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U. S. C. & G. SURVEY.
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U. S. COAST AND GEODETIC SURVEY

Henry S. Pritchett, Superintendent

State: Maryland

DESCRIPTIVE REPORT.

Hydrographic Sheet Nos { 2427
2428
2429
2373

LOCALITY:

Main channel of Chesapeake
Bay from Thomas Pt.
Light to mouth of
Patomac River

1899.

CHIEF OF PARTY:

C. C. Yates

2428

U.S. COAST AND GEODETIC SURVEY
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83
SHA
2428
1899

Diag. Cht. No. 77-1

200 No. 1

Department of Commerce and Labor
COAST AND GEODETIC SURVEY

A. S. Pritchett
Superintendent.

State: *Md*

DESCRIPTIVE REPORT.

Hyd Sheet No *2428*

LOCALITY:

See

2427

1899
190

CHIEF OF PARTY:

C. C. Yates

2428

83
SHA
2429
1899

2429

COAST AND GEODETIC SURVEY
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Diag. Cht. No. 77-1 & 78-1

Department of Commerce and Labor
COAST AND GEODETIC SURVEY

A. S. Pritchett
Superintendent.

State: *Md*

DESCRIPTIVE REPORT.

Hyd Sheet No. *2429*

LOCALITY:

See

2427

1899
190

CHIEF OF PARTY:

C. C. Yarnes

2429

2373

Diap. Ch. No. 77-1

Department of Commerce and Labor
COAST AND GEODETIC SURVEY

H. S. Pritchett
Superintendent.

State: *Md.*

DESCRIPTIVE REPORT.

N. C. Sheet No 2373

LOCALITY:

See

2427

1899
190

CHIEF OF PARTY:

C C Yates

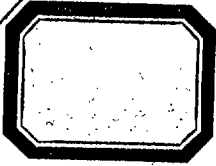
2373

W.B. G.

Library and Archives.

FEB. 12. 1900. 02659

U. S. COAST AND GEODETIC SURVEY
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FEB 12 1900
APP. NO.
CLASS.



U. S. Coast and Geodetic Survey
Henry S. Mitchell Superintendent

Descriptive Report
of
Four Sheets
relating
to the
Hydrographic Reconnoissance
of
Main Channel
of
Chesapeake Bay
from
Thomas Point to Point Lookout

Chief of Party
Assistant Charles C. Gates

Temporary Chief of Party
Assistant J. J. Gilbert

Steamer Endeavor

Field work begun April 14, 1899
Field work ended May 29, 1899

Instructions

(Copy)

Treasury Department
Office of the Coast and Geodetic Survey
Washington D.C. March 31, 1899

Mr C. C. Yates, Assistant
Comdr. U.S.C. + S.S. Str. "Endeavor"
Baltimore Md.

Sir,

As soon as the repairs and outfit of the Str "Endeavor" are completed, please proceed down the Bay and make a hydrographic reconnaissance of the deep water between Thomas Light and Cape Lookout, or Smith Point Light if you find you can reach that far, to determine, if practicable, the changes that may have taken place in the deep water of the Bay within those limits.

Triangulation executed by Assistant Perkins, last Summer, will furnish you positions for the determination of your work. It is desirable that you should run lines, at first, about three miles apart, making cross sections of the Bay for comparison with the same cross sections on the old hydrographic sheets, and you will interpolate additional lines depending upon the agreement, or disagreement, that will be found. The object of the reconnaissance being to ascertain if there have been sufficiently great changes in the deep water parts of the Bay to necessitate a resurvey.

x x x x x x x x x x
x x x x x x x x x x

Respectfully yours
(Signed) Henry S. Pritchett
Superintendent

Forwarded
H. S. Ogden (signed)
Insp. of Hyd. & Topg.

