

83
3174

3174

Diag-Chart-No. 77-2

Department of Commerce and Labor
COAST AND GEODETIC SURVEY

O. K. Lutzmann
Superintendent.

State: *Maryland*

DESCRIPTIVE REPORT.

Sheet No. 3174

LOCALITY:

*Annapolis
Maryland*

190

CHIEF OF PARTY:

O. W. Ferguson

C. & G. SURVEY,
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JUL 9 1910
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3174

See Topo 3084

*also
see
O. W. F.*

Form 504

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

....., Director

B. & B. SURVEY
L. & A.
DEC 23 1920
Acc. No.

State: Maryland

DESCRIPTIVE REPORT

~~Topographic~~
Hydrographic } Sheet No. ³¹⁷⁴ 3174

LOCALITY

Chesapeake Bay

Annapolis Roads

19210

CHIEF OF PARTY

O.W. Ferguson

83
SHA
3174
STA
3084

TOPC 3084 & 3084a

U. S. G. SURVEY,
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JUL 9 - 1910

Acc. No.

File Topo

File number

**Hydc
3174**

3084

Department of Commerce and Labor
COAST AND GEODETIC SURVEY

A. Wittmann
Superintendent.

State: *Maryland*

DESCRIPTIVE REPORT.

Topo 3084 & a
Hydc 3174
Sheet No.

LOCALITY:

Chesapeake Bay

1910

CHIEF OF PARTY:

O. H. Ferguson

*Topo 3084
Hydc 3174*

*
*pp. 2 to 7 of letter to Supt. dated June 30, 1910
(recd July 7, 1910), contain information that should be
a part of the descript. report*

TITAL SHEET-REVISION OF ~~CHEASPEAKE BAY~~

COAST AND
GEODETIC SURVEY
JUL -9 1910
REFERRED TO:

TRIANGULATION, TOPOGRAPHY AND HYDROGRAPHY.

DEPARTMENT OF COMMERCE AND LABOR,
COAST AND GEODETIC SURVEY.

O.H. Tittmann, Superintendent.

C. & G. SURVEY,
LIBRARY AND ARCHIVES
JUL 9 - 1910
Acc. No.

Resurvey of the Chesapeake Bay, Maryland.

Comprising its Western Shore between

Latitude 38° 55' 05" and 39° 00' 30"

and

Longitude 76° 24' 45" " 76° 30' 00"

Scale 1 : 10,000

From April 1st. 1910 to June 17th, 1910.

SCHOONER MATCHLESS.

O.W.S. Ferguson, Assistant C&G.S. in Command.

Observers,

O.W.S. Ferguson, Assistant James E. Marsh Mate, And
John W. Clift-Chief Writer and C.P. Holland/ C.B.M.

Recorders,

John W. Clift C.W. and H.W. Godsay W.2Cl.

^{am.} Leadsman,
J.B. Ireland and A.C. Pinder, Sea.

Tide Observers,

C.P. Holland, N.E. Surly, S.L. Jackson, and C.P. Foster

Coxswain,

M.L. Tabor.

Engineer,

W.W. Bray A.2E. 2C.

DEPARTMENT OF COMMERCE AND LABOR.

COAST AND GEODETIC SURVEY.

O.H. TITTMAN, SUPERINTENDENT.

Resurvey of the Chesapeake Bay, Maryland.

Descriptive Report of Topography and Hydrography ~~sheet 385.~~

Revised.

Comprising the Western Shore between

Latitude 38° 55' 05" and 29° 00' 30"

and

Longitude 76° 24' 45" and 76° 30' 00"

Scale 1 : 10,000

From April 1st. to June 17th, 1910.

SCHOONER MATCHLESS.

O.W. Ferguson, Assistant, C. & G.S. in Command.

Observers,

O.W. Ferguson, Assistant; James E. Marsh, Mate;

John ^W~~M~~. Clift C.W., and C.P. Holland C.B.M.

Recorders,

John W. Clift, C.W. and H.W. Godsey W 2cl.

Leadsman,

J.B. Ireland, Q.M. and A.C. Pinder Sea.

Tide Observers.

C.P. Hollands, N.E. Lusby, S.L. Jackson and C.R. Foster.

Coxwain,

M.L. Tabor.

