

6371

U. S. COAST & GEODETIC SURVEY
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Acc. No.

Form 504
Rev. April 1935
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

~~Topographic~~ } Sheet No. H-6371
Hydrographic }

State Maryland

LOCALITY

Chesapeake Bay

Eastern Shore

Betterton to Worton Pt.

1938

CHIEF OF PARTY

F. L. Gallen

U. S. GOVERNMENT PRINTING OFFICE

6371

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

AUG 30 1939

REG. NO.

Acc. No.

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.

H6371

Field No. 1013.....

REGISTER NO. H-6371

State Maryland.....

General locality Chesapeake Bay.....

Locality Betterton to Worton Pt.
Sassafras River.....

Scale 1:10,000..... Date of survey July-August....., 19 38

Vessel Launch MIKAWA-sub party.....

Chief of Party F. L. Gallen.....

Surveyed by E. B. Brown, Jr......

Protracted by George E. Varnadoe.....

Soundings penciled by George E. Varnadoe.....

Soundings in-fathoms feet

Plane of reference M.L.W......

Subdivision of wire dragged areas by

Inked by R.H. Carstens.....

Verified by R.H. Carstens.....

Instructions dated March 31....., 1938

Remarks:

DESCRIPTIVE REPORT

To Accompany Hydrographic Sheet H-6371 (1938)

INSTRUCTIONS - March 31, 1938

Project HT-215

LIMITS

Chesapeake Bay - Eastern Shore, Betterton to Worton Point.

SURVEY METHODS

The projection, shoreline, triangulation stations, and air photographic signals were printed on the sheet in the Washington Office. The air photographic signals were located by radial plot by the air photographic party of Baltimore, Maryland. The signals on the sheet in red circles are well defined points that could be identified on the field prints of the nine lens air photographs and located on the sheet compiled from the five lens photographs. It was necessary that this method be used because the positions of these signals were needed before the new sheets were drawn from the nine lens photographs. The signals shown on the sheet in green circles were spotted, with respect to the shoreline, on the nine lens air photographs and located as were the signals in red. Signal Row is an air photographic signal that was transferred from sheet H-6370. The signals shown in blue were located by sextant cuts, taped distances, sextant distances, sextant fixes, or a combination of these methods; using the triangulation stations and air photographic signals as control.

DANGERS

At Lat. 39 23.5, Long. 76 04, the ship channel is bounded by 17 and 18 foot shoals. However, the channel is well marked and the shoals easily avoided.

At Lat. 39 21.1, Long. 76 08.4, shoal points of 9 to 10 foot depths extend 1/3 mile off shore at Meeks Point. The ship channel passes about 1 mile off these shoals.

At Lat. 39 20.2, Long. 76 10.5, a broad shoal point extends about 3/4 mile off Plum Point. The shoalest depth over the point is 6 feet. The offshore end of the shoal is marked with nun buoy No. 6.

At Lat. 39 19.5, Long. 76 11.5, a broad shoal point extends about 2/3 mile off Worton Point. The controlling depth over the offshore end of the point is 8 feet and over the inshore end of the point is 6 feet. The offshore end of the shoal is marked with Flashing Red Buoy No. 4.

At Lat. 39 20, Long. 76 08.3, shoals of 2 to 3 feet depths extend 150 meters offshore. It is believed that these shoals are the ones mentioned as rocks in section C of the Atlantic Coast Pilot, pg. 300 in paragraph on Still Pond.

CHANNELS

Parts of the Chesapeake Bay ship channel were developed on this sheet. The channel is well marked with lighted buoys and at the time of the survey several range lights were in the process of construction. The channel follows natural deep water and dredged cuts across shoal areas. The controlling depth in the channel is 27 feet at Lat. 39° 23.3', Long. 76° 04.7', the first sounding after position 50n.

There is no marked channel in Still Pond, the general depth when 200 meters offshore is approximately 10 feet. This area affords a good anchorage in heavy northeast weather.

Still Pond Creek has a natural unmarked channel with a controlling depth of 3 feet across the bar. The channel entering the creek is very narrow but when well in the creek is wide with a depth of 4 to 12 feet. This creek is used by a few local fishermen in boats of about 2 foot draft.

