

4927

Diag. Cht. No 1222-2

4927

Form 504

**DEPARTMENT OF COMMERCE**  
U. S. COAST AND GEODETIC SURVEY

....., Director

U. S. COAST AND GEODETIC SURVEY  
L. & A.  
NOV 14 1929  
Acc. No.

State: Virginia

---

**DESCRIPTIVE REPORT**

*Topographic* } <sup>5</sup> Sheet No. 4927  
*Hydrographic* }

---

LOCALITY

Chesapeake Bay Entrance

Tail of the Horse shoe

---

1929

---

CHIEF OF PARTY

J. Senior

GOVERNMENT PRINTING OFFICE

C. & G. SURVEY  
L. G. A.  
NOV 14 1929  
Acc. No.

DESCRIPTIVE REPORT TO ACCOMPANY HYDROGRAPHIC SHEET NO. 5

TAIL OF THE HORSE-SHOE, CHESAPEAKE BAY

H. 4927

1. Instructions:

This revisional survey was made in accordance with Instructions from the Director to the Commanding Officer of the NATOMA, dated August 1, 1929. Reference should also be made to Chart Letter No. 411, 1911-29

2. Survey Methods:

Three triangulation stations furnished the control for the hydrographic survey. No other signals were used. The positions of DUNE, 1929, and BAYVILLE CHIMNEY, 1913, were furnished by Lieutenant Peacock of the MIKAWA, and the copy of Geographical Positions is attached to this report, for reference.

All soundings were taken from the NATOMA, using the standard, bronze-center lead-line. Sounding lines were run east and west, parallel to the current, and in the area under investigation, were spaced not more than 100 meters apart, with additional cross lines to complete the development. Sufficient additional lines, beyond instructed limits were run to make proper junction with charted soundings. The work was done in the field on a scale of 1:20,000.

3. Discrepancies:

There are no discrepancies in depths, positions, or signals on this sheet. All work is of requisite accuracy.

4. Comparison with previous surveys:

This latest survey indicates that slightly less water than at present charted does exist in places on the Tail of the Horseshoe. The Master of the S.S. PACIFIC SPRUCE, reported shoaler water than charted west of the whistle buoy, while on a course of SSW (magnetic). The least depth reported was 23 feet. Allowing for a slight error in his estimated distance from buoy, his probable position was in the area of 24 foot soundings as determined by the present survey. We found no indication of an 18 foot spot as shown on the present charts. The source of this report is not known. Except as noted above, the present survey checks very clearly with charted soundings, and proper junction has been made.

5. General:

The following additional data accompany this report:

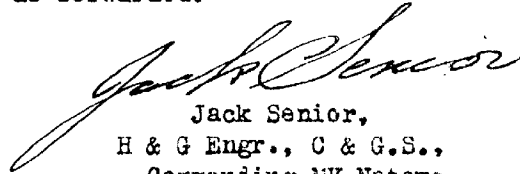
Hydrographic title sheet.

Statistical sheet.

Tidal note.

Landmarks for charts.

This sheet and record have been reviewed by the undersigned, and are approved as forwarded.

  
Jack Senior,  
H & G Engr., C & G.S.,  
Commanding, MV Natoma.

STATISTICS FOR HYDROGRAPHIC SHEET NO. 5

TAIL OF THE HORSE-SHOE. CHESAPEAKE BAY

<u>Date:</u>	<u>Letter:</u>	<u>Vol:</u>	<u>Miles:</u>	<u>Pos:</u>	<u>Sdgs:</u>	<u>Vessel:</u>
1929						
10/9	A	1	24	139	477	Natoma
10/11	B	1	27	162	547	Natoma
10/25	C	1	<u>7</u>	<u>42</u>	<u>139</u>	Natoma
	Totals:		58	343	1163	

-----

TIDAL NOTE FOR HYDROGRAPHIC SHEET NO. 5

TAIL OF THE HORSE-SHOE, CHESAPEAKE BAY.

-----

A portable automatic tide gauge on the old quarantine wharf on Fisherman Island furnished the values for the hourly heights.