Engineer,

W.W. Rray A.t.E. 2c.

Descriptive Report, Revision of Sheet 385.

Annapolis Roads

Continued.

Entrance to the River.

At the entrance to the Dredge channel at the mouth of the Severn,

Horn Point Light House bear. S. 9 W. (True), 3 Miles.

Greenbury Point Light House bear. ~~A.~~N. 39 ~~W.~~ (True) ~~2 1/4~~ Mi.

(on the north side of the Severn) and Sandy Point Light

House N. 25 E. (True) 5 1/2 Miles.

The entrance to the Severn River is guarded on the South side by Tolly Point, the higher and more prominent point in view where stands the magnificent ruins of Bay Ridge Summer Resort. On the north side of the river, Greenbury Point, (beyond the Light House) is very prominent and Hacketts Point farther up the Bay, guarding the White Hall Flats, is seen.

C O N T R O L L .

The controll of the work ~~was~~ ample from ^{the} ~~all~~ stations recovered, new ones determined and tertiaries located on the field sheets. The buoys are all located by the theodolite.

All assistance to navigation ^{are} on the sheet. The Severn River is ~~so~~ much frequented in case of threatening weather, for the oyster boats and small freighters running up and down the Bay.

F R E I G H T I N G .

Freighting in the Bay, with small schooners of 50 to 100

Descriptive Report, Revision of Sheet 385

Annapolis Roads,

Continued.

tons is still carried on extensively by the practical and efficient shippers on the Bay of very modest wealth, but at a constantly ~~shrinking~~ ^{profit} margin of ~~freight~~, because of the greater competition. One may land in Baltimore or Philadelphia with a cargo of ~~his~~ ^{him} paying \$110 freight and be obliged to wait a week for the barges ahead of him to unload.

More oysters are taken from the Bay than ever, but the price and profit to the oysterman never was so small. All of these freighters make for the Severn, for harbor, in case of unfavorable weather.

CURRENTS.

The currents about the mouth of the Severn are quite in evidence. The observation ^{made here at our current station will throw} ~~shows~~ light upon ~~this~~ subject.

SHORES.

The confines of the mouth of the Severn are subject to easterly storms of the Bay which cause a great deal of cutting, eroding, and wearing away of the headlands. The shores are made up of prominent yellow silt and clay banks, as at Point Tolly, Horn Point, Greenbury Point, and Hacketts Point, where the ground is from 18 to 40 feet high, which are slowly but constantly wearing away. Between the points the shores are lower and more protected and not wearing away. So, as might be expected, there are many shoal areas of water, requiring frequent buoys to aid the pilot.

Descriptive Report of Sheet 385, Annapolis Roads.

Continued.

There is a dredged channel, well buoyed, that did afford a depth of 30 feet, but about 27 ft. is all that could be found now.

The U. S. "Iowa" drawing 27 feet of water, anchored off the mouth of the Severn, for two or three weeks, because, as I was informed, there was not depth enough to admit her. All of the bottom seems to be free from rock. The only rock that I noticed was a soft sand or clay rock under the high banks at the water line, some chunks of them on Hacketts Point and some near Station Bluff, opposite the Academy.

W A T E R F O R V E S S E L S .

At the Steam boat wharf water is sold to vessels, also the Naval Academy wharves are well supplied with water, and I was allowed all I needed for ship and launches, gratis.

T O W N S .

Annapolis the location of the State Capitol and ~~head~~^{scat} of the U. S. Naval Academy is the only town excepting Eastport, lying on Horn Point, between Spaw and Back Creeks, a new town that has sprung up at the side of Annapolis.

S U R F A C E .

The surface is undulating, rarely level, rising from 2 feet to 40 feet below Annapolis. Annapolis rises to 56 feet and the ground on the opposite ^{side} of the river and above, ~~the rises~~ to 90 and 100 feet.

No. 6.

Descriptive Report. Revision of Sheet 385, Annapolis Roads.

Continued.

O C C U P A T I O N .

The people outside of Annapolis are engaged in farming, trucking, oystering, fishing and crabbing. Some of the miscellaneous products are poultry, vegetables, grain, etc, but it is noticable what a large amount of common food is shipped into Annapolis, showing that this section is very far from being self supporting.