Organization

Personnel:

Names, rank and occupation of officers attached to the party during the work on these sheets: -

J. J. Gilbert	- Asst. U. S. C. + S. S.	-	* Temporary Chief of Party & land observer
Charles C. Yates	- Asst. U. S. C. + S. S.	-	Chief of Party
Wm. Bauman Jr.	- Chief Geo. U. S. N.	-	Draftsman
M. F. Flannery	- Chief Mach. U. S. N.	-	Chief Engineer
A. L. Roeth	- Yes. 2 ^d Class.	-	Recorder + in charge of accounts
D. B. Dainwright Jr.	- Yes. 2 ^d Class.	-	Observer
C. E. Terry	- Yes. 2 ^d Class.	-	Recorder + observer
Ol. Andersen	⊕ Corp. Mate. 1 st Class.	-	Observer + Deck Officer

Number of members in party: -

1	assistant U. S. C. + S. S. and Chief of Party
4	Petty Officers U. S. N. messing aft.
⊕ 6	Petty Officers U. S. N. messing forward.
15	Enlisted Men.
<u>26</u>	- Total number on board.

Equipment: -

Steamer Endeavor and outfit
 Oil Launch No 30
 1 whaleboat
 2 dinghys

* From May 13th to 28th during sickness of Asst. C. C. Yates

⊕ Messing forward.

⊕ 1 observer - 1 coxswain - 2 leadsmen - 2 mechanics.

