

COAST AND GEODETIC SURVEY: \* \* \* For any special surveys \* \* \* including the expenditures authorized under Public Act Numbered One hundred and eighty-one, approved May twenty-sixth, nineteen hundred and six, and contingent expenses incident thereto, five thousand dollars, together with the unexpended balance under this appropriation for nineteen hundred and six and prior years which is hereby reappropriated and made available on this account for the fiscal year nineteen hundred and seven. \* \* \*

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[Act of Congress approved March 4, 1907.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and eight, and for other purposes.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and eight, namely: \* \* \*

COAST AND GEODETIC SURVEY: \* \* \* For any special surveys \* \* \* including expenses of surveys in aid of the shellfish commission of the State of Maryland, to be immediately available and to continue available until expended, twenty-five thousand dollars. \* \* \*

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[Act of Congress approved May 27, 1908.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and nine, and for other purposes.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and nine, namely: \* \* \*

COAST AND GEODETIC SURVEY: \* \* \* For any special surveys \* \* \* including expenses of surveys in aid of the shellfish commission of the State of Maryland, which expenses, including cost of plats and charts, shall not exceed fifteen thousand dollars in any one year, to be immediately available, twenty thousand dollars.

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[Act of Congress approved March 4, 1909.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and ten, and for other purposes.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and ten, namely: \* \* \*

COAST AND GEODETIC SURVEY: \* \* \* For any special surveys \* \* \* including expenses of surveys in aid of the shellfish commission of the State of Maryland, which expenses, including cost of plats and charts, shall not exceed fifteen thousand dollars in any one year, to be immediately available, twenty thousand dollars.

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[Act of Congress approved June 25, 1910.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and eleven, and for other purposes.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and eleven, namely: \* \* \*

COAST AND GEODETIC SURVEY: \* \* \* For any special surveys \* \* \* including expenses of surveys in aid of the shellfish commission of the State of Maryland, to be immediately available, fifteen thousand dollars.

*Survey of Oyster Bars, Queen Annes County, Md.*

[Act of Congress approved March 4, 1911.]

AN ACT Making appropriation for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and twelve, and for other purposes.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and twelve, namely: \* \* \*

COAST AND GEODETIC SURVEY: \* \* \* For any special surveys \* \* \* including expenses of surveys in aid of the shellfish commission of the State of Maryland, to be immediately available, thirteen thousand dollars.

[Act of the Legislature of Maryland approved April 2, 1906.]

AN ACT To establish and promote the industry of oyster culture in Maryland, to define and mark natural oyster beds, bars and rocks lying under the waters of this State, to prescribe penalties for the infringement of the provisions of this Act, and \* \* \*

SECTION 1. *Be it enacted by the General Assembly of Maryland,* That the following sections be, and they are hereby, added to article 72 of the Code of Public General Laws, title "Oysters." \* \* \*

SEC. 86. The Board of Shell Fish Commissioners shall, as soon as practicable after the passage of this Act, cause to be made a true and accurate survey of the natural oyster beds, bars and rocks of this State, said survey to be made with reference to fixed and permanent objects on the shore, giving courses and distances, to be fully described and set out in a written report of said survey, as hereinafter required. A true and accurate delineation of the same shall be made on copies of published maps and charts of the United States coast and geodetic survey, which said copies shall be filed in the office of the said commissioners in the city of Annapolis, and the said commissioners shall further cause to be delineated upon copies of the published maps and charts of the United States coast and geodetic survey, of the largest scale, one copy for each of the counties of this State in the waters of which there are natural oyster beds, bars and rocks, all natural beds, bars and rocks lying within the waters of such county, which maps shall be filed in the offices of the clerks of the Circuit Court for the respective counties wherein the grounds so designated may lie. \* \* \*

SEC. 87. The Governor of this State is hereby requested to ask the assistance of the United States coast and geodetic survey, and of the United States Fish Commissioner, to aid in the carrying out of the provisions of the preceding section.

