5198

Form 504
Ed. June, 1928

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
R.S. PATTON, *Director*

State: MARYLAND

DESCRIPTIVE REPORT

~~*Topographic*~~
Hydrographic } *Sheet No.* 2
5198

LOCALITY

CHESAPEAKE BAY - WEST SIDE

Bay Ridge - Severn River

Hackett Point

1932

CHIEF OF PARTY

L.O. Colbert

U. S. GOVERNMENT PRINTING OFFICE: 1931

5198

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Form 537
Ed. Sept., 1929

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. 5198

HYDROGRAPHIC TITLE SHEET

The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No. 2

REGISTER NO. 5198

State MARYLAND

General locality CHESAPEAKE BAY - ~~WEST SIDE~~
Hackett ~~Hatchett~~ Pt. and Vicinity to Bay Ridge

Locality ~~BAY RIDGE - SEVERN RIVER - HACKETT POINT~~

Scale 1-10,000 Date of survey March - May, 19 32

Vessel U.S.C. & G.S.S. OCEANOGRAPHER

Chief of Party L.O. Colbert

Surveyed by L.C. Wilder and Fred Natella

Protracted by Fred Natella

Soundings penciled by Fred Natella and E.L. Jones

Soundings in ~~fathoms~~ feet

Plane of reference MEAN LOW WATER

Subdivision of wire dragged areas by ------

Inked by ------ J T Walker

Verified by ------ J.T.W.

Instructions dated February 24, 19 32

Remarks:

U. S. GOVERNMENT PRINTING OFFICE: 1929

DESCRIPTIVE REPORT

TO ACCOMPANY HYDROGRAPHIC SHEET NUMBER 2

U.S.C. & G.S.S. OCEANOGRAPHER

L.O. Colbert, Commander, Commanding

PROJECT NUMBER H.T. 95

INSTRUCTIONS:

The hydrography on this sheet was performed in accordance with the Director's Instruction, dated February 24, 1932.

LIMITS AND SCALE:

This sheet was surveyed on a scale of 1-10,000. The area includes the lower part of the Severn River and its approaches, also known as Annapolis Roads, Lake Ogleton, Back Creek, Carr and Little Carr Creek, Mill Creek, Whitehall Creek and Crabbing Point Creek. Triangulation station "Peggy", Latitude 38°-55'-40.4", Longitude 76°-27'-49.6", is the southern limit of the sheet where it joins Hydrographic Sheet H 5197 (field number 3). A line across the Severn River from triangulation station "Horn", Latitude 38°-58'-20.6", Longitude 76°-28'-29.3", to triangulation station "Fort", Latitude 38°-58'-57.6", Longitude 76°-27'-48.2", where it joins Hydrographic Sheet H5199 (field number 1), is the northwest limit. Hydrographic signal "Fri", Latitude 39°-00'-0", Longitude 76°-24.6', where it again joins Hydrographic Sheet H5197 (field number 3), is the northern limit. The hydrography is carried to well beyond the five fathom curve for the eastern limit.

CONTROL AND SURVEY METHODS:

The control consisted of second order, main scheme and intersection triangulation stations supplemented by topographic signals located by the topographic party. A sufficient number of signals were established so that the sounding lines were held fixed by rigid control.

There were no deviations from the standard methods of survey. Lines were generally run on ranges and positions were obtained from three point sextant fixes on shore objects. Occasionally, especially on inshore ends of lines and on cross lines in the creeks, where a three point fix was not available, either a direction and a distance to a signal was estimated, provided the distance was less than 20 meters, or the distance to the high water line estimated and one sextant angle between two signals measured, to fix the end of the line.

From the beach to the one fathom curve and in the several creeks , a whaleboat, pulled by four oars, was used in surveying and the soundings obtained by a graduated pole except in the creeks where the depth exceeded the length of the pole, a hand lead was supplemented. From the one fathom curve to the off-shore limits, a hydrographic launch, loaned to this party by the ship HYDROGRAPHER, was used and soundings were obtained by hand lead.

Whaleboat lines, except in creeks, were, in general, run normal to the beach. All launch lines were run parallel to the axis of the main channel of Severn River. The general spacing of lines, with few exceptions, was 100 meters. The region around Hackett Point, from the beach to the one fathom curve, was developed with lines spaced

50 meters apart, in accordance with the instructins. The area off Chink Point was developed with a closely spaced system of lines at the request of the Annapolis Metropolitan Sewage Commission who are building a sewage system in that area. The main Severn River channel was developed with a system of closely spaced lines parallel to its axis, to determine as far as practicable, the edges of the dredged channel.