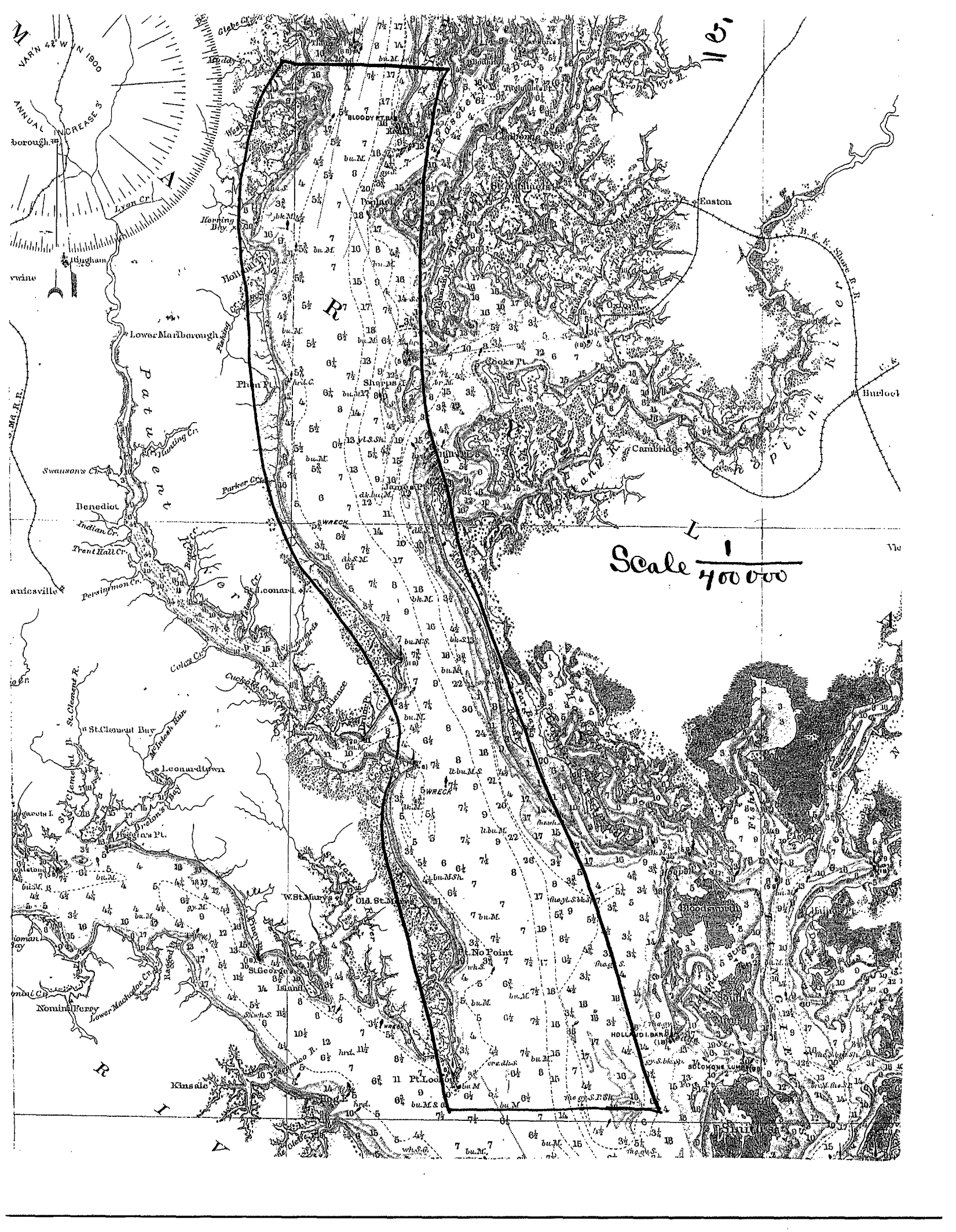
Location of Survey

Description:-

Deep water of the main channel of the Chesapeake Bay between Thomas Point and the Point Lookout.

Sketch:-

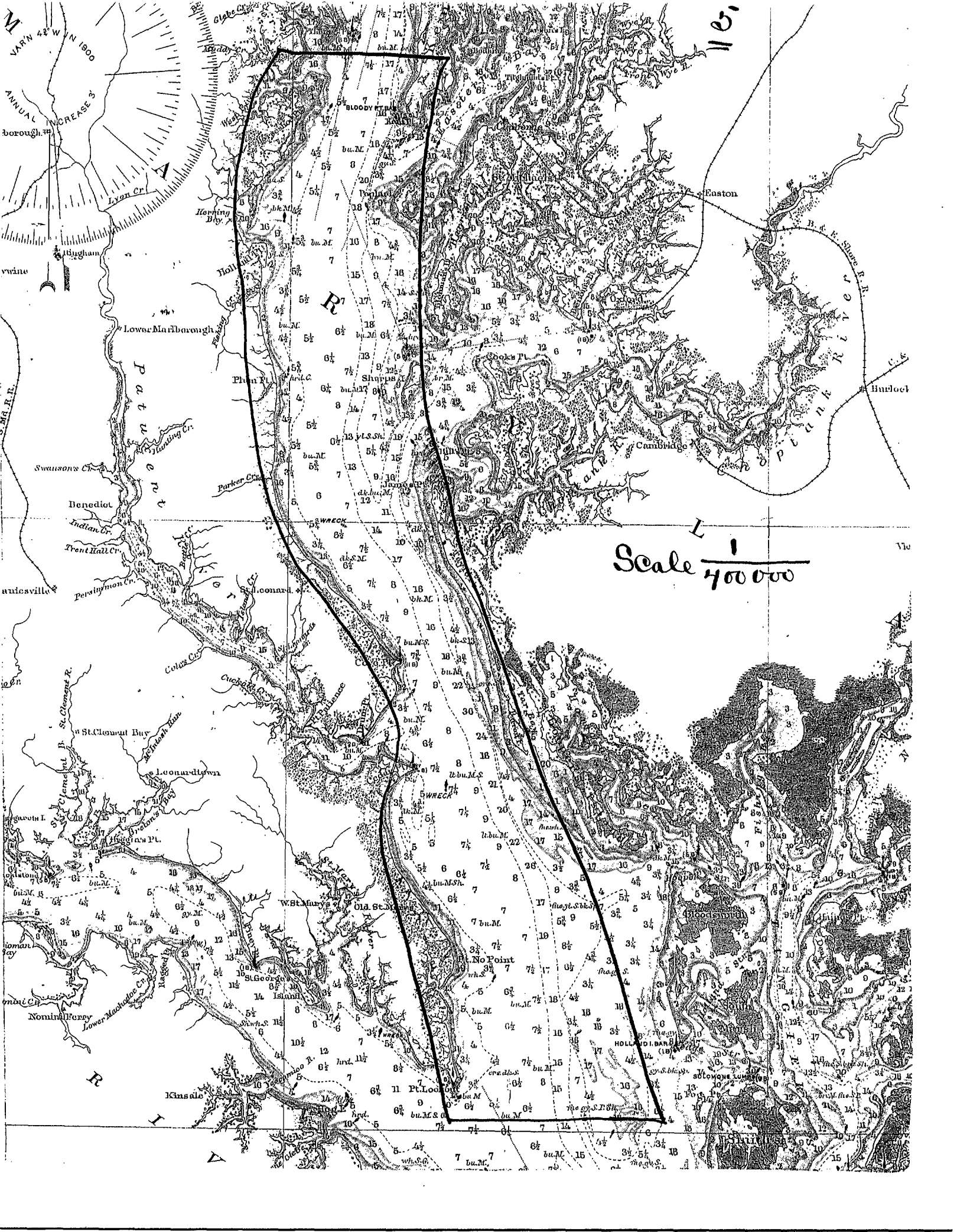
The general location of the survey is shown by the area inclosed by red lines on the following section of the U.S.C. & G.S. Chart of Delaware and Chesapeake Bays No. 376.