L. & A.

✓
The table of statistics attached
hereto belongs with the map sheet.

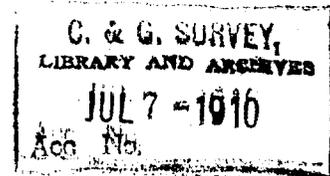
✓ pp. 2 to 7 of this letter might
well be attached to the descriptive
report.

C. H. S.

7/12/10

Newport News, Va.

COAST AND
GEODETIC SURVEY
JUL 7 1910
REFERRED TO:



SCHOONER "MATCHLESS".

Newport News, Va/ June, 30, 1910.

Mr. O. H. Tittman,
Superintendent C. & G. Survey,
Washington D. C.

Sir:

I have the honor to make the following report upon completing the revision of the Annapolis Roads and vicinity (Chart No, 385) as ordered in your instructions of March 26, 1910.

This work comprised Triangulation, Topography Hydrography, Leveling , Gauging, and observations for the declination of the Needle and Current workup at one station.

The seasons work extended from April 1, to June 17, 1910. All old triangulation stations were either recovered by inspection, by sighting in from known points or proven to be gone.

The important stations Horn Point 1903, Start 1906, and Hackett 1906 were gone, also station Greenbury Point 1906 was washed away before the close of the field work. all four of these were replaced by new stations of a very permanent nature; and, in all , six permanent reference marks and eight tree reference

reference marks were established.

Eleven triangulation stations were occupied and their references, descriptions and sketches made up in complete manner. the record books were checked by myself, abstract of angles made, lists of directions were first made directly from the field books and then checked by the abstracts of angles. The position of eight points were computed, two of which are the Chapel Dome and the Power House Stack of the U.S. Naval Academy, both most conspicuous and new objects. From the geographical position furnished, of objects still in existence and the new position computations, a new line was made and presented herewith, giving all geographical positions computed, of objects at present in existence. Twenty three tertiary objects were also observed, computed and checked, giving ample control for the topography and hydrography. All points the geographical position of which were known, both old and new, were plotted on chart 385, which was but little distorted, and then all points in the computation of triangles were plotted. Whenever there was but one triangle and no check, the angle at the object was observed by the sextant, practically closing the triangle and thus giving a check.

For the computation of the new work of triangulation the line Greenbury Point Light House to Station Fort, 1903 was used.

There are so many buoys and day marks here in the Severn River that I located them all by the theodolite. These positions were later verified and soundings made at the buoys and numbers supplied by the hydrographic party. However, such day marks are sufficiently accurately located by the hydrographic party when they take the pains to go close alongside, when the signals are well located, which should always be the case.

A complete list of all stations with descriptions sketches and positions is given in record book no. 3 pages 13 to 34.

TOPOGRAPHY.

The above triangulation stations and tertiary points were all plotted on chart 385, furnished, and then transferred to two sheets, one to be used as a boat sheet and the other as a planetable sheet.

It seemed necessary to rerun the whole shore line, as many parts of it have changed. A very meagre shore line was shown on the old chart, with no contours and in some places the topography was a little out of place.

The contours of Annapolis city were located

from the old city map and from elevations determined while running levels to various Bench Marks. The contours of the main shore line was taken in ^{the} regular topography and the contours of the creek determined by inspection and a few elevations with the plane table. The chart 385 was quite erroneous in respect to the ground of the Annapolis Military Academy; it being partially the old plan and partially the new development. The topographical sheet (first on paper then copied on vellum) sent herewith shows the main features in proper place and shape; the details can be filled in from the late and correct blue prints that I obtained of the Superintendent Captain Boyer of the Academy and which accompany this report.

H Y D R O G R A P H Y .

The banks of the Severn especially near its mouth, are quite exposed to the eastern storms, and Hacketts Point, Greenbury Point, and Horn Point have been cutting away for a long period and the shifting material has changed the depths even recently. The channel dredged to thirty feet seemed to be filling up slowly.

A boat sheet, well supplied with controlling points, located by the triangulation, including all

buoys was made to cover that entire region. I found it convenient and advisable to make a good hydrographic survey of the entire region.