The launch work from "a" to "j" days was executed by the Training Section under the direction of L.C. Wilder. Each member of the training section was assigned to a particular task and each succeeding day the men were shifted about until all had performed each of the various operations of a sounding party at least once. This constant shifting brought these men to face tasks entirely unfamiliar to them. It is obvious, then, that during this entire interval, the work was performed by inexperienced personnel. This point is brought out so that it may be given some consideration when deciding whether to accept or reject questionable soundings that occurred during this period. An inexperienced leadsman, especially, is prone to make errors in reading the lead line. All questionable soundings obtained during this period were examined at a later date.

The remainder of the launch work and all the whale-boat work, was performed by personnel regularly attached to the ship who had had previous hydrographic experience, either on this project or on previous assignments.

DISCREPANCIES:

In general, soundings crossed quite satisfactorily, usually within one foot and occasionally under two feet. Most of the discrepancies noted below occurred at crossings where there was

an abrupt change of slope on the bottom.

The following were the outstanding errors noted:

1. Whitehall Creek, line 49 s - 50 s, 10 feet crosses line 38 s - 39 s, 3 feet. The 3-foot sounding should be shifted closer to the beach. The 10-foot sounding has been plotted at the crossing.

2. Mill Creek, line 63 q - 64 q, 4½ feet crosses line 68 q - 69 q, 9½ feet. The 4½-foot sounding should be shifted closer to the beach. The 9½-foot sounding has been plotted at the crossing.

3. Ogleton Lake, position 76 p with 4½ feet falls on 7½ feet of line 71 p - 72 p. No account can be given for this discrepancy since position 76 p is reliable. It is recommended that 4½ feet be accepted

4. Launch position 48 g with 19-foot sounding is incorrect by one fathom as proved by whaleboat line 83 f - 84 f which crosses it. The 19 has been replaced by a 13-foot sounding.

5. The 35-foot sounding on whaleboat line 61 k - 62 k is, without question, an error of either recorder or the leadsman. Its rejection is recommended.

6. Launch position 5'r with ~~with~~ sounding of 15 feet is apparently one fathom in error. The sounding has been rejected.

7. In the main channel, line 40 m - 42 m has soundings of from 27 to 29 feet, and running parallel to it and just slightly to the left, line 38 r - 41 r has soundings of from 24 to 26 feet. The soundings of the latter line have been plotted in preference to the deeper soundings of the adjacent line in order to show the edge of

Near buoy 32 west of Hackett Point at 110 J Vol 5 P 17, a 19 was recorded with surrounding depths of 13. This sounding was apparently recorded 1 fath too deep and was changed accordingly. JW

the dredged bank.

8. Launch line 120 ~~n~~ - 121 ~~n~~ has a 6½-foot sounding between 11½ and 12 feet. The spot was thoroughly examined on "r" day and no evidence of a shoal was found. It is believed that the sounding is one fathom in error. The 6½ has been changed to 12½.

9. On launch line 104 r to 105 r two soundings of 8 feet and 8½ feet respectively occur between 13 and 15 feet. There is nothing in the vicinity to indicate the presence of a shoal. The 14½-foot sounding just east of the 8½-foot sounding, was transferred from the 1-20,000 sheet as further proof of the absence of any shoal. An inexperienced recorder came out with the party on that day and failed to bring the unusual soundings to the attention of the officer in charge; otherwise the spot would have received further examination. The two soundings do appear to be in error by one fathom. It is, therefore, recommended that they be replaced by 14 and 14½ feet.

10. A thorough investigation was made of the 2-foot sounding appearing on chart off Tolly Point, Latitude 38°-56.2', Longitude 76°-26.3'. 4½ feet was the least depth found in that region. It is recommended that the 2-foot sounding be removed from the chart.

SHOALS AND DANGERS TO NAVIGATION:

In accordance with the instructions, a thorough examination was made of the region in search of wreck reported lying in Latitude 38°-59.4', Longitude 76°-24.3'. Nothing was found that bore out its presence. This party is of the opinion that the wreck no longer exists.

The small , triangular island, Latitude 38°-59.4', Longitude 76°-25.2', was located by the hydrographic party with three point sextant fixes at its three verticies. Part of the island is covered with short, stubby grass and the remainder is covered with sand.

The highest elevation is found along the eastern edge which, at the time the party visited the island, protruted vertically from 2⅛ to 3 feet above the surface of the water. It was later learned, upon consulting tidal data, that at that time, the stage of the tide was at exactly mean low water. Since the mean range of tide in that locality is only 0.9 feet, it is evident that a portion of that island is exposed at all times.

