

3521a

3521a

Form 504
Ed. June, 1928

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

G. & B. SURVEY
L. & A.
SEP 13 1930
Acc. No.

State: Rhode Island

DESCRIPTIVE REPORT

~~Topographic~~ } Sheet No. 3521a
Hydrographic }

LOCALITY

Pt. Judith
Harbor of Refuge

1930

CHIEF OF PARTY
J. C. Sammons

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. 3521A

HYDROGRAPHIC TITLE SHEET
Prepared in Field Records

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. 1

REGISTER NO. **3521A**

State Rhode Island

General locality Pt. Judith

Locality Harbor of Refuge

Scale ^{5,000} ~~10,000~~ Date of survey August 20, 1930

Vessel LAUNCH ELsie III

Chief of Party J.C. Sammons

Surveyed by G.E. Bobthe

Protracted by G.H. Streater

Soundings penciled by G.H.S.

Soundings in ~~fathoms~~ feet

Plane of reference M. L. W.

Subdivision of wire dragged areas by

Inked by J. Fleming Nov. 17-1930

Verified by J.S.

Instructions dated Aug. 19, 1930

Remarks: Submitted on Chart 276-filed as Boat Sheet

U. S. COAST & GEODETIC SURVEY
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SEP 12 1930

Acc. No. -----

DEPARTMENT OF COMMERCE.
U.S. Coast & Geodetic Survey.
R.S.Patton, Director.

Rhode Island.

Hydrographic Sheet No. 1.

Point Judith, Rhode Island.
Harbor of Refuge.

1930

Jack C. Sammons,
Chief of Party.

DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SHEET NO.1.

Scale 1 - 10,000.

Point Judith, Rhode Island.

Harbor of Refuge.

AUTHORITY:

Verbal instructions from Lieut. (j.g.) Jack C. Sammons, Chief of Party, on August 19, 1930.

PURPOSE:

The purpose of this survey is to outline the shoal area in the Harbor of Refuge, and to do as much sounding as practicable without interfering with the operations of the Tide and Current Survey Party.

SURVEY METHODS:

The work was done by a party using a dinghy with an outboard motor, The usual methods of hand lead sounding were used.

The personnel of the party consisted of one officer in charge, right angle, and plotting; one officer, left angle; one engineer steering and running the motor; one recorder; and two leadsmen.

Lines were to be run nearly north and south over the area but it was found that the limited time available they would not outline the shoal, and so lines were run at right angles to the original system to develop the shoal area.

The work is plotted up on Chart No. 276 as no equipment is available to make a smooth sheet.

CONTROL:

Point Judith Light and the five lights on the breakwater were all the available signals. Three small flags were put up on the breakwater, UNO, DOS, and TRES, and were located by sextant angles to the known signals taken from the position of the flags.

The Commanding Officer of the Lighthouse Ship PANSY, which operates in this area, stated that some of the lights on the breakwater had been rebuilt, and that he believed that the corrected positions had not been placed on Chart No. 276.

It was found that signal Tres plotted on the breakwater but signals UNO and DOS, altho erected on the breakwater, plotted about 20 and 12 yards, respectively, east.

*6 minutes
on sheet* *On edge of
breakwater
which is correct*

TIDAL DATA:

A portable automatic tide guage was in operation during the period of the survey in the river at the head of the Harbor of Refuge. The soundings as plotted on Chart No. 276 are uncorrected for tide as the datum plane for this guage is not known.

DISCREPANCIES:

The location of some of the lights on the breakwater are believed to be wrong by the Commanding Officer of the Lighthouse Ship PANSY.

The "Radio" signal as shown on Chart No. 276 is gone.

The breakwater as shown on the eastern side of the river running into the Harbor of Refuge is gone. Only a few rocks remain to shown where it had been.

Many houses are on the beach leading from the river entrance to the "Radio" signal.

A Coast Guard Life Saving Station is located W. x N. of Point Judith Light on the shore inside the Harbor of Refuge.

The area to the eastward and northeastward of Buoy No. N 2 has evidently shoaled since Chart No. 276 was corrected. The Buoy is in 2 fathoms and 2 feet of water (See index of Record Book)

The Commanding Officer of the Lighthouse Ship PANSY stated that he believed that Buoy N 2 was incorrectly located on the chart. Angles were taken to the lights while holding on to the Buoy. These angles show that the Buoy is correctly located on the chart.