\* \* \* \* \*

SEC. 89. As soon as practicable after the first day of April, 1906, the said commissioners shall organize, and shall at once proceed, with the assistance of such person or persons as may be detailed by the United States coast and geodetic survey and the United States Fish Commissioner, to aid them in their work, and of such persons as may be appointed under the preceding section, to have laid out, surveyed and designated on the said charts, the natural beds and bars, and shall cause to be marked and defined as accurately as practicable the limits and boundaries of the natural beds, bars, and rocks as established by said survey, and they shall take true and accurate notes of said survey in writing, and make an accurate report of said survey, setting forth such a description of landmarks as may be necessary to enable the said board, or their successors, to find and ascertain the boundary lines of the said natural oyster beds, bars and rocks, as shown by a delineation on the maps and charts provided in this Act; said report shall be completed and filed in the office of the board in the city of Annapolis within ninety days after the completion of the survey of any county. Said commissioners shall cause the same to be published in pamphlet form, and transmit copies of the same to the Clerks of the Circuit court for the respective counties, where the charts have been filed or directed to be filed as hereinafter provided; the said report to be filed by the clerks of the several counties in a book kept for that purpose. And the said survey and report, when filed, subject to the right of appeal hereafter provided for in this Act, shall be taken in all of the courts of this State as conclusive evidence of the boundaries and limits of all natural oyster beds, bars and rocks, lying within the waters of the county wherein such survey and report are filed, and shall be construed to mean in all of the said courts that there are no natural oyster beds, bars or rocks lying within the waters of the counties wherein such report and survey are filed other than those embraced in the survey authorized by this Act, and that all areas of the Ches-

peake Bay and its tributaries within the State of Maryland, not shown in the survey to be natural oyster beds, bars or rocks shall be construed in all the courts of the State to be barren bottoms and open for disposal by the State for the purpose of private planting or propagation of oysters thereon under the provisions of this Act; provided, that the said survey and report shall not be construed as to affect in any manner the holdings by citizens of this State in any lot which may have been appropriated or taken up under the laws of this State prior to the approval of this Act.

The law of the State of Maryland, passed March 9, 1842, authorizing officers of the United States Coast and Geodetic Survey to enter upon the lands within the State limits for the purposes of the survey, is as follows:

AN ACT Concerning the Survey of the Coast of Maryland.

SECTION 1. *Be it enacted by the General Assembly of Maryland*, That it shall and may be lawful for any person or persons employed under and by virtue of an act of the Congress of the United States, \* \* \* at any time hereafter to enter upon lands within this State for the purpose of exploring, surveying, triangulating, or leveling, or doing any other matter or thing which may be necessary to effect the objects of said act, and to erect any works, stations, buildings, or appendages requisite for that purpose, doing no unnecessary injury to private or other property.

SEC. 2.<sup>1</sup> *And be it enacted*, That in case the person or persons employed under the act of Congress aforesaid, can not agree with the owners or possessors of the land so entered upon and used as to the amount of damage done thereto by reason of the removal of fences, cutting of trees or injury to the crop or crops growing on the same, it shall and may be lawful for the said parties or either of them to apply to the chief justice for the time being or one of the associate judges of the judicial district in which such land may be situated, who shall thereupon appoint three disinterested and judicious freeholders, residents of the same judicial district, to proceed with as much despatch as possible to the examination of the matter in question, and the faithful assessment of the damages sustained by the owners or possessors aforesaid, and the said freeholders or a majority of them, having first taken and subscribed an oath or affirmation before the chief or associate justice aforesaid or other person duly authorized to administer the same, that they will well and truly examine and assess as aforesaid, and having given five days' notice to both parties of the time of their meeting, shall proceed to the spot, and then and there upon their own view and if required, upon the evidence of witnesses (to be by them sworn or affirmed and examined), shall assess the said damages, and shall afterward make report thereof and of their proceedings in writing under their hands and seals and file the same within five days thereafter in the office of the clerk of the county in which the land aforesaid is situated, subject to an appeal by either party to the county court of the said county within ten days after filing as aforesaid, and the said report so made as aforesaid if no appeal as aforesaid be taken, shall be held to be final and conclusive as between the said parties, and the amount so assessed and reported shall be paid to the said owners or possessors of the land so damaged within twenty days after the filing of said report, and the said chief or associate justice as aforesaid, shall have authority to tax and allow upon the filing of said report, such costs, fees and expenses to the said freeholders for the performance of their duty as he shall think equitable and just, which allowance shall be paid by the person or persons employed under the act of congress aforesaid, within the time last above limited, but if an appeal as aforesaid be taken, the case shall be set down for hearing at the first term of county court aforesaid, ensuing upon and after appeal, and it shall be lawful for either party immediately after the entry of such appeal, to take out summons for such witnesses as may be necessary to be examined upon the hearing aforesaid, and the said court shall have power in its discretion to award costs against which ever the final judgment shall be entered, and such appeal at the option of either party may and shall be heard before and the damage assessed by a jury of twelve men to be taken from the regular panel and elected as in other cases.