A smooth sheet, on vellum was made from chart 385, furnished, and all the stations and signals transferred to it. This vellum smooth sheet then received the new hydrography and new topography and contours showing the condition of the shore, and depth of water as found.

T I D A L P L A N E S .

A very thorough job was done in determining the tidal planes. In 1898 a guage was observed at Greenbury Point Light House for a long time and a bench mark was located at that time. This Bench Mark was recovered and marked, though it had not been marked, and a staff guage was set to exactly the same height as the one of 1898. Also a guage was set near the south east corner of the Naval Academy grounds. Simultaneous observations were read on these two guages, every fifteen minutes, for twenty four hours, during good weather, and a transfer of planes to the Annapolis guage thus accurately effected, and the Mean Low Water for reducing soundings on this 1910 guage was one of these planes

found and used.

Furthermore the high and low tides were observed on this Annapolis gauge during two lunations, which agree fairly well with each other and the reasonable mean taken, found the tidal planes on this 1910 gauge agreed more exactly with those found by the simultaneous observations.

B E N C H M A R K S .

Thorough search and investigation was made concerning the large list of Bench Marks in Annapolis, furnished by the Tidal Division. Three of them were recovered, all others were destroyed by reconstruction, or other causes. Two new and important Bench Marks, not in the above list were found, (1) The Naval Academy Standard B.M., top of a marble post, even with the ground on the Campus, and (2) The U.S. Geological B.M., a plate set in the southeastern corner of the old portion of the Court House; ^{also} ~~and~~ the two new and permanent Gauge B.M. (A & B) were established on King George Street. All of these Bench Marks were connected with the 1910 Annapolis gauge and with each other by duplicate lines of Y levels, and, as a further guarantee of correctness the farther B.M. was again connected with the gauge by

a single line of which, agreeing very closely with the duplicate work, of course was not duplicated.

The old Bench Mark's found were a foot less in elevation above my mean tide than given in the lists above "Mean Half Tide". The field notes, reductions, descriptions, and elevations are given on the ~~last~~ 16 pages of the Gauge Book No. 1, and the results discussed.

THE DECLINATION OF THE MAGNETIC NEEDLE

was determined at Station Greenbury Point 1910 by ten pointings to the South magnetic pole, reading both ends of the needle, and then by ten pointings to the North magnetic pole, reading both ends of the needle. The two results differed only twelve seconds and are transmitted herewith on special forms.

T I D A L C U R R E N T S were observed over two ~~slacks~~ ^{where} at the entrance of Severn River, the current seemed to be quite a feature, interfering materially with the direction of steering the hydrographic boat.

The Geographical Positions, List of Description of Stations furnished, List of Description of Bench Marks and Elevations furnished and 1898 Greenbury Tidal data furnished are all returned, with note, bringing the information to date.

In making this revision I have had no technical assistance, but Mr. James E. Marsh, Mate, did the hydrography. Mr. George Dodie who joined the party on June 1, has assisted in the closing work.

Transmitted herewith is:-

- 1 Progress Sketch,
- 1 cahier Abstract of Angles,
- 1 " List of Directions,
- 1 " Computations of Triangles,
- 1 " Computation of Geographical Positions,
- 1 " Geographical points furnished, with notes,
- 1 " List of Descriptions furnished, with notes,
- 1 " Containing the following: High and Low tides during two Lunations and reductions, Comparison of Simultaneous Observations (1) Annapolis Gauge 1910 (2) Greenbury Point Gauge, Determined by B.Ms. of December 1898.
- List of Descriptions furnished of Annapolis B. Ms. with notes.
- List of B. Ms. and Elevations furnished with late result and notes,
- Greenbury Point Tidal Data with notes.
- 1 cahier, Determination of Declination of Magnetic Needle on Greenbury Point, Annapolis.
- 1 volume, containing some Current Observations at the entrance of the Severn River.
- 1 Original printed chart 385, the projection of which is used as a Standard of Accuracy, and upon which all Station Signals and points used were first plotted and named.
- 1 Boat Sheet, covering the entire area, plotted from the above. 1 Field Topographical Sheet, points on which were located from 385 above.
- 1 Smooth Hydrographic Sheet on Vellum upon which also is plotted the topography, contains ~~wups~~ ^{enough} sufficient portion of Annapolis to enable an excellent tie up with the true blueprints sent with this report and which will enable the draughtsman to put on walks and drives as they are now completed. The streets of the town are well shown on 385.
- 1 Statistical Sheet. ~~AND 2 SHEETS, STATISTICS OF HYDROGRAPHY.~~
- 1 ~~Field Sheet of topography in ink~~

Respectfully Submitted, *O. W. Ferguson.*
Assistant

ASSISTANT IN CHARGE
ASSISTANT IN CHARGE

Post-Office Address: U. S. Schr. Matchless. City Point, Va.

