

6715

6715

Form 504  
Rev. April 1935

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

~~Topographic~~ } Sheet No. H-6715  
Hydrographic }

U. S. COAST & GEODETIC SURVEY  
LIBRARY AND ARCHIVES

JUL 28 1942

Acc. No. \_\_\_\_\_

State ~~NORTH CAROLINA~~ - SOUTH CAROLINA

LOCALITY

Atlantic Ocean

Southeast of Long Bay

\_\_\_\_\_

1934

CHIEF OF PARTY

Fred L. Peacock

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

REG. NO. H-6715

H6715

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. 121 & 81

REGISTER NO. H-6715

State ~~NORTH CAROLINA~~ & SOUTH CAROLINA

General locality Atlantic Ocean

Locality Southeast of Long Bay

Scale 1:80,000 Date of survey Oct. - Nov., 1940

Vessel OCEANOGRAPHER

Chief of Party Fred L. Peacock

Surveyed by Ship's Officers

Protracted by L. L. Lawrence

Soundings penciled by L. L. Lawrence

Soundings in fathoms ~~fathoms feet~~

Plane of reference M. L. W.

Subdivision of wire dragged areas by \_\_\_\_\_

Inked by Reuben J. Christman

Verified by Reuben J. Christman

Instructions dated Sept. 2, 1939

Remarks: This sheet was protracted and the soundings penciled at the Norfolk Processing Office.

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DESCRIPTIVE REPORT

TO ACCOMPANY

SHEET NO. H - 6715

(Field Sheets Nos. 81 & 121)

DATE OF INSTRUCTIONS:

The hydrography on this sheet was executed in accordance with instructions for Project HT-240, dated Sept. 2, 1939.

DATE OF SURVEY:

The work on this sheet was accomplished during October and November 1940.

LOCALITY AND LIMITS:

This is an offshore sheet in the Atlantic Ocean, southwest and southeast of Cape Fear. It partially covers the area from Latitude  $32^{\circ} 30'$  TO  $33^{\circ} 11'$  and from Longitude  $77^{\circ} 12'$  to  $78^{\circ} 41'$ .

SURVEY METHODS:

The area covered by this survey was originally plotted on two boat sheets (field sheet No. 81, 1-80,000 and field sheet No. 121, 1-120,000), which were combined on an 1-80,000, H-6715, in accordance with the director's letter dated May 21, 1942, ref. 82-DRM.

The area around buoy DAN was sounded to locate the buoy and was done in the following manner. Buoy DAN was planted by dead reckoning in an area of fast changing bottom on sheet H - 6542 (1939) (1:80,000). Then, using DAN as a control point, the area around the buoy was sounded using gyro bearings and bomb distances to DAN for the location of the positions on the sheet. Depth curves were drawn on this small survey and a tracing of these were matched to those of a tracing of sheet H-6542. After the curves were matched, the position of DAN was taken off by Latitude and Longitude and plotted on sheet 121 (1940).

A velocity of 1536 was used for the bomb distances on this sheet. This is a mean of Serial No. 1 taken at DAN on October 19, 1940 with a surface velocity of 1536.5, and Serial No. 9 taken during the period of hydrography 7 miles to the westward of buoy DAN on October 28, 1940, with a velocity of 1535.0. Because of the short bomb distances the surface velocity was used.

For additional control taut wire traverses were run from DAN to ADD, HAM to FUN and FUN to CUT. The taut wire traverse from

BIT to HAM was not tied in at HAM as that buoy was not sighted. Information contained under this subject heading was compiled from notes furnished by field party.

CONTROL:

The following method was used at this office for the plotting of the control:

Buoy DAN, - The geographic position as given by the ship OCEANOGRAPHER was used.

Buoy ADD, - This buoy was located by taut wire and dead reckoning from buoy DAN and was adjusted to the position of buoy ADD as shown on the Boat Sheet, holding the taut wire distance.

Buoys CUT and BIT, - These buoys were located by dead reckoning and taut wire distances between buoys DAN and ADD.