SEC. 3. *And be it enacted*, That if any person or persons shall wilfully injure or deface or remove any signal, monument or building or any appendage thereto, erected, used or constructed under and by virtue of the act of congress aforesaid, such person or persons so offending shall severally forfeit and pay the sum of fifty dollars with costs of suit to be sued for and recovered by any person who shall first

<sup>1</sup> Under the ruins of the Comptroller of the Treasury no damages can be collected except through the United States Court of Claims unless an agreement has been made in advance.

prosecute the same before any justice of the peace of the county where the person so offending may reside, and shall also be liable to pay the amount of damages thereby sustained, to be recovered with costs of suit in an action on the case, in the name and for the use of the United States of America, in any court of competent jurisdiction.

APPENDIX B.—THE HAMAN OYSTER CULTURE LAW.

[Extract from Second Report of Shell Fish Commission.]

OBJECT.

"The legislature in placing chapter 711 of the acts of 1906, better known as the Haman Oyster Culture Law, upon the statute books of Maryland, had a twofold object in view.

1. To encourage an industry in oyster culture upon the barren bottoms beneath the tidewaters of the State.
2. To prevent the leasing of natural oyster bars for the purpose of oyster culture."

SURVEY.

"To make the leasing of barren bottoms possible and the leasing of natural bars impossible, provision was made for a survey of the natural bars for the purpose of accurately locating and marking the same. It was definitely provided that no barren bottoms should be leased in any part of the State until the natural bars of that region had been surveyed, charted, and marked with buoys."

DEFINITION OF A NATURAL OYSTER BAR.

NATURAL BAR NOT DEFINED.

"The Shell Fish Commission is instructed by section 90 of the Haman Oyster Culture Law to exercise its judgment liberally in favor of the natural bars when surveying, charting and buoying them, but other than this the Commission is uninstructed in this important matter. The responsibility of defining a natural bar is placed upon the Commission."

DIVERSITY OF OPINION.

"No definition of a natural oyster bar could be formulated by any man or body of men which would meet with the approval of all parties concerned. Oystermen, as a rule, hold that all bottoms where oysters grow or have grown naturally even though now practically barren of oysters should be considered natural bars. Other citizens of the State who are not directly interested in the oyster business, but interested in the oyster industry from the standpoint of revenue, hold, as a rule, that no bottoms should be excluded from leasing for oyster culture which, by methods known to oyster culturists, may be made to yield a greater number of oysters than they now produce."

"It should be evident to every one that neither of these definitions could be adopted by the Commission as a working basis for determining which of the grounds surveyed are natural oyster bars."

THE GOLDSBOROUGH DEFINITION.

The definition of a natural oyster bar which very nearly approaches a reasonable and satisfactory compromise between the views of the subject held by *oystermen* on one hand and by *oyster culturists* on the other is that contained in an opinion rendered by Judge Charles F. Goldsborough in the circuit court for Dorchester County in the July term, 1881, in the case of William T. Windsor and George R. Todd v. Job T. Moore.

