

6798

Form 504

U. S. COAST AND GEODETIC SURVEY
DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. 1142 Office No. H 6798

LOCALITY

State North Carolina

General locality Cape Lookout
~~Coast of North Carolina~~

Locality Lookout Bight & Approaches

1943

CHIEF OF PARTY

William F. Deane

LIBRARY & ARCHIVES

DATE March 12, 1943

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO.

H6798

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.

REGISTER No. H-6798
H6798

Field No. 1142

State North Carolina

General locality Cape Lookout
~~Coast and North Carolina~~

Locality Lookout Light & Approaches

Scale 1:10000 Date of survey January, February, 1943

Instructions dated October 22, 1943

Vessel Launch PARIS

Chief of party William F. Deane

Surveyed by William F. Deane and Robert H. Randall, Jr.

Soundings taken by ~~xxxxxxxx~~, graphic recorder, hand lead, ~~xxxx~~ and pole

Protracted by Marjorie Byrd

Soundings penciled by Marjorie Byrd

Soundings in ~~fathoms~~ feet at MLW ~~MLW~~

REMARKS: This sheet was processed at the Norfolk Processing Office.

and

H6798

DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SHEET NO. 1142 (FIELD)

LAUNCH FARIS

WILLIAM F. DEANE, CHIEF OF PARTY

PROJECT CS-298

1945

AUTHORITY:

This survey was executed in compliance with the Director's Instructions dated October 22, 1942.

SURVEY METHODS:

Standard survey methods were used throughout. Sextant fixes on shore objects were used to control the sounding lines. A portable 808D depth recorder was used for sounding from the FARIS and Launch No. 81. Pole soundings were taken from a dinghy except in cases where sudden drop-offs made the use of a leadline necessary.

GENERAL:

The exposed nature of the working grounds together with the size of the vessels used and the weather did not contribute to smooth fathogram records. The rolling and pitching showed up plainly on the records but this party has taken satisfactory account of such irregularities. It was not always possible to get very close to the shore because of the almost continual surf. The depth curves, however, could be easily drawn and represent the bottom configuration satisfactorily.

It was not possible to work in a long, narrow strip west of the Lookout Bight jetty because of the presence of an anti-submarine net maintained by the Navy. This party ran sounding lines as close as possible to the net in order to reduce the size of the "holiday" as much as safety allowed.

Bottom characteristics are not as numerous as desired but it was not economical to make special trips for the few we wanted in addition to the ones already obtained.

Frequent bar checks - three on each full working day - established all errors in the depth recorder. Serial temperatures were taken but the resulting corrections were less than 1%.

Most investigations for wrecks, etc. were made at low water since most are plainly visible at that stage.

The nun buoy off Wreck Point in Lookout Bight disappeared shortly after the party's arrival and was not replaced; this accounts for the omission on the boat sheet. This party located two small can buoys that mark the west limit of the inside anchorage of Lookout Bight. These buoys are of a temporary nature; small vessels use bearings on them in order to fix their anchorage.

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Sea weed is present in several localities.

DANGERS:

In addition to the already charted wrecks in Lat. 34° 37.10', Long. 76° 52.60' (sounding of ½ feet) and in Lat. 34° 36.98', Long. 76° 51.86' (bares ½ feet at MLW) two more wrecks were located.

In Lat. 34° 37.02', Long. 76° 52.48', a wreck bearing 2 feet at MLW was found.

In Lat. 34° 37.92', Long. 76° 52.11', a wreck bearing 3½ feet at MLW was found. This wreck hardly constitutes a menace to navigation because of its proximity to shore.

The jetty at Lookout Bight is so deteriorated that it cannot be seen if there is a heavy sea running. Pilots should give it a wide berth in thick weather. It was not possible to run lines across the sunken end of the jetty because of the presence of the protective net. Indications are, however, that the sunken area extends only a short distance from the bare area.

DISCREPANCIES AND CROSSINGS:

There were no discrepancies worthy of note. Crossings were satisfactory; disagreements were rare and were probably due to tide irregularities and the party's practice of reducing the soundings to the nearest half foot and then placing the soundings on the boat sheet to the lower integral feet. The interpretation of the fathograms on rough days is believed satisfactory but might lead to some of the small disagreements.

CHANNELS:

The channel to Lookout Bight passes close to the spit marking the west boundary of the bight and has a controlling depth of 14 feet. There are no aids to navigation to facilitate piloting through this channel and it is necessary to take frequent soundings in order to keep in deep water. Normally, a vessel may make the passage easily by keeping the HWL of the spit about 150 meters to the westward.

The channel leading to the Drain has a controlling depth of 3 feet. By passing the black can entrance buoy close aboard on either side and then favoring the east side of the opening a vessel may have safe passage to the Drain.