Churn Creek has no entrance channel but when in the creek the depth is generally 3 to 8 feet. Across the bar entering the creek, the depth is 1 to 2 feet. This creek is of no navigational value.

COMPARISON WITH PREVIOUS SURVEYS - ~~Chart~~^{H-Chart} 2393 and 1226, Print No. 38-10/18.

At Lat. 39 22.2, Long. 76 05.2 the wharf is destroyed and at present several rock piles remain with depths from 1 to 3 feet.

At Lat. 39 21.5, Long. 76 07.1, the wharf is in ruins with only scattered piles remaining.

At Lat. 39 21.1, Long. 76 08.2, the 9 foot shoal of the previous survey was verified.

At Lat. 39 21, Long. 76 08.4 the 8½ foot shoal of the previous survey was located as a 9 foot shoal point extending from the eastward. On sheet 2393, this shoal and the 9 foot shoal mentioned in the previous paragraph were shown on a detached crescent shaped shoal. The present development shows that these shoals lie on small shoal points extending from the shore with no offshore connection.

At Lat. 39 20.8, Long. 76 09.1, the 15½ foot shoal was developed by splits and by feeling around for 26 minutes. The shoalest sounding found by this party was 13 feet.

At Lat. 39 20.6, Long. 76 09.7, the 8½ foot shoal was developed by splits and by feeling around for 16 minutes. The shoalest sounding found by this party was 10 feet.

At Lat. 39 20.4, Long. 76 09.8, the 10 foot shoal was verified by splits and a cross line.

At Lat. 39 20.2, Long. 76 10.5, the shoal point with several 6 foot spots on sheet 2393 was developed with splits and cross lines. The general depth over the point was found to be 7 feet and a single sounding of 6 feet was found between position 89 and 90 r.

At Lat. 39 20.1, Long 76 10.6, a detached 11 foot shoal was developed by feeling around for 15 minutes. This shoal seems not to be indicated on the previous survey.

At Lat. 39 20.1, Long. 76 10.8, the detached 9 3/4 foot shoal shown on sheet 2393 was developed by a split, a cross line and by feeling around for 8 minutes. The shallowest sounding obtained was 10 feet.

At Lat. 39 19.6, Long. 76 11.2, the 6 foot detached shoal shown on sheet 2393 was developed by splits, cross lines and by feeling around for 8 minutes. *8 1/2 on sheet* *6 was a single sounding on sand and between 24's. 8 1/2 and investigation on present survey accepted as satisfactory. J.A.M.*

At Lat. 39 19.8, Long. 76 11.5, the detached 9 foot shoal shown on sheet 2393 was developed and verified. It was found that this, instead of being a detached shoal, is part of the larger shoal that lies to the southeastward.

At Lat. 39 19.6, Long. 76 11.5, the 7 foot shoal on sheet 2393, was developed by splits and cross lines and was found to be 8 feet deep. The two detached shoals to the immediate southwestward of this shoal were found to have controlling depths of 8 feet.

At Lat. 39 19.3, Long. 76 11.6, there is a detached 12 foot shoal that was developed by splits and by feeling around for 10 minutes.

At Lat. 39 19.3, Long. 76 11.4, and at Lat. 39 19.0, Long. 76 11.4, detached 5 foot shoals are shown on the chart. These shoals were developed by cross lines and splits. The shallowest sounding obtained on each was 6 feet.

GEOGRAPHIC NAMES

The names on the chart seem to be in good local usage. The following new name is general local usage: Meeks Point. The reason for the name is unknown.

SIGNAL LOCATIONS

The following signals that fall outside the high water line are temporary hydrographic signals: Fox, Mop (banner on offshore end of uprooted tree), Flag, Sot, Dad, Pat, Dan, Sug, Tot, Cop, Got, Rag, Bar, Fun, Sud, Van, Fud, Coy, Ned, Fuz. The following signals are points on wooden wharves: End, Boy, Cup, Who, Mes, Yet, And, Pole, Dock, Bat (wharf in ruins).

