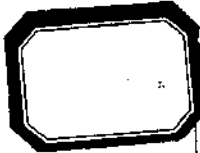


4164

Diag. Ch. No. 1218-2 & 1219-1



U. S. COAST AND GEODETIC SURVEY
NOV 25 1920
Wash. D. C.

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

State: *Delaware*

11-5613

DESCRIPTIVE REPORT.

Hyd. Sheet No. **4164**

LOCALITY:

Coast of Delaware

Little Assawoman

Bay to Delaware

Bay

1920

CHIEF OF PARTY:

H. C. Suran

4164

DESCRIPTIVE REPORT

to accompany

Inshore sheet, Scale 1:40,000

Approaches to

DELAWARE BAY.

1920.

H. A. Seran, Commanding U.S.S. Bache,
Chief of Party.

Limits of Sheet.

This sheet extends north from Latitude $38^{\circ} 28' 5''$ to a junction with the completed work at the entrance to Delaware Bay and the next projected sheet to the northward. This junction was made in latitude $38^{\circ} 50'$. An additional triangular area just west of McCrie's Shoal was included to fill in the area at the junction. The sheet extends off-shore to Longitude $74^{\circ} 42' W$.

Previous Work.

The area between Latitude $38^{\circ} 34' N$ and $38^{\circ} 44' N$ was surveyed by the party of the ISIS in 1919 and except for additional development in spots this area was not resurveyed.

Outlying dangers.

In Latitude $38^{\circ} 41.5'$, Long. $74^{\circ} 45.5' W$ there is a 29 foot spot on the ridge which runs NE and SW in this vicinity. Only one sounding of this depth was obtained but it was verified at the time. ✓

This entire area is quite irregular and considerable development was done to develop the curves.

A search was made for the wreck of the "New Orleans" shown on Chart 1219 as Position Doubtful at Latitude $38^{\circ} 30' N$ and Long $74^{\circ} 47' W$. While sounding in this region the submarine sentry was set at 10 fathoms. No indication was found unless the large ~~sho~~ 90 foot shoal can be traced to it.

Inshore dangers, etc.

The shoal shown on Chart 1219 in Lat. $38^{\circ} 28' N$ Long. $75^{\circ} 00' W$, has moved a little to the southward altho. it retains its same shape and has the same depth of water- 21 feet. This shoalest spot has moved about 1/2 mile south.

The shoal shown on Chart 1219 in Lat. $38^{\circ} 29' N$, Long. $75^{\circ} 01.5' W$, is in approximately the same position. The shoalest sounding obtained on this survey was 30 feet. The chart shows 24 feet.

The oblong shoal shown on Chart 1219 in Lat. $38^{\circ} 30' N$ and Long. $75^{\circ} 00.5' W$ has also shifted a little to the southward and has only 4 1/2 fathoms- 27 feet - instead of the 4 3/4 fathoms as shown on the chart.

The shoalest sounding obtained in the vicinity of the 4 3/4 fathom shoal in $38^{\circ} 30.2'$ and Long. $75^{\circ} 01.8' W$ was 32 feet, altho a detached 30 foot sounding was obtained about 1 mile east of this.

The 4 1/2 fathom shoal shown on Chart 1219 in Lat. $38^{\circ} 32.8' N$ and Long $75^{\circ} 00.7' W$, exists in about the same position altho it has only 23 feet of water in place of 4 1/2 fathoms.

Inshore dangers, continued.

The 5 fathom shoal shown on Chart 1219 in vicinity of Lat. $38^{\circ} 33' N$ and Long. $75^{\circ} 02' W$ remains as shown. ✓

The southern of the two 3 fathom spots in vicinity of $38^{\circ} 34' N$ and $75^{\circ} 02.6' W$ has shifted about $3/4$ mile to the southward. The northern one remains as shown on the chart.

Hen and Chickens Shoal, just off Cape Henlopen, was carefully surveyed by a launch party. The shoalest sounding obtained was 9 feet. This sounding was obtained in the same position as the $3/4$ fathom depth shown on Chart 1219. ✓

Detached Areas.

The several detached areas between $38^{\circ} 34' N$ and $38^{\circ} 44' N$ were development lines in the area covered by the 1919 survey in accordance with paragraph 5 of my instructions dated May 26th, 1920 and with instructions dated July 27th, 1920.

The 30 foot sounding reported "doubtful" by the 1919 party about 2 miles ESE of Indian River Inlet could not be verified. 3 lines were crossed at this position. It is presumed this 30 feet was an error on the part of the 1919 leadsman.

Method of survey.

Fixed position hydrography using shore signals whose positions had been determined previously by triangulation and using buoys planted about 11 miles off-shore and located by cuts from the ship or by 3 point fixes at the time they were planted.

Respectfully submitted,

H. A. Seran
H. A. Seran.

DIRECTOR
ADDRESS THE SECRETARY
U. S. COAST AND GEODETIC SURVEY

AND REFER TO No.

41/VFB

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

WASHINGTON

May 11, 1921.