ANCHORAGES:

Anchorage for vessels not much in excess of a 6 foot draft and length of 75 feet may be had inside the bight SSW of the spit. There is good holding ground here in 14 feet of water with a soft mud bottom. The FAVIS used this anchorage almost exclusively. Prevailing swell from the southwest is effectively excluded here but the force of the wind is little hindered by the surrounding low terrain. A severe blow from a northerly direction may cause a vessel to drag but most boats drop an extra anchor if the wind reaches gale force from any direction.

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Swinging room is small in this area but the FARIS anchored in 14 feet about 100 meters WSW of the northerly black buoy and had ample room. The area may be crowded at times since there may be several patrol boats and other vessels anchored to ride out severe weather.

Good anchorage may be had northeast of the jetty and northwest of Wreck Point Beacon in approximate Lat. 34° 37.2', Long. 76° 33.0' in 34 feet of water. The bottom here is of soft mud and the swinging room is ample. This anchorage does not prevent the swell from effecting vessels at anchor and the vessels may be uneasy if the seas are high. The party on the FARIS preferred the inside anchorage to this one because of the amount of pitching and rolling that the vessel underwent.

For large ocean-going vessels the anchorage generally used is north and northwest of the jetty. Bottom ranges from soft sand to mud and the depths from 39 to 45 feet.

COMPARISON WITH PREVIOUS SURVEYS:

Comparison with previous surveys indicated some changes but most were of a regular nature. Spots from previous surveys that showed shallower depths were investigated but the present survey was substantiated in every case.

1. In Lat. 34° 36.80', Long. 76° 34.00', a charted sounding of 40 feet was investigated by running several sounding lines near and over the locality. This survey showed a depth of 42 feet.
2. In Lat. 34° 36.40', Long. 76° 34.30', a charted sounding of 43 feet was investigated and a least depth of 46 feet obtained.
3. In Lat. 34° 37.10', Long. 76° 35.80', a charted sounding of 46 feet proved to have a recent depth of 48 feet.
4. In Lat. 34° 39.75', Long. 76° 36.60', a charted sounding of 22 feet was investigated by additional sounding lines; the least depth found was 25 feet.
5. In Lat. 34° 39.16', Long. 76° 35.65', a charted sounding of 33 feet was investigated and 38 feet was found at the spot.
6. In Lat. 34° 38.73', Long. 76° 34.15', a charted sounding of 27 feet was investigated and a depth of 29 feet found; a sounding of 27 feet was found about 100 meters to the east.
7. In Lat. 34° 38.40', Long. 76° 34.05', a charted sounding of 31 feet was investigated and 36 feet of water found over the spot. Several soundings of 35 feet are closeby.
8. In Lat. 34° 37.58', Long. 76° 34.58, a depth of 43 feet was found at a charted sounding of 39 feet. *40 ft. 0.1 mile north*
9. In Lat. 34° 37.53', Long. 76° 33.40, a charted sounding of 37 feet was investigated and a depth of 39 feet found on the spot with soundings of 38 feet nearby.

The above discrepancies with previous surveys seem to indicate a general deepening in the locality.

The Office specifically requested an investigation of charted objects in five places; the party of the FARIS took particular pains to investigate with the following results.

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1. In Lat. 34° 37.10', Long. 76° 32.60', a charted wreck was found. The depth over the wreck at MLW is $\frac{1}{2}$ feet, indicating a settling in the sand since first located.
2. In Lat. 34° 36.98', Long. 76° 31.86', a charted wreck was found; this wreck bares $\frac{1}{2}$ feet at MLW.
3. In Lat. 34° 36.98', Long. 76° 32.20', a charted pile or spar is no longer in evidence. A search of 30 minutes with a leadline with a later and longer search with a pole proved that if this pile exists it is broken off practically flush with the bottom. It is recommended that this pile be deleted from the chart.
4. In Lat. 34° 36.70', Long. 76° 32.10', the charted black dot was searched for with a leadline and pole for 25 minutes with no result of a positive nature. A subsequent search at a minus tide when the bottom could be seen clearly failed to disclose any evidence of the former house. It is recommended that this dot be deleted from the chart.
5. The shoal area in Lat. 34° 37', Long. 76° 33.2' does exist as shown on the boat sheet; a sharp drop off occurs on the east side of the sand spit.

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GEOGRAPHIC NAMES: No new names are suggested for places in this locality. Several fishermen and Coast Guardmen were interviewed but could not supply additional information.

STATISTICS:

Statute miles of sounding lines.....391.7
 Number of soundings:
 PARIS.....Continuous profile
 Launch No. 81.....Continuous profile
 Dinghy.....436
 Number of soundings. *Positives*.....2054
 Area in square statute miles.....19.9

Respectfully submitted,
William F. Deane
 William F. Deane,
 H. & G. E.

APPROVED AND FORWARDED:

William F. Deane
 William F. Deane, H. & G. E.,
 Chief of Party.