This definition has been adopted by the Shell Fish Commission as the basis for the determination of the status of the various oyster bottoms surveyed, and is as follows:

What then is a natural bar or bed of oysters? It would be a palpable absurdity for the State to attempt to promote the propagation and growth of oysters and to encourage its citizens, by a grant of land, to engage in their culture, if the lands authorized to be taken up were only those upon which oysters do not and can not be made to grow. That there may be lands covered by water in the State where no oysters can be found, but where, if planted, they could be cultivated successfully, may be

possible, but, if so, I imagine that their extent must be too limited for them to be of much practical, general advantage for the purposes of such a law as the one under discussion; but there are thousands of acres of hard and shifting sands where oysters not only are not found, but where it would be folly to plant them, and these latter it can not be supposed that the State intended to offer to give away, for the simple reason that the State could not help knowing that nobody would have them.

Upon the other hand there are large and numerous tracts where oysters of natural growth may be found in moderate numbers, but not in quantities sufficient to make it profitable to catch them, and yet where oysters may be successfully planted and propagated. In my opinion these can not be called natural bars or beds of oysters, within the meaning of the act of assembly, and it is just such lands as these that the State meant to allow to be taken up under the provisions of the above-mentioned section of the act.

But there is still another class of lands where oysters grow naturally and in large quantities and to which the public are now and have been for many years in the habit of resorting with a view to earning a livelihood by catching this natural growth, and here, I think, is the true test of the whole question. Land can not be said to be a natural oyster bar or bed merely because oysters are scattered here and there upon it, and because if planted they will readily live and thrive there; but whenever the natural growth is so thick and abundant that the public resort to it for a livelihood, it is a natural oyster bar or bed and comes within the above-quoted restriction in the law, and can not be located or appropriated by any individual.

#### APPLICATION OF DEFINITION.

Before this definition may be of use in determining, accurately and scientifically, the status of an oyster ground, its central idea, "livelihood," must be expanded into accurately determinable factors, and these factors must be confined into a practical scheme of investigating the condition of the ground under consideration.

Stated briefly, a *livelihood* is represented by a *sum of money* obtained from the sale, at a fixed *price*, of a certain *quantity of oysters* gathered in a given *time* from an allotted *area* of ground.

Knowing the value of each of these factors it becomes possible to calculate the number of oysters an oyster ground must produce per square yard in order that oystermen may secure a livelihood by working upon it.

NOTE.—The factors into which the commission resolved the livelihood problem, the value assigned to each factor, and the scheme devised for practical use in examining and applying the definition to oyster bottoms are given in outline in their second report under the heading of the preceding extract, and in detail in their first report on pages 32 to 69.

#### APPENDIX C.—SUMMARY OF THE PARTICULAR SURVEYING OPERATIONS WHICH CONSTITUTE AN "OYSTER SURVEY" AS NOW BEING CARRIED ON IN MARYLAND.

*Explanation.*—A brief account of the particular surveying operations which constitute an "oyster survey" as now being carried on in Maryland will assist in the interpretation of records contained in the technical part of this report, and will be of interest to many who may not understand the necessity for the great amount of work being done or its complicated character.

To those familiar with methods used in surveying and charting the characteristic features of large bodies of water there is an evident necessity for the various operations performed, especially when it is known that the boundaries of the public oyster bars and of the private lots leased for purposes of oyster culture must be surveyed and charted with the greatest practical accuracy. To others it will be sufficient to state that the actual experience gained from oyster surveys in other States has proven that in order to avoid endless dissatisfaction and litigation it is necessary to accurately locate and permanently establish oyster boundaries as is now being done in Maryland.

*Triangulation survey.*—Such refinement of survey work as that demanded by the conditions of an oyster survey when carried on at considerable distances offshore can only be obtained by the use of a system of triangulation as a framework or foundation. Therefore, a triangulation survey including the permanent marking of the positions of landmarks with monuments and a record of the descriptions of their locations for future recovery is a necessary operation of a complete oyster survey.