The crest of the sand bar running northwest from the island, extended about one foot above the surface of the water while the one running southwest towards signal "June" was flush with the surface. The three "rock awash" symbols about 60 meters north of the island are three stone jetties similiar to those found along the beach of Hackett Point, placed there, undoubtly, to prevent erosion when that region connected with the mainland.

Extensive shoals make out from Hackett, Greenbury and Tolly Points. The one fathom curve parallels the beach all around Hackett Point at a distance of from 0.4 to 0.6 miles, and not infrequently three and four foot soundings are found just inshore of the curve. There is an outcropping of a rocky ledge at Hackett Point. Similiarly, off Greenbury Point, the one fathom curve parallels the beach at about the same distance, from the south around to the eastward of the neck. A 3-foot sounding is found just inshore of the curve about 0.4 mile south of the point and 200 meters west of Greenbury Point Shoal Lighthouse. A 1-foot sounding is found about ¼ mile east of signal "Tuk".

The shoal off Tolly Point extends to about ¾ miles southeast of the point with several 4½ and 5-foot soundings at that distance.

The flat off Chink Point has about one to one and one-half feet of water at mean low water. The region was worked during an abnormal minus tide. The whaleboat could get no closer to the beach than is shown on the sheet.

CHANNELS AND CREEKS:

The Annapolis Roads channel is the only one of importance in this region. The buoys marking the channel have changed considerably in position from the positions shown on the chart. The red buoys, although shifted in a northwest, southeasterly direction, are still located approximately on the eastern edge of the dredged channel. The black buoys, however, are at least from 30 to 50 meters west of the western edge of the channel. That edge of the channel now lies almost midway between the two lines of buoys.

Limited as the party was to develop so narrow a channel on so small a scale, no definite conclusion could be reached as to the extent of changes that occurred in the channel. Evidence was found, however, to show that the channel proper has narrowed and shoaled to a slight degree.

This channel is used by all types of vessels up to a draft of twenty feet. Besides vessels of the Naval Academy, the Lighthouse Service and the ferry boats that run to Claybourne and Mattapeake, the channel is used by a number of yachts and a host of fishing, crabbing and oyster smacks, of many sizes and types, that are harbored in the numerous tributaries of the river.

The general depth of the water in Lake Ogleton, Back Creek, Mill Creek, Whitehall Creek and Crabbing Point Creek ranges from 9 to 13 feet. Whitehall Creek is the only one that has a well defined channel of entrance of the same general depth as the creek. Sand bars and shoals surround the entrance to the other creeks with evidence of constant shifting and shoaling. The channels are very narrow, crooked and difficult to find and, their depth is a great deal shoaler than the general depth of the creeks. Only one line of soundings could be run into Back Creek and $3\frac{1}{2}$ feet was found to be the controlling depth. Similiarly, only one line could be run into Lake Ogleton and the controlling depth was found to be 2 feet.

The deepest sounding found across the narrow gap into Mill Creek was 6 feet just north of the narrow sand spit.

Six and one-half feet, believed to be the controlling depth, was found across the opening into Crabbing Point Creek about 10 meters west of the right hand point looking upstream.

These creeks are used by crab, oyster and clam fishermen, whose boats are small and of shallow draft.

TIDAL NOTE:

Soundings were reduced to mean low water from tidal data obtained from the standard gauge located on Santee Wharf, U.S. Naval Academy, Annapolis, Maryland. The gauge is maintained and operated by the Academy. The tidal data was furnished to this party by the Office. The plane of reference for mean low water was 3.9 feet on the staff.

On several occasions during this assignment, the party had occasion to note the influence the wind had on the tide in this locality

of so small a mean tidal range. With the wind blowing for several days from the north or northwest, the tide level in the river would reach an abnormal low of about -1½ feet to -2 feet and with the wind shifting and blowing constantly in the opposite direction, the tide would rise to a correspondingly abnormal high level. It may be said that the wind alone increased the tidal range from .9 feet to about 3 or 4 feet.

Respectfully submitted

Fred Natella

Fred Natella, Lieut.(jg), C&GS.,

Approved and Forwarded

L. O. Colbert.

L.O. Colbert, Comdr., C&GS.,
Commanding Ship OCEANOGRAPHER.

Applied to new chart 550
Oct 1934 NHC.

