

5560

U. S. COAST & GEODETIC SURVEY
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Form 504
Ed. June, 1923

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

State: South Carolina

DESCRIPTIVE REPORT

Topographic } Sheet No. 5 5560
Hydrographic }

LOCALITY

Port Royal Sound

Broad River and Whale Branch

1934

CHIEF OF PARTY

Lt. I. E. Rittenburg

5560

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

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REG. NO. 5560

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. 5560

State South Carolina

General locality Port Royal Sound

Locality ~~Harbour~~ Broad River and Whale Branch

Scale 1-10,000 Date of survey Jan. - Feb., 19 34

Vessel Shore Party 15

Chief of Party L. E. Rittenburg

Surveyed by M. D. Cooper

Protracted by A. E. Ingleton

Soundings penciled by A. E. Ingleton

Soundings in ~~fathoms~~ feet

Plane of reference M. L. W.

Subdivision of wire dragged areas by _____

Inked by Thomas S. Claus

Verified by Thomas S. Claus

Instructions dated Nov. 2, 19 33 (Natoma)

Remarks: _____

DESCRIPTIVE REPORT TO ACCOMPANY HYDROGRAPHIC SHEET, FIELD NO. 5.

WHALE BRANCH AND BROAD RIVER, S. C. - PROJECT HT 160.

1. Authority.

This survey was made in accordance with instructions of Nov. 2, 1933. ✓

2. Survey methods and control.

Control was based on triangulation executed by C. A. Egner in 1931-33. Supplemental stations were located by topographic methods with the exception of signals CAT, DOG, FOG and NOT which were located by the hydrographic party. ✓

Hydrography was controlled almost exclusively by three point fixes. In a few cases in the smaller creeks it was necessary to estimate distance and direction of signals in order to obtain a position. ✓

Due to the lack of shoreline photography at the time of the survey, the hydrographic party ran an inner line along all shore line in order to have a close approximation for its own guidance. ✓ Sufficient positions were taken to make sure that sounding lines would not plot across points. This sheet is joined on the east by H-5520 Sheet No. 4 and on the south by Sheet No. 6. H-5561

3. Discrepancies.

None, except as mentioned in Rev. ~~xxxx~~.

4. Channels.

10 feet can be carried through the channel north of Whale Island,

the critical depth being in Broad River proper, from positions 29-31J. This passage is much better than the south channel through which 9 feet can be carried with critical depth at positions 94-95J. *local knowledge - xxxxx*

The critical depth in the north channel may be carried up Whale Branch to the railroad bridge which crosses at triangulation station

SEA. 5 feet may be carried from the railroad bridge to the highway bridge at the eastern extremity of the sheet with critical depths

at 22-23A and 14-15T providing the channel north of signal CUE is followed. 7 feet may be carried in the south channel with critical

depth at 47C but it is a much more precarious passage than the north channel. The channel just south of triangulation station SCOTT

is blocked by 0' soundings in the eastern entrance. 3 feet is the controlling depth in the channel just south of signal DON and north of triangulation station CUTOFF. Critical depth is between 4-5A

11 feet may be carried in Broad River from Whale Branch entrance to the railroad bridge between signals ARE and END with the critical

depth at 80H. As is this is not a drawbridge, nothing but small

32°-30.5-N
80°-50.1-W

32°-29.3-N
80°-48.8-W

32°-31.4-N
80°-46.1-W

32°-32.4-N
80°-45.6-W

32°-32.4-N
80°-45.2-W

32°-28.8-N
80°-48.3-W

greater depth 4-16 feet may be carried with local knowledge - xxxxx

32°-32.7-N
80°-45.3-W

32°-32.4-N
80°-45.8-W

Photocond. T-5190 shows Swing Drawbridge M.H.W. Clearance 7.0 Ft. (Closed)

32°-30.0 N
80°-50.8 W
32°-30.1 N
80°-50.8 W
32°-30.4 N
80°-50.7 W

boats may pass through and these only at the lower stages of the tide. 7 feet may be carried in the eastern branch of Boyd Creek to within 500 meters of the limit of the survey. This critical depth appears in several places 7 feet may also be carried in the western branch. Critical depth occurs at position 6N.

2/50
32°-28.8 N 32°-29.1 N
80°-51.2 W 80°-51.0 W
32°-29.2 N
80°-50.9 W

5. Dangers.
Sand Bar in Records 135 to 145
(Mud flat) in center of channel north of Whale Island at 32-29.6 N and 80-47.6 W. Plenty of room to pass between it and Whale Island. Steep shell bank in center of channel at 32-29.2 N and 80-47.5 W. *Also Sand Bar 32-29.0 to 5 N. - 80-49.4 to 6 W.*
The above mentioned are the principal dangers. Other shell banks occur but are close to shore.