The entrance to the River is much shoaler than shown on the Chart. To enter the River it is necessary to hold over to the breakwater from Buoy N 2.

It is noted that the sounding lines plot ashore. No effort was made to get close inshore. The lines generally that show 5 to 7 feet are from 100 to 150 yards from the water line. It is believed that the shore line has receded along this part of the chart. It is of sand, and is much used by bathers.

Breakers, in calm weather, are found S.E. of the entrance to the River (See accompanying sheet.)

Several fish traps are in the Harbor of Refuge W. x N. of Point Judith Light. Time was not available to locate these but they are well inshore and have a light on the outer end at night.

CONCLUSIONS:


It is believed that while this survey is not complete that it will be of value in locating this shoal area until an adequate survey can be made.

A swift current enters this river with a very short period of slack water.


STATISTICS:

Date - - - - -	August 20, 1930.
Statute miles of sounding line - - - - -	8.6
Number of hand lead soundings - - - - -	663
Number of positions - - - - -	121

Respectfully submitted,


Glendon E. Boothe,
Lieut.(j.g.),
U.S.C.& G.Survey.

Forwarded; Approved.


Jack C. Sammons,
Lieut.(j.g.),
U.S.C.& G.Survey,
Chief of Party.

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. 352/a

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

Number of positions on sheet	...121
Number of positions checked	...49
Number of positions revised0
Number of soundings recorded	...663
Number of soundings revised0
Number of signals erroneously plotted or transferred

Date: *Nov. 17, 1930*

Cartographer: *J. Fleming*

Section of Field Records

October 28, 1930

Division of Hydrography and Topography:

Division of Charts:

Tide Reducers are approved in
1 volumes of sounding records for

HYDROGRAPHIC SHEET **5521A**

Locality **Rhode Island (Harbor of Refuge)**

Chief of Party: **J. C. Sammons, in 1930**
Plane of reference is **mean low water, reading**
1.4 ft. on tide staff at **Harbor of Refuge**
5.0 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.

Chief, Division of Tides and Currents.

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

SECTION OF FIELD RECORDS

Review of Hydrographic Sheet No. 3521a

Surveyed in 1930

Chief of Party, J. C. Sammons

Surveyed by G. E. Boothe

Protracted and soundings plotted by G. H. Streeter (Office)

Verified and inked by J. Fleming.

1. The records conform to the requirements of general instructions.
2. The plan and character of the development fulfill the requirements of general instructions.
3. The survey was conducted without specific instructions (see paragraph 1, descriptive report).
4. Sounding line crossings are adequate.
5. The depths curves can be completely drawn.
6. A chart of the locality was used as a boat sheet and the smooth sheet was plotted in the office. Both phases of the work were satisfactorily executed.
7. None of the work had to be done over.
8. There are no adjoining contemporary sheets. (See paragraph 3.)
9. The present survey, although of doubtful accuracy, is yet sufficiently accurate to permit the conclusion that marked shoaling has taken place northeast of N No.2 and south of the river mouth. The entire harbor should be surveyed at such time as the importance of the waterway warrants.

Comparison with Previous Surveys

1. The control for this survey is considered doubtful. (See paragraph 8 of descriptive report.) Therefore a detailed comparison with previous surveys is considered unwise. In general it may be stated that the positions and soundings on lines running to the northeast shore become less valid as they recede from the control.

This conclusion is drawn from the apparent increase in distance traveled by the boat for uniform time intervals. Therefore soundings at or near the shore line (which is that of 1913) should not be considered and have not been used in any comparison.

2. A general comparison based upon depth curves only, shows that a 6 ft. shoal has developed and extended from lat. $41^{\circ} 22' 30''$ to lat. $41^{\circ} 22' 10''$ into an area where the previous survey shows about 20 feet of water; N No.2 is in about 10 feet of water where formerly there was 23 feet.

The deep water included in the 18 foot curve (H. 3521) and which parallels the Western Breakwater has been reduced about one half in an east-west direction and has been pushed south some distance.

The 24 foot depth curve no longer makes up into the harbor north of the west entrance.

The area east of Δ South and south along the breakwater does not appear to have changed.

Remarks

1. The position of N No.2 is the same as shown on the chart, consequently the adjacent sounding positions are thought to be fairly accurate since they were used to determine the position of N.2. Therefore it is recommended that only those soundings lying north of the western entrance and west of long. $71^{\circ} 31' 40''$ be used for the purpose of chart correction.