*Topographic survey.*—The technical records which establish the relation between the offshore oyster boundaries and triangulation landmarks are sufficient for the requirements of engineers in making resurveys, but do not supply the needs of others who are interested in the same boundaries by reason of their occupation as oystermen concerned as to the public oyster bars, or oyster culturists concerned



as to the leasable bottoms. For these it is necessary to have the charts of the survey show the relation of the shore line and other topographic features to the boundaries of the public oyster bars and private oyster farms. Therefore, a topographic survey is a necessary operation of a complete oyster survey.

*Hydrographic survey.*—In the settlement of the important question of what is, or what is not, a natural oyster bar, and in the consideration of bottoms to be selected for purposes of oyster culture, information as to the depth of water and the character of the bottom is required. Therefore, a hydrographic survey is a necessary operation of a complete oyster survey.

*Necessary foundation for an oyster survey.*—Consequently, the necessary components of a satisfactory foundation for a complete oyster survey are the three classes of survey operations technically named triangulation, topography, and hydrography, or, stated in another way, the foundation of a practical oyster survey includes the surveying operations usually followed by the Coast and Geodetic Survey leading up to the preparation and publication of nautical charts.

*Special surveys and investigations pertaining to oysters.*—Having obtained this cartographic survey for a foundation, partly by new work and partly from records of previous work of the Government, the combined operations<sup>1</sup> making up an "oyster survey" are completed by superimposing on this foundation special surveys and investigations pertaining particularly to oysters or other shell fish.

The special surveys pertaining to oysters furnish information as to the location and outline of oyster-shell bottoms, and are carried on by the sounding boat party in addition to the usual hydrographic work.<sup>2</sup> This operation consists of the observation and record of the character of vibration of a wire and chain apparatus which is dragged over the bottom, the vibrations or lack of vibrations indicating the presence and quantity of shells or absence of shells.

The special oyster investigations<sup>3</sup> consist of the actual determination of the kind and quantity of oysters on the bottom, and such economic and biological studies of the supply of oyster food, density of water, character of the bottom, and other important matters as affects the growth of oysters. In this work the oyster investigation stations are located and buoyed by the hydrographic party while engaged in the survey of the oyster-shell limits. They are selected with the view of obtaining characteristic data which can be used for the interpretation of the recorded vibrations of the chain apparatus at all other points covered by the survey.

*Preparation of results.*—The actual surveying operations and oyster investigations having been completed for any one county, there still remains technical work of nearly equal magnitude to that described.<sup>4</sup> This work consists of the preparation of charts and technical descriptions of boundaries and landmarks for publication by the Government, the preparation of that part of the annual report of the commission covering the special oyster surveys and investigations, the making of the leasing charts and finished projections, and finally the filing of the oyster charts and records with the courts and the commission, thus opening a county for oyster culture.

*Summary.*—From the foregoing account it can be seen that a complete oyster survey properly conducted so as to answer all practical requirements of the present and permanency of results for the future is a very complicated affair, involving many lines of surveying and other scientific work, and requiring the professional services of experts in the various operations of cartographic surveying and shell-fish investigations.

<sup>1</sup> See Appendix D of this publication for "Statistics of results of combined operations of the Government and State."

<sup>2</sup> See pp. 104 to 123 of First Annual Report of Maryland Shell Fish Commission.

<sup>3</sup> See pp. 30 to 67 and 129 to 199 of First Annual Report of Maryland Shell Fish Commission.

<sup>4</sup> No mention is made here of the large amount of administrative work of the commission, which is greatly complicated and increased by the effect of the oyster-survey operations on many thousands of people whose interests are more or less involved; or of the large amount of survey work involved in the survey and record of the boundaries of oyster lots leased from the State by private individuals for the purposes of oyster culture.