6. Comparison with old surveys.

The last previous survey of this area was made in 1865. Chart shows 1 1/2 feet between 44-45U. Latest survey shows 5 feet. Chart shows 2 1/2 feet between 4-5 U. Latest survey shows 9 feet. Chart shows 2 feet between 79-80V. Latest survey shows 8 feet. Apparently the shoal to the southward is not as extensive as shown on the chart. *assumptive coast, shoal generalized on chart. X. 1865.*

7. Tides.

A portable automatic tide gage was maintained at Corning's dock in approximate position 32-30 N and 80-47 W.

8. Landmarks for charts.

List of landmarks has been submitted with the topographic sheets of this area.

9. Statistics.

Statute miles of sounding lines 294.4
Number of soundings obtained 7116
Number of positions taken 2097

10. Shoreline.

Approved:

I. E. Rittenburg, Lieut.,
Coast and Geodetic Survey,
Chief of Party.

Submitted:

M. D. Cooper
M. D. Cooper,
Surveyor, C. & G. S.

The smooth plotting of Hydrography was done by the party of I. E. Rittenburg in Beaufort before shoreline was available. The shoreline was applied by the party of S. B. Grenell in Savannah. It is noted that in several places in the vicinity of lat. $32^{\circ} 32.5'$, long. $80^{\circ} 45.4'$ minus soundings fall inside the shoreline. ✓ The shoreline as inked on the sheet in each of these cases has been investigated and the plot re-run by the compiling section. ✓ They were unable, however, to change the location. ✓ The areas referred to are no doubt covered with marsh grass that shows above the water at partial stages of the tide. The edge of this marsh grass would be the real shoreline as seen by the mariner. It is recommended, therefore, that the shoreline as shown on the smooth sheet be accepted and minus soundings be rejected. *Included in your plot curves.*

Benjamin G. Higgin
Lt. Benjamin G. Higgin

Chief of Party

Apr. 9, 1935.

Verification

Report on H-5560

Surveyed in 1934

Chief of Party: I.E. Rittenburg

Surveyed by M.D. Cooper

Protracted by: A.E. Inledon

Soundings plotted by A.E. Inledon

Verified & Inked by T.S. Evans

1. The records were found to be satisfactory, all data having been received except Spl. Chart for U.S. Lighthouse Service.
2. The usual depth curves are completely drawn within the limits of the survey, except the usual breaks on extreme inshore limits, affecting in general, the 0 Ft. and 6 Ft. curves. the aids to navigation in these waters sum
3. The field plotting was complete, in fact, very satisfactory. The verifier has indicated any plotting omissions in the records by the usual letters "N.P.," which omissions apply entirely to soundings, and which the verifier agrees should be left out in favor of shoaler soundings of crossing courses.
4. The verifier had to replot one position, 115 M, Lat. $32^{\circ}-28.5$, Long. $80^{\circ}-50.8$. And on shoreline courses in the smaller streams, the verifier ^{curved} rounded such sounding lines as seemed reasonable to conform to shoreline (previously checked as indicated by the approval of Chief of Party, included in Descriptive Report of this sheet.)
5. The junctions with overlaps were found satisfactory and depth curves are adjusted to conform, on this sheet H-5560 (1934), and on H-5520 (1933-34) and H-5561 (1934), the latter two being the East, and South ^{sheets} respectively.
6. The dangers have been noted, and labeled. ~~The proper label in the southeast corner of the sheet, having been omitted, the data is incomplete.~~
The Geographic names have been checked according to Descriptive Report, and possible use of possessive "s" on BOYD CR. and HALL I. has been noted.
 Δ SEA is recorded in Vol. I as 1933. $32^{\circ}31.8$ N. $80^{\circ}46.0$ W.
 Δ MCCLEOD, $32^{\circ}31.5$ N. 80° ~~46.8~~ 46.8 W. appears undated. date added sum.
Photocompilation sheets T-5189 & T-5190, were used for shoreline comparison.
On sheet of Geog. Names, the labeling of WHALE ISLAND appears in question. Referred to Mr. Brown sum.

Respectfully submitted

Thomas S. Evans

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. 5560

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

Number of positions on sheet	2097
Number of positions checked	117
Number of positions revised	1
Number of soundings recorded	7116
Number of soundings revised	1% (0.5 plotted as 0, changed to $\frac{1}{2}$)
Number of signals erroneously plotted or transferred	None

Date: Apr. 9, 1935

Verification by Thomas S. Evans Time: 12 Da. - 4 hrs.