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TIDAL DATA

TIDE GAGE AT LOOKOUT BIGHT, NORTH CAROLINA

Mean low water on staff.....4.2 feet

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ADDENDUM

SHEET H-6798 (Field 1142)

B day (red)

The fathometer speed appears to be irregular for this day. The times between positions were checked at this office and the percentage of differences were entered in the sounding records. No corrections for speed variations were made. However, in making comparisons of hydrography on this day with other days, it is found that if the plus corrections were applied a better agreement of adjacent hydrography would result, whereas, if the minus corrections were applied the agreement would be poorer.

Respectfully submitted,

Isadore M. Zeskind
Isadore M. Zeskind
Assoc. Cartographic Eng'g.

Norfolk Processing Office,
July 24, 1943.

Apparent speed increase requiring minus corrections comes at end of roll and is probably caused by something other than an increase in the speed of the machine. Minus corrections not applied.

Approved and forwarded.

Paul C. Whitney
Paul C. Whitney
Supervisor, Southeastern District.

Plus corrections only applied (141B+988B). This decision was based on a comparison with adjacent hydrography plus evidence of shoaling on the fathogram at 141B due to a slowing down of the fathometer. From 141B to the end of the day (198B) the speed drops as much as 5.8%.

J. K. Hartsock
12/16/43

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HG798

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

DEPARTMENT OF COMMERCE

AND REFER TO NO: 82-AB

U. S. COAST AND GEODETIC SURVEY

WASHINGTON

March 12, 1943

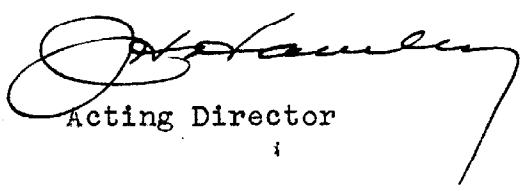
To: Supervisor, Southeastern District,
U. S. Coast and Geodetic Survey,
1001 Monticello Avenue,
Norfolk, Virginia.

From: The Director,
U. S. Coast and Geodetic Survey.

Subject: Data for Descriptive Report.

For your information in processing the hydrographic survey of Lookout Bight, North Carolina, we are sending a letter from the Commanding Officer of the FARIS and a table of fathometer corrections.

Please include these inclosures with the descriptive report of the hydrographic sheet.


Acting Director

Enclosures



H6798

POST-OFFICE ADDRESS: Box 116, Beaufert, N. C.

TELEGRAPH ADDRESS:

EXPRESS ADDRESS:

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DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

February 28, 1943

To: The Director,
U. S. Coast and Geodetic Survey,
Washington, D. C.

From: Commanding Officer,
Launch FARIS,
U. S. Coast and Geodetic Survey.

Subject: Temperature and Salinity Corrections, Project CS-298

Pursuant to your instructions dated October 22, 1942 for a re-survey of Lookout Bight, North Carolina, we submit this report as to the effect of water temperatures on fathometer velocity.

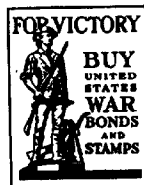
From the results of three serial temperature computations it is apparent that no corrections are necessary to the fathometer soundings obtained by this party.

Bar checks were generally satisfactory and few corrections had to entered in the record books.

Temperature and salinity computations are enclosed herewith.

William F. Deane
William F. Deane,
Lieut., C.&G.S.,
Commanding FARIS.

Enclosure



CS-298

William F. Deane

Lookout Bight, N.C.

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TABLE I

FATHOMETER CORRECTIONS
0-10 Fathoms

FATHOMETER TYPE DEPTH RECORDER 808D CALIBRATED FOR 820 FMS. PER SECOND

1	2	3	4	5	6	7	8
Depth Fms.	Temp. °C.	Mean Temp.	Sal. pp/1000	Mn. Sal.	Factor	Corrn. Fms.	Corrn. Ft.
January 20, 1943							
2	8.0	8.0	33.4	33.4	-.0149	-.03	-.18
January 29, 1943							
2	9.8		34.6				
7	10.4	10.2	35.2	34.9	-.0083	-.058	-.35
February 12, 1943							
2	11.2		35.0				
7	11.5	11.4	35.2	35.1	-.0052	-.036	-.22

No corrections necessary as correction amounts to less than 1%.
Bar checks at frequent intervals substantiate soundings.

Surveys Section (Chart Division) 8
 116798

HYDROGRAPHIC SURVEY NO.

Records accompanying survey:

Boat sheets ¹....; sounding vols. ⁹....; wire drag vols. ⁰....;
 bomb vols. ⁰....; graphic recorder rolls ¹⁴....;
 special reports, etc. *None*.....