The datum for the 1929 tide staff was determined by direct levels to six tidal bench marks, whose values are based on a longer series than was possible during the period of the present survey.

The reading on staff (1929) for the plane of reference (M.L.W.) was 2.2 feet.

-----



Locality Lower Chesapeake Bay

Datum N.A.

STATION	LATITUDE AND LONGITUDE			SECONDS IN METERS	AZIMUTH			BACK AZIMUTH		
Garret 1912	36	56	04.083	1258 (1723.8)	130	11	16.4	310	07	
	76	12	26.586	658.0 (826.9)	101	47	54.1	341	45	
					272	50	29.1	92	57	
Field Positions										
Little Creek 1929	36	55	57.589	1775.2 (74.3)	272	37	08.6	92	43	1
	76	10	35.621	881.5 (603.5)	123	30	50.4	303	26	1
Jetty 1929	36	55	53.54	1650.4 (199.1)	320	00	37.4	140	00	6
	76	10	45.26	1120.1 (364.8)	10	49	04.4	190	48	5
Dune 1929	36	55	32.89	108.9 (835.7)	107	32	56.8	287	31	4
	76	10	23.66	585.6 (899.4)	158	43	38.1	338	43	2
East 1929	36	55	30.80	949.4 (900.1)	91	59	14.5	271	58	3
	76	09	08.65	214.1 (1270.9)	110	59	40.8	290	58	4
Bayville Chy 1913	36	54	08.396	258.8	120	10	08	300	03	3
	76	07	13.489	333.9	147	02	42	326	57	1
					255	08	32	75	12	3

# Field Party APHIC POSITIONS

Accession No. of Computation: .....

Datum *N.A.*

State *Va.*

ZIMUTH	BACK AZIMUTH			TO STATION	DISTANCE		Description Foot
					LOGARITHM (METERS)	METERS	
11 16.4	310	07	41.3	Old Point Comfort Lt. H.	4.063537	11575.4	Dressed trip
47 54.1	341	45	38.3	Back River Lt. House	4.251480	17843.5	ham houses
50 29.1	92	57	41.6	Cape Henry Lt. H. (New)	4.251235	17833.4	
37 08.6	92	43	14.7	Cape Henry Lt. Ho.	4.178421	15080.7	70 foot Lt. Tower
30 50.4	303	26	08.7	Old Point Comfort L. H.	4.142918	13896.9	on end of Little Creek East Jetty
00 37.4	140	00	50.8	Dune	2.91956	830.9	Light on end
49 04.4	190	48	59.7	Crab	2.97083	935.0	of Little Creek West Jetty
32 56.8	287	31	44.8	Garret	3.50381	3190.1	
43 38.1	338	43	29.1	Little Creek	2.91235	517.2	Large 30 foot dressed tower on dunes
59 14.5	271	58	30.3	Dune	3.26887	1857.3	
59 40.8	290	58	47.6	Little Creek	3.36277	2305.5	Low dressed signals
10 08	300	03	34	Engineers Ecc. Fort Wool	4.272227	18716.6	
52 42	326	57	18	Back River Lt. Ho.	4.388480	24461.3	
38 32	75	12	36	Cape Henry Lt. Ho. (new)	4.017465	10410.4	



Mileage Field Party  
**GEOGRAPHIC POSITIONS**

*Speake Bay*

Date

*N. A.*

Accession No. of Computation:

State

*Va.*

LATITUDE AND LONGITUDE	SECONDS IN METERS	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE		Description Feet
					LOGARITHM (METERS)	METERS	
0 56 04.053	1258 (17238)	130 11 16.4	310 07 41.3	Old Point Comfort Lt. H.	4.063537	11575.4	Dressed try
0 12 26.586	580 (526.9)	161 47 54.1	341 45 38.3	Back River Lt. House	4.251980	17893.5	near houses
		272 50 29.1	92 57 41.6	Cape Henry Lt. H. (New)	4.251235	17833.4	
0 55 57.259	1775.2 (74.3)	272 37 08.6	92 43 14.7	Cape Henry Lt. Ho.	4.178421	15080.7	70 feet Lt. H. on end of Little Creek East St
0 10 35.621	881.5 (603.3)	123 30 50.4	303 26 08.7	Old Point Comfort L. H.	4.142918	13896.9	
0 55 53.541	650.9 (199.8)	320 00 37.4	140 00 50.8	Dune	2.91956	830.9	Light on end
0 10 45.261	120.1 (364.8)	10 49 04.4	190 48 59.7	Crab	2.97083	935.0	of Little Creek West St
0 55 32.891	103.9 (835.2)	107 32 56.8	287 31 44.8	Garret	3.50381	3190.1	
0 10 23.66	585.6 (899.4)	158 43 38.1	338 43 29.1	Little Creek	2.91235	817.2	Barge 30 feet dressed lumber on dunes
0 55 30.80	949.4 (900.1)	91 59 14.5	271 08 30.3	Dune	3.26887	1857.3	
0 09 08.65	214.1 (1270.9)	110 59 40.8	290 58 47.6	Little Creek	3.36277	2305.5	
0 54 08.396	268.8	120 10 08	300 03 34	Engineers Ecc. Fort Wool	4.272227	18716.6	Two dressed original
0 07 13.489	333.9	147 02 42	326 57 18	Back River Lt. No.	4.388480	24461.3	
		255 08 32	75 12 36	Cape Henry Lt. Ho. (new)	4.017465	10910.4	

Section of Field Records  
Report on sheet No. 4927

Surveyed in 1929 Instructions dated Aug. 1, 1929

Chief of Party - Jack Denio

Drafted by - Jack Denio

Contracted by - W. J. Choovan

Soundings plotted by - Wilbur P. Porter

Revised and inked by - J. B. Hunk

1. The records conform to the requirements of the General Instructions

2. The plan and character of the development fulfil the requirements of the General Instructions

3. The 30 foot curve can be completely drawn within the limits of the sheet

4. The field plotting was completed to the extent prescribed by the General Instructions.

5. The office draftsman did not have to do over any part of the work except as noted under remarks.

6. There are no contemporary adjacent sheets.

7. Remarks:-

In several instances the contracting was not up to standard, and the soundings were plotted much too large for the scale of the development

H-4927 Contd

The work done "c" day and shown on an insert called Sub-Plan was checked on the Sub-Plan, and that portion of it that it was possible to transfer was transferred to its proper position on the main development. Care being taken to make certain that all critical soundings were plotted.

The position numbers are written to read when the South of the sheet is up instead of the North. See Par. 142, line 4 Hydrographic Manual.

Dec. 2, 1929

Respectfully submitted  
Joseph W. Church

IN REPLY ADDRESS THE DIRECTOR  
U. S. COAST AND GEODETIC SURVEY  
AND NOT THE SIGNER OF THIS LETTER

AND REFER TO NO. 3-DRM

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

WASHINGTON

March 18, 1930.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4927

Chesapeake Bay Entrance, Virginia

Surveyed in 1929

Instructions dated August 1, 1929 (NATOMA)

Chief of Party, Jack Senior.

Surveyed by J. S.

Protracted by W. J. Chovan.

Soundings plotted by W. R. Porter.

Verified and inked by J. H. Church.

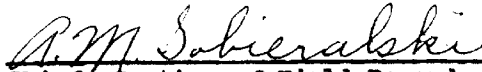
1. The records conform to the requirements.
2. The plan and character of development conform to the requirements of the General Instructions.
3. The plan and extent of the survey satisfy the specific instructions.
4. The sounding line crossings are satisfactory.
5. The information is sufficient for drawing the usual depth curves.
6. There are no junctions with contemporary sheets.
7. The usual amount of field plotting was done by the field party, but was not up to the standard. About 10 per cent of the protracting was inaccurate, the position numbers were inked upside down and the figures used for the soundings were too large.
8. Character and scope of surveying - very good.  
The area investigated has been thoroughly covered.
9. This survey was made because of a reported shoaling. Letter 411, 1929, from the Master of the S. S. PACIFIC SPRUCE, reports a depth of 23 feet. Comparison with the chart and the old work shows that a slight shoaling has occurred. At the estimated position at which the S. S. PACIFIC SPRUCE touched bottom,


Lat. 36° 58' 42" (1294 m.), Long. 76° 03' 12" (296 m.), the depth is 26 feet with one sounding of 25 feet close by. About 400 m. west and northwest of this point are several 24 foot and 23 foot spots, any one of which might have been the point, if a slight error had been made in determining the ship's position.