Signals in Still Pond Creek - And, Hit, Sed, Tel and Pole, shown in red, are air photographic signals. Signals Top, Hat, Sin, Gay and Wed, shown in green, were spotted on well defined points of shore line and pricked on boat sheet. Signals Dock, Dad and Anne, shown in green, were located by 3 or more cuts from the green signals. Signals Pat and But were located by cuts and distances from signal And and checked with cuts from Tel and Pole. Signal Ego was located by cuts from Pole and Top and an angle from Top to Pole. Signal Mad was located by a cut and distance from Top and a cut from Ego. Signals Mug and Set were spotted on the shore

See verifiers report for change etc

line and single cuts from the green signals.

Signals in Churn Creek - Moo, shown in red, is an air photographic signal. Signals Jax, Dan, Sal, May, Pit and Cop, shown in green, are points spotted on the air photograph with reference to the shoreline and located on the map drawing. These signals are not as accurate as those shown in red because the points are not as well defined as those on which the red signals are located. Signals shown in blue were located by sextant cuts and distances and references to shore line. Signal Mon was located by a cut from Jax on the shore line. Signal Got was located by a cut from Bar and an angle between Bar and Sal. Signal Tot was located by a distance from Cop and a reference to the point of shore line. Signal Egg was located by cuts from Moo and Cop and reference to shoreline.

Air photographic signal Ike was relocated by sextant cuts. The sextant location seems to be in good agreement with other signals in the vicinity. It is probable that the signal was built further in shore than the air photographic position. This point seems very well defined while looking at the sheet but on the ground the remains of the building foundations are indefinite. The signals between Mob and Ton were located by cuts and a taped traverse between U.S.E. 18 and Mob. The distances were taped along the shore line; cuts could not be taken from signal to signal because they could not be seen, one from the other. U.S.E. 18 was located by a cut and taped distance from signal Coy, which was located on range with Andelot and Ton, with a taped distance from Andelot. Andelot and Ton were on the high bluff and were not visible from down the beach. The closure in the traverse was 2 meters, which was adjusted. Signal Or was located by a cut from triangulation station Handy on sheet H6372⁽¹⁹³⁸⁾ and a taped distance from U.S.E. 18. The cut from Handy is considered better than the cut from the fix that was taken on this sheet.

Hydrographic Survey Methods.

Soundings were taken with a hand lead line from a 25 foot skiff, that was propelled by an outboard motor running on ranges at about 5 knots speed. The lines were controlled by three point sextant fixes and plotted with a three arm protractor. In Still Pond Creek and Churn Creek the lines were run by following parallel to the general trend of the shore line. In the ends of the creeks and sloughs, where fixes were not available, the positions were spotted on the boat sheet with reference to the shore line.

DISCREPANCIES

No discrepancies are known to exist on this sheet.

Submitted by,

Edward B Brown Jr

Edward B. Brown, Jr.
Jr. H. & G. Engineer

Approved and forwarded.

H. H. Gallen

H. & G. Engineer, Chief of Party

H6371 (1938)

STATISTICS

Day Letter	Statute Miles	Soundings	Positions
a	25.0	1179	163
b	24.2	825	195
c	21.0	836	149
d	13.3	626	132
e	22.5	1086	159
f	11.1	549	89
g	17.0	752	115
h	24.9	867	178
j	24.5	791	182
k	9.6	447	77
l	22.4	991	176
m	29.0	916	219
n	10.2	342	90
p	13.5	954	216
q	18.8	883	179
r	14.0	658	135
s	11.7	412	96
t	8.4	237	63
u	14.1	417	126
v	<u>7.8</u>	<u>284</u>	<u>77</u>
	343.0	14012	2816

This sheet was plotted under the immediate supervision of the Chief of Party. The sheet and records have been inspected and are approved.

A handwritten signature in cursive script, reading "F. L. Gallen".