APPENDIX D.—STATISTICS OF RESULTS OF THE COMBINED OYSTER SURVEY OPERATIONS OF THE GOVERNMENT AND STATE.<sup>1</sup>

Operations	Anne Arundel County	Somerset County	Wicomico County	Worcester County	Calvert County	Charles County
Beginning of field work.....	June 29, 1906	May 2, 1907	Aug. 27, 1907	Nov. 8, 1907	May 2, 1908	Aug. 18, 1908
Filing of certified charts and reports.....	June 20, 1907	July 1, 1908	Dec. 1, 1908	Apr. 12, 1909	Dec. 14, 1909	Jan. 27, 1911
Natural oyster bars surveyed and delineated.....	91	37	15	28	41	15
Acres of natural oyster bars.....	33,666	27,566	2,038	1,685	12,303	2,285
Crab bottoms surveyed and delineated.....		54				
Acres of crab bottoms.....		32,108				
Clam beds surveyed and delineated.....		3				
Acres of clam beds.....		500				
Boundary buoys located and planted.....	362	154	53	108	149	51
Triangulation landmarks established.....	123	86	30	48	78	42
Miles of shore line covered by triangulation.....	110	125	46	95	95	32
Square miles of water covered by triangulation.....	220	375	44	110	157	20
Miles of examination of shell bottom with chain apparatus.....	366	296	58	63	250	38
Oyster-investigation stations occupied.....	440	679	162	147	667	113
Title stations established.....	4	3	1	1	2	1
Number of soundings over shell bottoms.....	37,049	17,904	3,387	3,649	11,292	1,631
Square miles covered by soundings and chain apparatus.....	88	47	3	3	30	4
Projections prepared and plotted.....	9	13	2	5	8	3
Leasing charts prepared.....	13	12	2	3	5	2
Oyster charts published.....	4	6	2	3	5	1
Reports published.....	2	2	2	2	2	2
Progress maps published.....	2	2	2	2	2	2

Operations	St. Marys County	Baltimore County	Kent County	Queen Annes County	Total <sup>2</sup>
Beginning of field work.....	May 2, 1908	Apr. 14, 1909	Apr. 14, 1909	Apr. 14, 1909	
Filing of certified charts and reports.....	July 6, 1911	Aug. 10, 1911	Oct. 5, 1911	Nov. 29, 1911	
Natural oyster bars surveyed and delineated.....	124	3	64	98	316
Acres of natural oyster bars.....	25,778	3,010	12,809	24,721	3 145,821
Crab bottoms surveyed and delineated.....					54
Acres of crab bottoms.....					32,108
Clam beds surveyed and delineated.....					3
Acres of clam beds.....					500
Boundary buoys located and planted.....	513	13	211	140	1,954
Triangulation landmarks established.....	238	15	147	199	795
Miles of shore line covered by triangulation.....	160	12	110	240	540
Square miles of water covered by triangulation.....	186	50	130	500	1,472
Miles of examination of shell bottom with chain apparatus.....	400	33	164	288	1,959
Oyster-investigation stations occupied.....	1,472	64	1,151	1,949	6,844
Title stations established.....	7	1	3	3	25
Number of soundings over shell bottoms.....	19,334	1,080	8,723	13,880	11: 339
Square miles covered by soundings and chain apparatus.....	57	6	21	47	276
Projections prepared and plotted.....	15	4	10	12	58
Leasing charts prepared.....	10	1	4	11	62
Oyster charts published.....	8	1	3	4	37
Reports published.....	2	2	2	2	13
Progress maps published.....	2	1	1	1	12

<sup>1</sup> These statistics do not include the large amount of triangulation, topography, and hydrography resulting from previous work of the Coast and Geodetic Survey, which was utilized in the preparation of the published oyster charts and records. Work in Talbot and Dorchester counties has been finished, but final statistics of results will not be published until these counties are opened for oyster culture.

<sup>2</sup> Less quantities covered by statistics of more than 1 county.

<sup>3</sup> Total area of natural oyster bars of Connecticut is 5,770 acres.