Buoy FUN, - The taut wire distance from buoys ~~BIT~~<sup>CUT</sup> to FUN was held. Positions were determined along the line running between buoys DAN and ADD where returns were received from buoy FUN. The intersection of a number of these returns from positions along the line from DAN to ADD and the taut wire distance from buoys ~~BIT~~<sup>CUT</sup> to FUN were adjusted to the position of buoy FUN as shown on the boat sheet and used as the location of this buoy.

Buoy HAM, - The taut wire distance from buoys FUN to HAM was held. The same method as above described was used to locate buoy HAM. Arcs were taken from positions on the line between buoys ~~BIT~~<sup>CUT</sup> to HAM.

Buoy EAR, - The location of this buoy was determined by the intersection of arcs from positions along the line between buoys DAN to ADD, favoring the position as shown on the boat sheet.

DISCREPANCIES:

15 A - 31 A, near buoy FUN. Since this line was poorly controlled, it was plotted by dead reckoning and adjacent hydrography.

1 D - 15 D, near buoy ADD. Due to poor control this line was plotted by dead reckoning and adjacent hydrography.  
*by dead arcs from one station.*

1 A - 14 A, between buoys EAR and FUN. In order that this line be in better agreement with adjacent hydrography, it should be moved about 1150 meters southeast. However, since the control appeared to be good, it was plotted as shown on this sheet. *Pos. of buoy EAR was determined solely by sound distances and may be somewhat in error. Line 1A-14 A was not adjusted. Sdgs not in agreement with adjacent hydrography were omitted.*

Crossing 3B - 4 B and 20 F - 21 F, Latitude  $32^{\circ} 47' .5$  and Longitude  $77^{\circ} 52' .0$ . 133 fathoms falls on 137 fathoms. If line 20 - 21 F were moved northeast about 380 meters, adjacent hydrography would be in better agreement. *B-day line partially controlled by buoy EAR probably should be more to the south. Deeper sdgs at crossing were omitted*

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(3)

SMOOTH PLOTTING:

Taut wire distances when used to locate positions are shown as broken blue line arcs. Due to lack of sufficient rigid tie-in of control and poor returns from sono buoys, it was necessary to plot some of the lines by adjacent hydrography or by dead reckoning and adjustment between positions that could be held.

TIDE DATA:

The tide reducers are in accordance with the Director's letter dated March 10, 1941. The tide on the working grounds was assumed to occur one hour earlier and the range 0.8 that of Charleston, S. C.


JUNCTIONS WITH CONTEMPORARY SURVEYS:

None. (made in Washng. Office)

COMPARISON WITH PREVIOUS SURVEYS:


Since no previous surveys were available at this office for comparison, none was made.

Respectfully submitted,

  
Isadore M. Zeskind,  
Associate Cartographic Engr.

Norfolk, Va.  
July 22, 1942

Approved and forwarded.

  
H. C. Warwick  
Officer in Charge  
Norfolk Processing Office.

NOTES TO ACCOMPANY DESCRIPTIVE REPORT SURVEY H-6715.

When Survey H-6715 was started it was expected that work would continue for a 3 months' field season. It became necessary, however, to close work within 2 weeks to take up special surveys in the Caribbean area.

The party on the Ship OCEANOGRAPHER arrived on the working grounds and started field work on October 19, 1940. The last day of field work was November 1, 1940. Field operations had to be closed suddenly without advance notice.

During this short period field work was three times interrupted by heavy weather.

As a result of the circumstances mentioned the quality of this survey was unsatisfactory to the Chief of Party. Fundamental control of satisfactory rigidity had not yet been completed, and problems incident to satisfactory R.A.R. position finding across the margin of the Gulf Stream and within the boundaries of that Stream had not yet been solved. For further details in this respect attention is directed to the Chief of Party's Season's Report dated March 12, 1941.