F. L. Gallen
H. & G. Engineer
Chief of Party

lac

TIDE NOTE FOR HYDROGRAPHIC SHEET

September 26, 1939

Division of Hydrography and Topography:

Division of Charts: Attention: Mr. H. R. Edmonston

Plane of reference approved in
9 volumes of sounding records for

HYDROGRAPHIC SHEET 6371 (1938)

Locality Betterton to Worton Point, Chesapeake Bay

Chief of Party: F. L. Gallen in 1938
Plane of reference is mean low water, reading
1.5 ft. on tide staff at Betterton
7.6 ft. below B. M. 1
2.8 ft. on tide staff at Gales Wharf
37.5 ft. below B. M. 6

Height of mean high water above plane of reference is 1.7 feet at
Betterton; 1.3 feet at Gales Wharf.

Condition of records satisfactory except as noted below:

22 3/7

Stam
Chief, Division of Tides and Currents.

	Remarks.	File Nos	Decisions
1		o	393 761
2			" "
3		o	" "
4		o	" "
5		o	" "
6			" "
7			" "
8		o	" "
9		o	" "
10		o	" "
11	Note: Ink only names marked thus o for this survey	o	393 760
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25	Names underlined in red approved		
26	by <u>7/22/39</u> on <u>SAE</u>		
27			

GEOGRAPHIC NAMES

Survey No. H 6371

(1732)

Name on Survey	Source										
	A	B	C	D	E	F	G	H	K		
<u>Worton Point</u> /	✓										1
<u>Chesapeake Bay</u>	✓										2
<u>Plum Point</u> /	✓										3
<u>Meeks Point</u>				✓							4
<u>still Pond</u> /	✓										5
<u>Stillpond</u>											6
<u>Rocky Point</u>	✓										7
<u>Kinnaird Point</u>	✓										8
<u>Churn Creek</u> * /	✓										9
<u>Stillpond Creek</u> /	✓										10
<u>Howell Point</u>	✓										11
<u>Betterton</u> /	✓										12
											13
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											27

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. **H6371** (1938)

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

Number of positions on sheet	2816
Number of positions checked	52
Number of positions revised	9
Number of soundings recorded	14012
Number of soundings revised	14
Number of soundings erroneously spaced	17
Number of signals erroneously plotted or transferred	7

Date: Oct 20, 1939

Verification by R.H. Carstens

Time: ~~7~~ 101²

Review by J.A. McCormick 10/25/39

Time: 21 hr.

HYDROGRAPHIC SURVEY NO. H6371

Smooth Sheet One

Boat Sheet One

Records; Sounding 9 Vols., Wire Drag Vols., Bomb Vols.

Descriptive Report Yes

Title Sheet Yes

List of Signals Yes

Landmarks for Charts (Form 567) Yes

Statistics Yes

Approved by Chief of Party Yes

Recoverable Station Cards (Form 524) None

Special Chart for Lighthouse Service Yes
(Circular Nov.30, 1933)

Hydrography: Total Days 20 ; Last Date Oct. 21, 1938

Remarks _____

MEMORANDUM

IMMEDIATE ATTENTION

SURVEY
 DESCRIPTIVE REPORT
~~PHOTOSTAT OF~~

No. H 6371
~~No. 101~~

{ received Aug. 29, 1939
 registered Sept. 8, 1939
 verified
 reviewed
 approved

This is forwarded in order that your attention may be directed to the matters as indicated below. Please initial in column 3 as an acknowledgement that your attention has been thus directed. The complete original records are available if desired. If you cannot give this your immediate attention, please initial, note, and forward to the next section marked, calling for the records at your convenience.

ROUTE		Initial	Attention called to
20			
22			
24			
25	✓	HSC	Pages 1 and 2
26			
30			
40			
62			
63			
82			
83			
88			
90			

RETURN TO

82	Lt. Reed
----	----------

[Handwritten signature]

Verifying Report for H-6371 (1938)