Telegraph Address:

Express Order:
COAST AND GEODETIC SURVEY
NOV 18 1910
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Department of Commerce and Labor
COAST AND GEODETIC SURVEY

RECEIVED
BY ASSISTANT IN CHARGE
AND REFERRED TO
NOV 18 1910
INS. H. & T.
D. & E. DIV.

Assistant in Charge

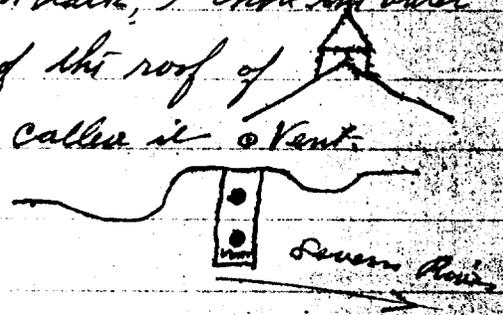
U. S. Schr. Matchless. City Point, Va.
November 16th 1910

Mr. O. W. Littmann,
Superintendent.

Sir;

I have the honor to acknowledge the receipt of your letter of the 14th instant. I do not remember the exact location of the "Smoke Stack" on the large Experiment Building spoken of, I remember ^{however} it well, and that from some places it shows up good, but being rather behind the bluff, above, it does not show from of the river, so, instead of locating the Chimney, or iron stack, I show the outer one of the two ventilator on the peak of the roof of the large Experiment Building. and call it a Vent.

There are two of these ventilators



Respectfully Yours
O. W. Ferguson
Assistant

STATISTICS Sheet # 385.

3174
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 JUL 1910
 Acc. No.

DATE 1910.	Letter	Vol.	Positions	Soundings	Miles Statute	Vessels.
April 30	a	1	64	532	12.5	Launch
May 2	b	1	80	623	14.3	
3	c	1	8	57	1.15	
4	d	1	35	265	6.4	
5	e	1	3	16	0.35	
6	f	1	69	547	12.9	
6	g	2	79	621	14.5	
7	g	2	52	317	7.55	
9	h	2	9	51	1.25	
10	i	2	97	729	16.5	
17	k	3	52	382	8.6	
24	l	3	64	443	10.6	
25	m	3	13	95	2.5	
26	n	3	107	782	18.3	
27	o	4	77	541	13.25	
June 6	p	4	62	283	5.8	
7	r	4	8	59	0.9	
15	s	4	43	290	3.8	
	17	4	922	6543	151.15	
June 6	a	1	62	378	8.2	Whaleboat
7	b	1	33	201	4.2	
	2	1	95	579	12.4	
RECAPITULATION						
Steam Launch	17	4	922	6543	151.15	
Whaleboat	2	1	95	579	12.4	
	19	5	1015	7122	163.55	

Added & verified by J. L. Smith

V.E.C.
July 27,
1910.

HYDROGRAPHIC SHEET NO. 3174.

DAEDW
CRB
7/28/10

Annapolis Roads, Chesapeake Bay, Maryland, by
Asst. O. W. Ferguson in 1910.

TIDES.

	Fish Wharf Annapolis
	ft.
Mean low water, or plane of reference on staff	4.0
Lowest tide observed " "	0.7
Highest " " " "	7.1
Mean range of tide	0.9

Coast and Geodetic Survey
JUL 27 1910
TIDAL DIVISION.

Hyd. Sheet No. 3174

Sept 6 1910

There are several places in the channel where additional soundings should have been taken in order to develop the line of deepest water as it is barely possible that the 30 ft depth can not be carried as indicated by the curves.

There are also areas in shore where the curves can not be drawn on account of lack of development.

The crossings are very good.

H. L. Linn