STATISTICS

LAUNCH:

Day	Statute Miles of Sounding lines	Number of Positions	Number Soundings
a	14.3	81	409
b	23.1	113	639
c	21.8	103	535
d	12.6	74	362
e	4.4	25	127
f	7.0	45	243
g	16.3	105	512
h	9.5	100	373
j	14.0	133	629
k	15.2	172	863
l	15.4	157	880
m	5.6	54	316
n	15.1	128	747
p	18.0	137	782
q	9.3	87	478
r	10.0	119	867
Totals	287.6	1633 1858 3491	8762 8991 17753

STATISTICS

WHALEBOAT:

Day	Statute Miles Sounding Lines	Number Positions	Number Soundings
a	9.9	145	681
b	6.3	108	482
c	7.2	125	586
d	3.1	57	273
e	8.3	115	561
f	6.9	117	550
f'	1.0	22	98
g	6.8	103	543
h	9.5	157	792
j	9.7	120	762
k	9.5	126	665
l	0.5	16	86
m	9.2	122	629
n	3.2	68	279
p	4.8	76	415
q	4.6	71	296
r	6.2	101	417
s	3.5	57	234
t	5.5	97	386
u	3.5	55	256
Totals	119.2	1858	8991

AREA: 13.2 square statute miles

RQE

September 7, 1932.

Division of Hydrography and Topography:

Division of Charts:

Tide Reducers are approved in
13 volumes of sounding records for

HYDROGRAPHIC SHEET 5198

Locality Hackett Point and vicinity to Bay Ridge, Md.

Chief of Party: L. O. Colbert in 1932
Plane of reference is mean low water, reading
3.9 ft. on tide staff at Annapolis
5.8 ft. below B. M. 1

Condition of records satisfactory except as checked below:

1. Locality and sublocality of survey omitted.
2. Month and day of month omitted.
3. Time meridian not given at beginning of day's work.
4. Time (whether A.M. or P.M.) not given at beginning of day's work.
5. Soundings (whether in feet or fathoms) not clearly shown in record.
6. Leadline correction entered in wrong column.
7. Field reductions entered in "Office" column.
8. Location of tide gauge not given at beginning of day's work.
9. Leadline corrections not clearly stated.
10. Kind of sounding tube used not stated.
11. Sounding tube No. entered in column of "Soundings" instead of "Remarks".
12. Legibility of record could be improved.
13. Remarks.

Paul P. Whitney

Chief, Division of Tides and Currents.

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. 5198

The following statistics will be submitted with the cartographer's report on the sheet:

Number of positions on sheet	3491
Number of positions checked	1381
Number of positions revised	32
Number of soundings recorded	17753
Number of soundings revised	*
Number of signals erroneously plotted or transferred	0

Date: Nov 11, 1932

Cartographer: J. F. Walker

* Most of the soundings up to 19 feet were recorded in half feet. Otherwise the soundings were mostly correctly plotted.

Section of Field Records

Report on Sheet H5198
Chief of Party I O Colbert
Protracted by F. Natella
Verified and inked by J. Walker

Surveyed in March-May 1932
Surveyed by I C Wildy and F.N.
Soundings plotted by F.N. and E.S. Jones.

I. The sounding records were neat, complete, and otherwise satisfactory. No list of the signals was found on the title page of the first volume as the manual calls for.

II. The protracting was quite accurate and was satisfactory.

III. The soundings were plotted according to time and were neat and legible. Most of the soundings up to 19 feet were plotted to the half foot. The crossings were good - being within two feet.

IV. The sheet, when received, was clean and neat. However the paper was wrinkled in some places. Except as otherwise noted the sheet conformed to the requirements of the Hydrographic Manual.

V. The overlap with H5197 and H5199 was adequate and the agreement of soundings was two feet or less.

VI. At the entrance to Crabbing Bint Creek a few more soundings would have helped materially in establishing the six foot curve. Similarly at the Mill Creek entrance it is not clear if six feet is the controlling depth or not.

The 16 foot sounding (Lat. 38°-59½' Long 76°-24' +160m) is probably in error by 6 feet, unless by chance the wreck was struck which is charted 360 m. S.W.

Black Spar buoy No.7 (Lat 38°-57' +1540m Long 76°-27' +1235m) is located in the records in Vol. 10 p. 54. It was not shown by the field on the smooth sheet, boat sheet, or topo sheet. It is not shown on the 1st Prof. chart. It may be a temporary buoy as noted at 84 blue j dog for another buoy.

VII. A rough comparison was made with the chart (385) and many changes were found to have taken place justifying this new survey of the area.

Respectfully submitted

J. F. Walker

11/11/32

Add'l Work – H-5198

Jan. 8, 1933

Surveyed – Dec. 1932
Chief of Party – J. A. Bond
Surveyed by – F. R. Gossett
Protracted & penciled by – W. H. Bamford
Verified & Inked " – Harold W. Murray

1. Additional work was made in accordance with instructions recommended in the Reviewer's report. The areas surveyed are in approximate lat. 39°56.8, long. 76°26' and lat. 39°58.2, long 76°27'.