Division of Hydrography and Topography:

Division of Charts:

Tide reducers are approved in
14 volumes of sounding records for

HYDROGRAPHIC SHEET 4164

Approaches to Delaware Bay
H. A. Seran in 1920

Plane of reference is
Mean low water, reading

*2.0 ft. on tide staff at Breakwater Harbor, Delaware

* Allowance made for difference in tide at place of soundings

Condition of records: Satisfactory.



Chief, Division of Tides and Currents.

Verification Report of Bysa. 4164.

The sheet as a whole was well plotted. Only a few errors were found in the plotting which were corrected. Several corrections were also made in the spacings of soundings but such plotting was generally very good.

There were a few instances in which "poor crossings" were noted. On line 67-68 M 47 ft. falls on 83 ft. line 6-7 M. At pos. 16" X 104 ft. lies between 82 and 98 ft. line 104-110 L. Forty ft. 141-142 F' falls on 45 ft. 41-42 J. The soundings on line 1E-2E' noted by Capt. Swan to have uncharted as they were in poor agreement with adjacent soundings were plotted. The bottom in this section is irregular and there is the probability that they may exist though shallower than the other soundings.

Positions on "X" day were found incorrectly plotted from 40-80 ft meters; the positions had been all shifted to the n.e. 1X and 2X were corrected being considerably off but the remaining were allowed to stand as bottom is deep enough to preclude any danger from slight inaccuracies.

The 7^{3/4} fm. spot referred to in the description report as the southern one of the two 3 fm spots

2
shown on chart #1219 could not be located on sheet.
Position (approx.) $38^{\circ} 34' N$, $75^{\circ} 02.6' W$.

As noted in the descriptive report 4 ft. was the
least depth found on shoal off Cape Cod open in
place of the $3/4$ fm. on chart. The launch "boat"
sheet was submitted to the office for this work as the
scale on which it was developed, ^{originally} is not known. But
if it were developed on a 5,000 scale which it
should have been since the harbor chart # 379 for this
area is on that scale, much closer development
would have been the result and the existence or
non-existence of the $5 \frac{1}{2}$ ft. spot definitely determined.
As it is now the shoal is not thoroughly developed
to accept the 4 ft. as least water.

Respectfully submitted,
Alvin Bauer,
Draftsman.

* Received in Office in July, 1921

S.P.C.

AND REFER TO NO. 4-MEM

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

SECTION OF FIELD RECORDS.

REPORT ON HYDROGRAPHIC SHEET No. 4164.

Surveyed in 1920.

Chief of Party: H.A.Seran. Surveyed by party of Str. BACHE

Protracted by field party. Soundings plotted by H.A.Seran.

1. The records and plan and character of development conform to the requirements of the General Instructions.
2. The plan and extent of development satisfy the specific instructions.
3. The sounding line crossings are generally adequate. N and R days when transferred to sheet 4093 were shown to be about 1 foot too deep. This was caused by the northwest wind, that prevailed on those two days, lowering the level of the water at the tide gauge, the resulting tide reducers causing the reduced soundings on the working ground to appear too deep.
4. With the exception above noted the junctions with previous survey are good.
5. The development was sufficient to permit the curves to be completely drawn.
6. The field plotting was completed to the extent prescribed in General Instructions except that each position was not numbered as prescribed.
7. The office draftsman did not have to do over any of the field drafting.
8. The deepest soundings on the lines crossing the submarine valley 7 miles east of Cape Henlopen were marked doubtful by the field party. As these deep soundings were corroborated by subsequent lines they have been plotted on the sheet.
9. No further surveying is required within the limits of the sheet.
10. The character and scope of the surveying are excellent and the field drafting is good.
11. Reviewed by E. P. Ellis, July, 1921.
12. Two copies of this report to be sent to the Division of Hydrography and Topography.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

The finished Hydrographic Sheet is to be accompanied by the following title sheet, filled in as completely as possible, when the sheet is forwarded to the Office.

U. S. Coast and Geodetic Survey.

Register No. 4164

State . . . Delaware:
 General locality Coast of Delaware
~~Approached to Delaware Bay.~~
 Locality Little Assawoman Bay to Delaware Bay
 Chief of party . . . H. A. Seran.
 Surveyed by Party of Ship ^{Syr.} BACHE, (H. A. Seran, Comdg.)
 Date of survey June to October 1920.
 Scale . . . 1:40,000
 Soundings in . Feet
 Plane of reference 2.0 feet on staff at Delaware Breakwater.
 Protracted by Field Party Soundings in pencil by H. A. Seran.
 Inked by Verified by
 Records accompanying sheet (check those forwarded):
 Des. report, Tide books, Marigrams, Boat sheets,
 $\frac{f}{H}$ Sounding books, Wire-drag books, Photographs.
 Data from other sources affecting sheet
 # Sounding books, 14, were forwarded to office on
 March 22, 1921.
 Remarks:

Applied to Court 451, 2/4/53 JWE