Review by H. W. Murray Time: 1 " - 3 $\frac{3}{4}$ "

To: Mr. Bacon
 From: L.S.S.

Survey No. HC5560

GEOGRAPHIC NAMES
 South Carolina

Chart No. 1240

Date. Dec. 28, 1934.

Diagram No. 1240-2

Names underlined in red approved Dec 29, 1934

Harlow Bacon

* Approved by the Division of Geographic Names, Department of Interior.

Ø Not Approved by the Division of Geographic Names, Department of Interior.

R Referred to the Division of Geographic Names, Department of Interior.

*Inquiry to be made re-
 regarding possessive "s"
 Letter name so as to allow for
 addition of "s"*

Status	Name on Survey	Name on Chart or Progressive Military Map	New Names in local use	Names assigned by Field	Location
✓	<u>Broad River</u>	same	P.M.M.		
✓	<u>Whale Branch</u>	"	P.M.M.		
✓	<u>Whale Island</u>	"	"	<i>is shown as 2 islands on P.M.M. One is called Whale I., the other Cotton I. Hold till investigation is made (Correct location shown on G.N. Standard) (Aug. 1, 1935)</i>	
✓	<u>Barnwell Island</u>	"	P.M.M.		
✓	<u>Little Barnwell Island</u>	"	P.M.M.		
✓	<u>Long Point</u>	"	P.M.M.		
✓	<u>Seabrook Pt.</u>	"	P.M.M.		
✓	<u>Hall I.</u>	"	Halls I. P.M.M.		
✓	<u>Ball I.</u>	"	"		
✓	<u>Boyd Cr.</u>	"	Boyd Cr. P.M.M.		
✓	<u>S.A.L.R.Y.</u>	"	"		
✓	<u>Port Royal I.</u>	"	P.M.M.		
✓	<u>C. & W. C. RY.</u>	"	"		
	<u>East Branch Boyd Cr.</u>	"	"		
	<u>West " "</u>	"	"		

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 5560 (1934)

Broad River and Whale Branch,
Port Royal Sound, S.C.
Surveyed January-February, 1934
Instructions dated November 2, 1933 (NATOMA)

Hand Lead Soundings -- 3 Point Control on Shore Signals

Chief of Party - I. E. Rittenburg.
Surveyed by - M. D. Cooper.
Protracted and soundings plotted by - A. E. Inledon.
Verified and inked by - T. S. Evans.

1. Condition of Records.

The records are neat, legible and conform to the requirements of the Hydrographic Manual except as follows:

- a. Degree and minute symbols were not shown on latitude and longitude values. These were added in the office.
- b. No copy of landmarks for charts on Form 567 accompanied this particular sheet. (Par. 168).
- c. The note pertaining to plotting and checking of topographic and hydrographic signals as well as triangulation stations was shown on the smooth sheet by a combined form: "Signals plotted by--" and "Signals checked by--". While such a note undoubtedly refers to all types of signals, doubt would be eliminated if the process had been indicated separately in accordance with the usual form or stamp for such matters.
- d. A number of topographic signals fall outside but close to the high water line. However, according to verbal information received from the surveyor, the signals in question are of a temporary nature only.
- e. The descriptive report, page 1, states that the bridge in lat. $32^{\circ} 31.3'$ long. $80^{\circ} 50.3'$ is not a draw-bridge whereas the air photo compilation sheet shows it to be a swing draw-bridge with M.H.W. clearance of 7.0 feet (closed).

2. Compliance with Instructions for the Project.

The plan, character and extent of the survey satisfies the instructions for the project except as noted in paragraph 9 of this review.

3. Sounding Line Crossings.

Such cross lines as were run or result from the work are in general satisfactory. Differences of 1 to $1\frac{1}{2}$ feet occur, as for example line 9 to 10 V (red) in lat. $32^{\circ}29.3'$, long. $80^{\circ}49.2'$.

4. Depth Curves.

The usual depth curves may be satisfactorily drawn.

5. Junctions with Surveys.

a. The junction on the south with H-5561 (1934) and on the east with H-5520 (1933-34) is satisfactory.

b. The northern limits of the present survey coincides with the northern limits of chart No. 1240. However, the northern limits of chart No. 437 (Scale 1:40,000) as well as H-868 (1865) is about 2 miles further north and in view of the fact that a fair junction of the 1865 survey may be made with the present survey, (agreement of soundings being within 2 feet) the hydrography on H-868 (1865), northward of the limits of the present survey, may be used for charting on the 1:40,000 scale.