The 18 foot spot, mentioned in the descriptive report, was put on the chart as a hand correction, by authority of letter No. 411, 1929, but has since been removed. No additional work is recommended.

10. Reviewed by R. L. Johnston, December 10, 1929.

Approved:

  
Chief, Section of Field Records (Charts)

  
Chief, Section of Field Work (H. & T.)

(Copy for files of FIELD RECORDS SECTION) ✓

ecm

November 19, 1929

Division of Hydrography and Topography:

Division of Charts:

Tide Reducers are approved in  
1 volume of sounding records for

HYDROGRAPHIC SHEET 4927

Locality: Chesapeake Bay (Tail of the Horseshoe)

Chief of Party: Jack Senior, in 1929  
Plane of reference is mean low water, reading  
2.2 ft. on tide staff at Fisherman Island  
~~ft. below B. M.~~

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 C. Whitney

Chief, Division of Tides and Currents.

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

C. & G. SURVEY  
L. & A.  
NOV 14 1929  
Acc. No.

REG. NO.  
4927

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. 5

REGISTER NO. 4927

State Virginia

General locality Chesapeake Bay Entrance

Locality Tail of the Horse-shoe

Scale 1:20,000 Date of survey October 1929

Vessel Motor Vessel NATOMA

Chief of Party Jack Senior, H & G Engr.,

Surveyed by " " " "

Protracted by W. J. Chevan, Jr. H & G Engr.,

Soundings penciled by Wilbur R. Porter, Jr. H & G Engr.,

Soundings in ~~feet~~ feet

Plane of reference M. L. W.

Subdivision of wire dragged areas by

Inked by

Verified by

Instructions dated August 1st, 1929

Remarks:

Revisional survey - Chart letter 411.

IN REPLY ADDRESS THE DIRECTOR  
U. S. COAST AND GEODETIC SURVEY  
AND NOT THE SIGNER OF THIS LETTER

AND REFER TO No. 3-DPM

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

WASHINGTON

March 18, 1930.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4927

Chesapeake Bay Entrance, Virginia

Surveyed in 1929

Instructions dated August 1, 1929 (NATOMA)

Chief of Party, Jack Senior.

Surveyed by J. S.

Protracted by W. J. Ohovan.

Soundings plotted by W. R. Porter.

Verified and inked by J. H. Church.

1. The records conform to the requirements.
2. The plan and character of development conform to the requirements of the General Instructions.
3. The plan and extent of the survey satisfy the specific instructions.
4. The sounding line crossings are satisfactory.
5. The information is sufficient for drawing the usual depth curves.
6. There are no junctions with contemporary sheets.
7. The usual amount of field plotting was done by the field party, but was not up to the standard. About 10 per cent of the protracting was inaccurate, the position numbers were inked upside down and the figures used for the soundings were too large.
8. Character and scope of surveying - very good.  
The area investigated has been thoroughly covered.
9. This survey was made because of a reported shoaling. Letter 411, 1929, from the Master of the S. S. PACIFIC SPRUCE, reports a depth of 23 feet. Comparison with the chart and the old work shows that a slight shoaling has occurred. At the estimated position at which the S. S. PACIFIC SPRUCE touched bottom,



Lat. 36° 58' 42" (1294 m.), Long. 76° 03' 12" (296 m.), the depth is 26 feet with one sounding of 25 feet close by. About 400 m. west and northwest of this point are several 24 foot and 23 foot spots, any one of which might have been the point, if a slight error had been made in determining the ship's position.

The 18 foot spot, mentioned in the descriptive report, was put on the chart as a hand correction, by authority of letter No. 411, 1929, but has since been removed. No additional work is recommended.

10. Reviewed by R. L. Johnston, December 10, 1929.

Approved:

---

Chief, Section of Field Records (Charts)

---

Chief, Section of Field Work (H. & T.)