Reviewed by John Fleming, Nov. 17, 1930.

The beacons designated North, South and Flash were rebuilt in 1929, and the Lighthouse Bureau is unable to state if the new structures are on the old sites, which were located by triangulation. Hydrographic signals Dos and Uno plot in the water, although they are on the breakwater. The available data are not sufficient to determine whether the breakwater or the signals are in error, or both.

It is evident therefore that the resulting hydrography is not of standard accuracy in the location of the soundings. This is particularly true of the soundings along the northern shore. The survey may be used, however, with the exception of the soundings near the northern shore. The shore line from T. 3388 should be retained, and soundings along shore adjusted to fit this shore line.

Complete topographic and hydrographic surveys are required to show present conditions throughout the harbor.

The survey should be considered as a reconnaissance.

Dec. 1930.

E. P. Ellis

Approved:

Chief, Section of Field Records

Chief, Section of Field Work

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

AND REFER TO NO. **CS-DEM**

WASHINGTON

SECTION OF FIELD RECORDS

Review of Hydrographic Sheet No. 5581a

Surveyed in 1930

Chief of Party, J. C. Sammons

Surveyed by G. E. Boothe

Protracted and soundings plotted by G. E. Streeter (Office)

Verified and inked by J. Fleming.

1. The records conform to the requirements of general instructions.
2. The plan and character of the development fulfill the requirements of general instructions.
3. The survey was conducted without specific instructions (see paragraph 1, descriptive report).
4. Sounding line crossings are adequate.
5. The depths curves can be completely drawn.
6. A chart of the locality was used as a boat sheet and the smooth sheet was plotted in the office. Both phases of the work were satisfactorily executed.
7. None of the work had to be done over.
8. There are no adjoining contemporary sheets. (See paragraph 3.)
9. The present survey, although of doubtful accuracy, is yet sufficiently accurate to permit the conclusion that marked shoaling has taken place northeast of N No. 3 and south of the river mouth. The entire harbor should be surveyed at such time as the importance of the waterway warrants.

Comparison with Previous Surveys

1. The control for this survey is considered doubtful. (See paragraph 8 of descriptive report.) Therefore a detailed comparison with previous surveys is considered unwise. In general it may be stated that the positions and soundings on lines running to the northeast shore become less valid as they recede from the control.

This conclusion is drawn from the apparent increase in distance traveled by the boat for uniform time intervals. Therefore soundings at or near the shore line (which is that of 1913) should not be considered and have not been used in any comparison.

2. A general comparison based upon depth curves only, shows that a 6 ft. shoal has developed and extended from lat. $41^{\circ} 22' 30''$ to lat. $41^{\circ} 22' 10''$ into an area where the previous survey shows about 20 feet of water; N No. 2 is in about 10 feet of water where formerly there was 23 feet.

The deep water included in the 18 foot curve (H. 3521) and which parallels the Western Breakwater has been reduced about one half in an east-west direction and has been pushed south some distance.

The 24 foot depth curve no longer makes up into the harbor north of the west entrance.

The area east of Δ South and south along the breakwater does not appear to have changed.

Remarks

1. The position of N No. 2 is the same as shown on the chart, consequently the adjacent sounding positions are thought to be fairly accurate since they were used to determine the position of N. 2. Therefore it is recommended that only those soundings lying north of the western entrance and west of long. $71^{\circ} 31' 40''$ be used for the purpose of chart correction.

Reviewed by John Fleming, Nov. 17, 1930.

The beacons designated North, South and Flash were rebuilt in 1929, and the Lighthouse Bureau is unable to state if the new structures are on the old sites, which were located by triangulation. Hydrographic signals Dos and Uno plot in the water, although they are on the breakwater. The available data are not sufficient to determine whether the breakwater or the signals are in error, or both.

It is evident therefore that the resulting hydrography is not of standard accuracy in the location of the soundings. This is particularly true of the soundings along the northern shore. The survey may be used, however, with the exception of the soundings near the northern shore. The shore line from T. 3398 should be retained, and soundings along shore adjusted to fit this shore line.

H. 3521a - 3

Complete topographic and hydrographic surveys are required to show present conditions throughout the harbor.

The survey should be considered as a reconnaissance.

Dec. 1930.

E. P. Ellis

Approved:

Chief, Section of Field Records

Chief, Section of Field Work