The Descriptive Report does not mention the several sounding lines in the immediate vicinity of buoy ADD, designed to fit the position of buoy ADD to the distinctive bottom feature at that point. Not all the soundings in the vicinity of buoy ADD contemplated were obtained, but a sufficient number were obtained to be of real help in fitting the position of buoy ADD to the depth curves of the 1939 survey. Apparently the processing office determined the position of buoy ADD solely by taut-wire traverse and dead reckoning from buoy DAN. The Chief of Party believes that a comparison of the 1940 soundings at buoy ADD in their relation to the depth curves of the 1939 survey should be carefully considered in selecting the most probable position for buoy ADD. *Hydrography at buoy ADD is in good agreement with hydrography of 1939 on H-6542*

*Fred. L. Peacock*  
 Fred. L. Peacock, Commander, USC&GS  
 Chief of Party.

July 29, 1942.

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STATISTICS FOR SHEET H - 6715

OCEANOGRAPHER 1940

Project HT-240

Letter Day	Date 1940	Statute Miles	Soundings	Positions
AA	Oct. 28	19.5	375	36
BB	29	37.9	759	71
A	21	50.0	489	31
B	22	55.0	526	30
C	29	56.3	721	42
D	30	93.1	909	63
E	31	216.2	2164	161
F	Nov. 1	43.6	538	29
Total		571.6	6481	463

Surveys Section (Chart Division)

HYDROGRAPHIC SURVEY NO. **H6715**

Records accompanying survey:

Boat sheets ~~three~~; sounding vols. (4)...; wire drag vols. ....;  
 bomb vols. (2)...; graphic recorder rolls (9) Hughes  
 special reports, etc. 1 taut wire log, 1 cahier of fathometer corrections,  
 1 cahier of taut wire observations and tides, 1 cahier of 37 R.A.R. and dead  
 reckoning abstracts, 1 cahier of 14 temp. and salinities & 14 bathythermographs,

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

Number of positions on sheet	463	
Number of positions checked	20	
Number of positions revised	0	
Number of soundings recorded	6481	
Number of soundings revised (refers to depth only)	8	
Number of soundings erroneously spaced	0	
Number of signals erroneously plotted or transferred	—	
Topographic details	Time	.....
Junctions	Time	..28.
Verification of soundings from graphic record	Time	...0..
Verification by <i>R. J. Christman</i> .....	Total time	..104. Date <i>Apr. 17-43</i>
Review by <i>R. H. Carstens</i> .....	Time	..27. Date <i>4/27/43</i>



Remarks

Decisions

	Remarks	Decisions
1		
2	As applied on chart 1110: <sup>Cape Fear</sup> to Winyah Bay	
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**GEOGRAPHIC NAMES**  
 Survey No. **H6715**

Name on Survey	On Chart No.		On previous survey No.		On U. S. Quadrangle Maps		From local information		On local Maps		P. O. Guide or Map		Rand McNally Atlas		U. S. Light List	
	A	B	C	D	E	F	G	H	K							
<u>Atlantic Ocean</u>																1
<u>Long Bay</u>																2
																3
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Names underlined in red app.  
 by L. Heck 7/31/42

# MEMORANDUM

## IMMEDIATE ATTENTION

SURVEY  
 DESCRIPTIVE REPORT  
~~PHOTOSTATIC~~

No. H **H6715**

~~Sketch~~

{ received **July 28, 1942**  
 registered **July 29, 1942**  
 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	<i>JEP</i>		<i>Notes added</i>
24			
25			
26			
30			
40			
62			
63			
82			
83			
88			
90			

RETURN TO

82	<b>R. W. Knox</b>
----	-------------------

*W. W. Knox*

*rac*  
*MR*

TIDE NOTE FOR HYDROGRAPHIC SHEET

July 31, 1942.

~~Division of Hydrography and Topography:~~

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

Plane of reference approved in  
6 volumes of sounding records for

HYDROGRAPHIC SHEET 6715

Locality Southeast of Long Bay, off South Carolina Coast

Chief of Party: Fred. L. Peacock in 1940

Plane of reference is mean low water reading

2.3 ft. on tide staff at Charleston (Time - 1 hr., Range 0.8)  
10.9 ft. below B. M. 6

Height of mean high water above plane of reference on working  
ground is 4.1 feet.