M
VAR W 42° W IN 1900
ANNUAL INCREASE 3'

1161

Scale $\frac{1}{400000}$



Projections

Sheets:-

Three full sized sheets on a scale of $\frac{1}{40000}$ were necessary to cover the area examined.

These sheets were prepared by Mr. Wm. Bauman, Chief Yeoman U.S.N. and draughtsman of the "Endeavor" at the "Office" in Washington under the direction of the Drawing Division.

Stations:

With two or three exceptions, the triangulation stations plotted on the projections were recovered and were found sufficient in number and location for the hydrography.

The additional hydrographic stations needed were located by sextant angles and their positions plotted on the projections.

Shoreline:

The shoreline of these sheets were enlarged from the Survey Charts on $\frac{1}{80000}$ scale.

Signals

In the class of work done, nearly as many signals are necessary as would be required if the work were executed in detail; and consequently, as much time was spent in building signals as on soundings. The signals were large and were frequently used in locating soundings when the signals were distant ten to twelve geographical miles from the steamer.

Scheme

The scheme of the work as executed followed closely the Superintendent's instructions of March 31, 1899 (a copy of which is to be found on page 2 of this report) with the exception that the distance apart of the lines was for convenience sake made about 5000 metres instead of "about three miles"

In the latter part of the work while Asst. J. J. Gilbert was in command, the lines were run at somewhat irregular intervals in order to make them correspond to actual lines of soundings run in the original survey of 1849.

Tides

The benchmarks established by the Chesapeake Bay Simultaneous Tidal Observations of 1898 at the light houses at Thomas Point, Sharps Island, Drum Point and Holland Id. Bar; were recovered and used in establishing the plane of reference of the tide staffs erected at all of these points.

It was not found necessary to establish other tide stations.

Soundings

In accordance with the plan of the work, it was only deemed desirable to have the reconnaissance cover the deep waters of the main channel, it was therefore possible to use the steamer for all the work.

For description of methods of taking soundings with steamer Endeavor see the Descriptive Report accompanying hydrographic sheet of Chesapeake Bay from Sandy Point Light to Thomas Point Light.

Smooth Plotting

Positions:-

As the hydrographic stations used were well located, no difficulty was experienced in plotting the positions other than that arising from the great distance of the signals from some of the positions.

Soundings:-

With the positions taken on the even minute, soundings taken on time and a fairly even bottom, it was found that the plotting of soundings was very easy in comparison with the plotting of soundings on the Pool Old Sheet. The soundings as well as the positions were plotted in ink, in fact, the hydrographic sheets were complete when turned into the Office including title, statistics, etc.

Soundings were plotted as follows:-

To	4 fathoms	to the nearest	$\frac{1}{4}$ foot
"	10 "	" "	$\frac{1}{2}$ "
"	30*	" "	1 "

* It would have been more consistent with the accuracy obtained to plot these to the nearest $\frac{1}{2}$ fathom.

Comparative Cross Sections

of
Surveys of 1846 to 1849 and Survey of 1898 and 1899

After the soundings were reduced and plotted, 21 cross sections of the main channel of the Bay extending from Sandy Point to Point Lookout were drawn and compared with similar cross sections obtained from the original hydrographic sheets of fifty years ago.

The sheet on which these cross sections are plotted requires no explanation and a study of it is very instructive both from the point of view of the hydrographer and the geologist.

Very few changes in the main channel in depths over three fathoms are to be noted and where they do occur they seem to be more in the direction of a displacement to the east or west than in depth.

The amount of the hydrography necessary for a resurvey of that portion of the main channel covered by the reconnaissance is clearly indicated by a comparison of the cross sections and much needless work will thereby be saved.