**COAST AND GEODETIC SURVEY  
PROGRESS MAP  
QUEEN ANNES COUNTY  
MARYLAND**

To accompany report of work of United States  
Coast and Geodetic Survey in cooperation  
with the Maryland Shell Fish Commission

- Landmarks (Coast Survey Triangulation Stations)
- Waters within territorial limits of county
- Limits of projections on file at Washington
- Limits of charts published by Coast and Geodetic Survey

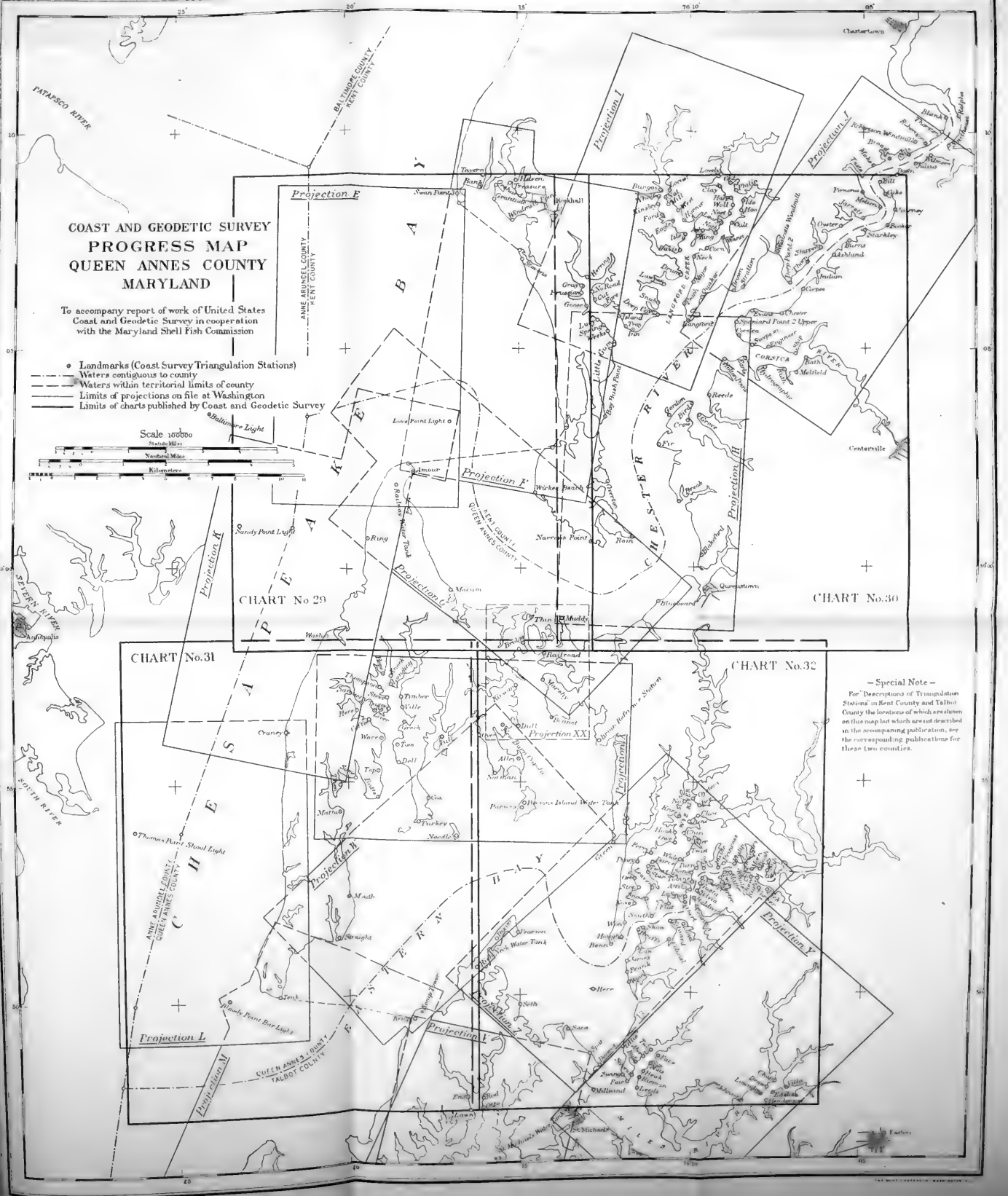


CHART No. 29

CHART No. 30

CHART No. 31

CHART No. 32

- Special Note -  
For Descriptions of Triangulation  
Stations in Kent County and Talbot  
County the locations of which are shown  
on this map but which are not described  
in the accompanying publication, see  
the corresponding publications for  
these two counties.

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