Condition of records satisfactory except as noted below:

*Ham*  
*Chief* Chief, Division of Tides and Currents.

DIVISION OF CHARTS

SURVEYS BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. 6715  
Field Nos. 81  
121

South Carolina, Atlantic Ocean, Southeast of Long Bay  
Surveyed October - November 1940; Scale 1:80,000  
Instructions dated September 2, 1939

Soundings:  
Fathometer  
Dorsey III

Control:  
R.A.R.

Chief of Party - F. L. Peacock  
Surveyed by - Ship's Officers  
Protracted by - L. L. Lawrence  
Soundings plotted by - L. L. Lawrence  
Verified and inked by - R. J. Christman  
Reviewed by - R. H. Carstens  
Inspected by - H. R. Edmonston

1. Shoreline and Signals

No shoreline is shown on this offshore sheet. The signals consist of sono-radio and hydrographic buoys located by taut wire and bomb distances. See pages 1 and 2 of Descriptive Report for details of control.

2. Sounding Line Crossings

Satisfactory except in Lat.  $32^{\circ}47.5'$ ; Long.  $77^{\circ}52.0'$  and Lat.  $32^{\circ}42.0'$ ; Long.  $77^{\circ}43.5'$  where there are discrepancies of 5 to 6 fathoms. Buoy EAR controlling these lines was located by bomb distances only and may be out of position. However, no attempt was made to adjust the position of EAR and replot the lines because of the uncertainty in the position of the entire control scheme and the fact that any adjustment would be more or less arbitrary. The soundings from the deeper sounding lines involved were not inked.

3. Depth Curves

The usual depth curves can be satisfactorily drawn within the limits of the developed areas.

4. Junctions with Contemporary Surveys

A satisfactory junction was made with H-6542 (1939) on the north and H-6543 (1940) on the west. The difference of 4-5 fathoms between soundings of the present survey and soundings from the northeastly limiting line of H-6543 is probably caused by the weak control on the lines involved.

5. Comparison with Prior Surveys

a. H-694 (1859) 1:300,000

This is an early reconnaissance survey. Soundings are few in number and are not in particularly good agreement with the present survey. The present survey should supersede it within the common area.

b. H-4468 (1924); H-4617 (1926); Scale 1:100,000

Agreement with the few soundings from these small scale surveys is within 20 fathoms. The lines on these earlier surveys are controlled principally by dead reckoning and are probably somewhat out of position. The present survey is adequate to supersede these prior surveys within the common area.

6. Comparison with Chart 1110 (latest print date 11-23-42)

a. Hydrography

No soundings are charted within the limits of the present survey.

b. Aids to Navigation

There are no charted aids to navigation within the limits of the present survey.

7. Condition of Survey

Satisfactory.

8. Compliance with Instructions for the Project

Satisfactory, except that as stated by the Chief of Party on page 4 of the Descriptive Report "fundamental control of satisfactory rigidity was not established."

The network of buoys by which the hydrography is controlled is based on the position of two buoys the location of which is fixed by the hydrography of 1939.

9. Additional Field Work Recommended

None on this survey.

Future surveys in this vicinity, adequately controlled, will probably permit the developed portion of this survey to be adjusted thereto, with an accuracy sufficient for navigational needs.

10. Superseded Surveys

H- 694 (1859)  
H-4468 (1924)  
H-4617 (1926)

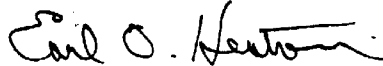
Examined and approved:



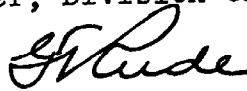
Chief, Surveys Branch



Chief, Division of Charts



Chief, Section of Hydrography



Chief, Division of Coastal Surveys

Applied to Cht. 1001 (before ver. + review) G.R. 12/22/42.  
" " " 1110 after " " " 2.M.A. 8/13/43  
Examined cht. 1001 after review. 2.M.A. 8/13/43