6. Comparison with Prior Surveys.a. H-868 (1865).

Aside from the agreement of this survey at the junction with the present survey discussed in paragraph 5b of this review, marked changes in depth are noted between the two surveys and in which soundings of the 1865 survey vary 1 to 4 feet shallower than those of the present survey in some areas and 1 to 6 feet deeper in others. A few spots are unchanged. Discrepancies noted are as follows:

(1) The indistinct character (charted) in lat. $32^{\circ}31.9'$, long. $80^{\circ}50.8'$ which may possibly be interpreted as an islet is actually a 6 foot sounding originating with this survey. However, depths on the present survey show a general deepening of 2 to 4 feet and the sounding should be ignored in future chartings.

(2) The $4\frac{1}{2}$ foot sounding (charted) in lat. $32^{\circ}31.2'$, long. $80^{\circ}50.2'$ and originating with this survey (pos. 50 to 51h, red) was questioned in the sounding records at time of entry and falls in depths of about 12 feet on the present survey. Comparison of soundings on the two surveys in the immediate vicinity disclosed no changes in depth exceeding more than one foot. The sounding is probably a leadsman's error and should be ignored in future chartings.

b. H-1155b (1873).

The few soundings of this survey falling within the limits of the present survey on the northeast vary 1 to 3 feet deeper in some areas and 1 to 3 feet shoaler in others. A few spots are unchanged.

7. Comparison with Chart No. 437.

Within the area of the present survey, the chart is based on surveys discussed in the foregoing paragraphs and contains no additional information that needs consideration in this review.

8. Field Plotting.

Field protracting and plotting of soundings were excellent and conform to the requirements of the Hydrographic Manual.

9. Doubtful Soundings.

The $14\frac{1}{2}$ foot sounding of the present survey (pos. 67G, red) in lat. $32^{\circ}30'.4$, long. $80^{\circ}47'.3$ may be a leadsman's error and should have been investigated in the field. The sounding has been retained.

10. Additional Field Work Recommended.

Although the area within the limits of this survey has been well covered, the following additional field work is desirable.

a. An examination of the $14\frac{1}{2}$ ft. sounding (of doubtful accuracy) noted in Par. 9, of this review.

b. An extension of the hydrography northward to the limits of Chart 437, now partly covered by H-868 (1865) (see Par. 5b of this review).

c. An examination of the 13 foot spot, hard bottom, in lat. $32^{\circ}28'.55$, long. $80^{\circ}49'.0$.

11. Note to Compiler.

Attention is directed to docks shown on the present survey in lat. $32^{\circ}31'.8$, long. $80^{\circ}46'.0$ and lat. $32^{\circ}32'.4$, long. $80^{\circ}46'.0$ which are plotted from notes contained in the sounding records and supplemented by verbal information of the surveyor. The docks are not shown on the contemporary topographic survey.

H-5560(1934)-4

12. Superseding Previous Surveys.

Within the area covered, the present survey supersedes the following surveys for charting purposes:

H-868 (1865) in part.
H-1155b (1873) " "

13. Reviewed by Harold W. Murray

April 15, 1935.

Inspected by - A. L. Shalowitz.

Examined and approved:

Chas. K. Green, *C. K. Green*
Chief, Section of Field Records.

R. O. Robert
Chief, Division of Charts.

Acting Paul H. Smith
Chief, Section of Field Work.

Stude
Chief, Division of H. & T.

LAC

January 4, 1935

Division of Hydrography and Topography:

✓ Division of Charts: Attention: Mr. E. P. Ellis

Tide Reducers are approved in
7 volumes of sounding records for

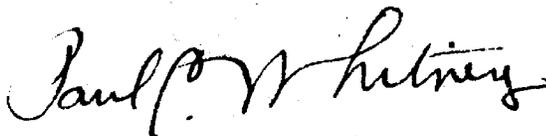
HYDROGRAPHIC SHEET 5560

Locality Broad River and Whale Branch, South Carolina

Chief of Party: I M Rittenburg in 1934
Plane of reference is mean low water reading
2.1 ft. on tide staff at Cornings Dock
16.2 ft. below B.M. 1

Height of mean high water above plane of reference is 7.9 feet.

Condition of records satisfactory except as noted below:



Chief, Division of Tides and Currents.

Applied to chart 794, Oct. 11, 1935 - H. M. S. Swen

Applied to Cht. 571 July 23, 1935 - K. Reynolds

25 J 13, 1936
E. S.