1. The field records are neat and complete and conform to the requirements of the General Instructions.
2. The plotting was very well accomplished and completed to the extent prescribed in the Hydrographic Manual. The only drafting done over by the verifier is shown on the statistics sheet.
3. The usual depth curves can be completely drawn.
4. The only adjacent contemporary survey registered at this date is H-6370 (1938). However no junction was made with this sheet because it has not been verified. Other contemporary surveys are still in the possession of the field party.
5. The shoreline was printed on this sheet with ^{preliminary} ~~H~~T-5657 (1937) as the source. The shoreline was

compared with the final map drawing of T-5657 and minor corrections to the shoreline were made. Signals SIN, GAY and WED were shifted along with the shoreline. Signals MAD, DAD, ANNE and SET were replotted and changed in color from green to blue. Signal DOCK was replotted and now agrees with the original radial plot position, whereas the position as sent in by the field party did not. Because of the slight importance of this creek the soundings were not replotted to conform to the new positions of the signals. The change in the positions of DOCK and SET was about 20 meters and the change in the positions of the remaining signals was less than 10 meters.

Respectfully submitted,
F. H. Carstens

10/20/39

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 6371(1938) FIELD NO. 1013.

Betterton to Worton Point, Chesapeake Bay, Maryland.
Surveyed in July - August 1938, Scale 1:10,000.
Instructions dated March 31, 1938 (MIKAWA)

Hand Lead Soundings.

3 Point fixes on shore signals.

Chief of Party - F. L. Gallen.
Surveyed by - E. B. Brown, Jr.
Protracted by - G. E. Varnadoe.
Soundings plotted by - G. E. Varnadoe.
Verified and inked by - R. H. Carstens.

1. Shoreline and Signals.

Shoreline is from topographic map T-5657 (1938). Signals are discussed on pages 1, 3 and 4 of the descriptive report.

2. Depth Curves.

Satisfactory.

3. Sounding Line Crossings.

Satisfactory.

4. Junctions with Contemporary Surveys.

H-6372, H-6375, H-6368 and H-6370 of 1938 join on southwest, northwest, north and northeast respectively. The first three have not been received from the field and H-6370 has not been verified.

5. Comparison with Prior Surveys.

- a. H-186 (1846) 1:10,000; H-187 (1846) 1:10,000;
H-1072 (1870) 1:10,000.

The combined area of these surveys covers that of the present survey. Agreement with the latter is fair to poor. The 11 foot depth (charted) in lat. $39^{\circ} 20.0'$, long. $76^{\circ} 11.0'$ on H-187 falls in well developed depths of 20 and 21 feet on the present survey. Surrounding depths are in poor agreement but in addition to this, the 11 appears to have been recorded one fathom in error. None of the soundings on the old surveys have been retained in the common area.

- b. H-2383 (1898) 1:10,000; H-2393 (1898) 1:20,000;
H-2399 (1898) 1:20,000; H-2511 (1901) 1:10,000.

Portions of each of these surveys combine to cover the area common to the present survey. Agreement with the latter is fair to good, depth curves in particular agreeing remarkably well outside the dredged areas. The present survey, however, is well developed and is quite adequate without additions from the older surveys, which are therefore superseded in the common area.

6. Comparison with Chart 1226 (New Print Sept. 8, 1939).

a. Hydrography.

Charted hydrography is mostly from surveys discussed in the foregoing paragraphs. Channel and dumping ground limits are from U. S. Engineers' surveys. Every sounding charted in the common area has been considered and in every case the present survey is adequate. Charted controlling depths do not conflict with the survey.

b. Aids to Navigation.

Survey positions of floating aids are in substantial agreement with charted positions and adequately mark the features intended.

7. Condition of Survey.

Satisfactory.

8. Compliance with Instructions for the Project.

Satisfactory.

9. Additional Field Work Recommended.

None.

10. Superseded Surveys.

H-186	in part	H-2393	in part.
H-187	in part	H-2399	in part.
H-1072	in part	H-2511	in part.
H-2383	in part		

11. Reviewed by - J. A. McCormick, Oct. 25, 1939.

12. Inspected by - H. R. Edmonston.

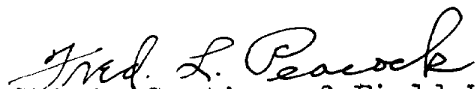
Examined and approved:



T. B. Reed,
Chief, Section of Field Records.



Chief, Division of Charts.



Chief, Section of Field Work.



Chief, Division of H. & T.

Application x Case 572 - July 1940 - J. S. S.