List of Sheets, Records, etc relating to the hydrographic reconnaissance of the main Channel of Chesapeake Bay from Thomas Point to Point Lookout.

- Volumes I-III Steamer Soundings
- " I Tides - Thomas Point Light
- " I " - Sharp's Old Light
- " I " - Drum Point Light
- " I " - Holland Id. Bas. Light

Fair Journals or duplicates of all the above
6 Volumes

- 3 - Smooth hydrographic Sheets - All complete. Soundings and title inked.
 - 1 - Sheet of Comparative Cross Sections. All complete. Title inked.
 - 3 - Tracings to go with sheet of Comparative Cross Sections
 - 1 - Descriptive Report.
-

Statistics

Date 1899	Letter	Number of				Vessel
		Vol.	Angles,	Soundings	Miles	
April 20	A	I	42	214	10.4	Steamer
" 21	B	I	48	164	6.8	"
" 22	C	I	74	238	12.3	"
May 15	D	I	98	320	12.5	"
" 16	E	I	88	244	12.1	"
" 17	F	I	40	134	5.1	"
" 18	G	II	98	252	12.9	"
" 23	H	II	124	395	17.0	"
" 25	I	II	306	1061	42.9	"
" 26	K	III	295	716	41.4	"
Totals	10	3	1213	3738	173.4	

367.5 □ Geographical Miles

U. S. Coast and Geodetic Survey.

[Form N.—Statistics of Field Work.]

Statistics of Field Work executed by ** Charles C. Yates Asst. U.S. & G.S.*

Date and place of beginning field work *April 14, 1899*
Date and place of closing field work *May 29, 1899*

RECONNAISSANCE:

* Area of, in square statute miles
Lines of intervisibility determined as per sketch submitted
* Number of points selected for scheme

BASE LINES:

Primary, length of
Secondary, length of
Beach measurements, length of
Number of days employed in measurements of base
Number of days employed in remeasurements

TRIANGULATION:

Area of, in square statute miles
Signal poles erected, number of
Observing tripods and scaffolds built, number of
Observing tripods and scaffolds built, heights of
Days occupied in opening and verifying lines of sight, number of
Stations occupied for horizontal measures, number of
Stations occupied for vertical measures, number of
Geographical positions determined, number of
Elevations determined trigonometrically, number of

GEODETTIC LEVELING:

Elevations determined by spirit-leveling of precision, number of
Lines of geodetic leveling, length of

LATITUDE, LONGITUDE, AND AZIMUTH WORK:

Latitude stations occupied, number of
Pairs of stars observed for latitude, number of
Average number of observations on a pair
Longitude stations, telegraphic, number of
Longitude stations, telegraphic, number of nights on which signals were exchanged
Longitude stations, chronometric, etc., number of
Azimuth stations, number of
Number of nights of observations for azimuth
Number of stars observed for azimuth

** Assistant J. J. Gilbert, temporary Chief of party from May 13th to 25th during sickness of Asst. C. Yates.*

GRAVITY DETERMINATIONS:

Number of pendulum stations occupied

MAGNETIC WORK:

Stations occupied for observations of the magnetic declination, number of

Stations occupied for observations of the magnetic dip, number of

Stations occupied for observations of the magnetic intensity, number of

TOPOGRAPHY:

Area surveyed in square statute miles

Length of general coast-line in statute miles

Length of shore-line of rivers in statute miles

Length of shore-line of creeks in statute miles

Length of shore-line of ponds in statute miles

Length of roads in statute miles

Topographic sheets finished, number of

Topographic sheets, scales of

Topographic sheets, limits and localities of:

HYDROGRAPHIC Reconnaissance

Area sounded in square geographical miles

Number of miles (geographical) run while sounding

Number of angles measured

Number of soundings

Number of tidal stations established

Number of specimens of bottom preserved

Current stations, number of

Hydrographic sheets finished, number of

Hydrographic sheets, scales of

Hydrographic sheets, limits and localities of:

Empty table grid for data entry.

367
17 3/2
1213
3738
4
—
—
3
40,000

Three consecutive sheets extending from Thomas Point to Point Lookout including all of main Channel

Sheet 2427 and 2428 Applied to Chart Comp. 553 Aug. 22, 1942 H.E.M.
" 2428 and 2429 " " " " 9-2-42. K.P.