2. Soundings & crossings are generally consistent.

Respectfully submitted.

Harold W. Murray

January 6, 1933

Division of Hydrography and Topography:

✓ Division of Charts:

Tide Reducers are approved in
1 volumes of sounding records for

HYDROGRAPHIC SHEET 5198 (Additional Work)

Locality Severn River Entrance, Chesapeake Bay, Maryland

Chief of Party: John A. Bond in 1932
Plane of reference is mean low water, reading
3.9 ft. on tide staff at Annapolis
5.8 ft. below B. M. 1

Condition of records satisfactory except as checked below:

1. Locality and sublocality of survey omitted.
2. Month and day of month omitted.
3. Time meridian not given at beginning of day's work.
4. Time (whether A.M. or P.M.) not given at beginning of day's work.
5. Soundings (whether in feet or fathoms) not clearly shown in record.
6. Leadline correction entered in wrong column.
7. Field reductions entered in "Office" column.
8. Location of tide gauge not given at beginning of day's work.
9. Leadline corrections not clearly stated.
10. Kind of sounding tube used not stated.
11. Sounding tube No. entered in column of "Soundings" instead of "Remarks".
12. Legibility of record could be improved.
13. Remarks.

Paul P. Whitney

Chief, Division of Tides and Currents.

Section of Field Records
Review of Hydrographic Sheet No. 5198
Hackett Point and vicinity to Bay Ridge,
Chesapeake Bay, Maryland.
Surveyed March - May 1932
Instructions dated Feb. 24, 1932 (Oceanographer)
Chief of Party - L. O. Colbert
Surveyed by L. C. Wilder and Fred Natella
Protracted by Fred Natella
Soundings plotted by F. N. and E. L. Jones.
Verified and inked by J. T. Walker.

1. The records are neat and legible and generally conform to the requirements of the Hydrographic Manual except that the Index was not completed nor was a list of signals furnished. Lead-line soundings in the whaleboat's records were converted mentally to feet before entering in the record. This should be avoided as it is provocative of errors.

2. The plan and extent of development satisfy the specific instructions.

3. Soundings generally are consistent and the crossings are in good agreement. A sounding of 16 feet in lat. 38° 59'.5 long. 76° 24'.1 is unsupported by previous surveys but there is some irregularity of bottom in the vicinity and it does not seem advisable to reject it. A number of flag buoys are noted in the records but not plotted on the sheet. They were placed by the sanitary engineer and are of a temporary nature.

4. Depths curves can be satisfactorily drawn.

5. Junctions with H-5199 and H-5197 are satisfactory except that the junction with the latter at the northeast corner of H-5198 makes a rather irregular 30 foot curve. It is partly supported by the previous survey (H-2402) which shows depths of 30½ and 31½ in the vicinity.

6. Comparisons with previous surveys (H-3174 of 1910, H-2402 of 1898, H-1842 of 1888 and H-1077a of 1871) show a remarkable agreement in general details. Entrances to the several creeks have changed, mostly by shoaling. Back Creek has shoaled about 2 feet, the others are about the same depth. The shoals extending off the several points have changed very little.

7. Chart 1225 shows a wreck symbol in lat. 38° 59'.5 long. 76° 24.'3 (see H-2402). This wreck was searched for but not found and is believed to no longer exist and should be expunged from the charts. Chart 385 shows the improved channel to have "29 feet on center line Oct. 1924." The survey shows 21 feet as the controlling depth though the Descriptive report is not definite in its statement relative to this channel. The location of the

several buoys (aids to navigation) at the time of survey are shown on the sheet (H-5198). The 2 foot depth charted off Tolly Point is to be expunged from the chart. (see Descriptive Report).

8. Recommendations. This sheet (H5198) should supersede all previous surveys for charting purposes for the area covered by it.

9. Additional development is needed at several places in the channel, particularly at buoy S12. No other surveying is deemed necessary.

10. Reviewed by R. J. Christman, Nov. 23, 1932.

11. As indicated in paragraph 9 the original survey failed to completely develop the channel. Mr. Bond was instructed to do additional work which was accomplished in December. The survey is now adequate and no further work is required.

E. P. Ellis,

January, 1933.

Examined and approved,

L. O. Colbert.
Chief Sect. Field Records.

L. O. Colbert.
and Chief Div of Charts.

Chief, Section Field Work.

Chief Div. Hyd. & Top.