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

Number of positions on sheet	.....	2054
Number of positions checked	.....	136
Number of positions revised	.....	2
Number of soundings recorded	.....	Approximately 14,000
Number of soundings revised (refers to depth only)	.....	0
Number of soundings erroneously spaced	.....	0
Number of signals erroneously plotted or transferred	.....	0
Topographic details	Time	16
Junctions	Time	0
Verification of soundings from graphic record	Time	188

Verification by *John K. Hartsock*..... Total time 469 Date *12/16/43*

Review by *R.H. Carstens*..... Time 75½ Date *12/27/43*

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Remarks

Decisions

	Remarks	Decisions
1		U.S.G.B
2	Location of tide staff	346765
3		"
4		346765
5		"
6		" U.S.G.B
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GEOGRAPHIC NAMES

Survey No. **H6798**

Name on Survey	Source										
	A	B	C	D	E	F	G	H	K		
<u>North Carolina</u>											1
<u>Lookout Bight</u>											2
<u>Cape Lookout</u>											3
<u>Wreck Point</u>											4
<u>The Drain</u>											5
<u>Shackleford Banks</u>											6
											7
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Names underlined in red approved
by L.H. on 11/8/44

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713

TIDE NOTE FOR HYDROGRAPHIC SHEET

July 30, 1943

~~Division of Hydrography and Topography:~~

✓ Division of Charts: Attention: H. R. EDMONSTON

Plane of reference approved in
9 volumes of sounding records for

HYDROGRAPHIC SHEET 6798

Locality Lookout Bight, Coast of N. C.

Chief of Party: W. F. Deane in 1943
Plane of reference is mean low water reading
4.2 ft. on tide staff at Lookout Bight
8.1 ft. below B. M. 1

Height of mean high water above plane of reference is 3.7 feet.

Condition of records satisfactory except as noted below:

H. A. Marmor

Acting Chief, Division of Tides and Currents.

MEMORANDUM

IMMEDIATE ATTENTION

SURVEY DESCRIPTIVE REPORT PHOTOSTAT OF	}	No. H No. T	H6798	{ received July 29, 1943 registered July 29, 1943 verified reviewed approved
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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			
24			
✓ 25	Pg 2 & 3		
26			
30			
40			
62			
63			
82			
✓ 83	Pg 2, 3, 4	AK	831 (ch. with Sp. Paint) JTA
88			
90			

RETURN TO

82	R. W. Knox
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DIVISION OF CHARTS.

REVIEW SECTION - SURVEYS BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. 6798

Field No. 1142

North Carolina, Cape Lookout, Lookout Bight and Approaches
Surveyed January - February 1943, Scale 1:10,000
Instructions dated October 22, 1943^{1/2}

Soundings:

Hand lead
808 Fathometer
Sounding pole

Control:

Three-point fix on shore signals

Chief of Party - W. F. Deane
Surveyed by - W. F. Deane and R. H. Randall, Jr.
Protracted by - M. Byrd
Soundings plotted by - M. Byrd
Verified and inked by - J. K. Hartsock
Reviewed by - R. H. Carstens
Inspected by - H. R. Edmonston, January 7, 1944

1. Shoreline and Signals

The shoreline and signals originate with T-6841 (1943) and with sextant fixes recorded in the sounding volumes.

2. Sounding Line Crossings

Satisfactory.

3. Submarine Relief

There are no prominent submarine features within the area of the present survey. In several places, as for example in Lat. $34^{\circ}36.47'$, Long. $76^{\circ}34.73'$ and in Lat. $34^{\circ}38.57'$, Long. $76^{\circ}33.77'$ depths rise abruptly 3-5 feet from a uniform bottom and indicate minor obstructions.

The usual depth curves were satisfactorily drawn and curves at 24, 36, 42 and 48 feet have been added. Where a natural curve could not be drawn by including the required depths, the curve has been shown in its most probable position by a dashed line. Rough seas experienced during surveying operations would cause excessive irregularities in the curves if this adjustment were not made.

4. Junctions with Contemporary Surveys

There are no contemporary surveys in this area.

5. Comparison with Prior Surveys

- a. H- 419 (1854) 1:10,000
- H- 577 (1857) 1:40,000
- H- 855 (1865-66) 1:40,000
- H-1391 (1878) 1: 5,000

Agreement with these surveys is generally within 2-3 feet in the offshore areas where little change in the bottom has taken place. The spit in 34°37.0', Long. 76°33.1' has extended north-eastward about one mile into prior depths of about 40 feet since the earliest survey was accomplished. The present survey is adequate to supersede these prior surveys within the common area.

- b. H-3374 (1912) 1:10,000
- H-4802 (1928) 1:10,000

These surveys cover only a limited area in common with the present survey in the vicinity of Lookout Bight. The spit has extended offshore about 250 meters since 1928. Off the mouth of The Drain a 3-4 foot shoal has developed in prior depths of about 15 feet. Agreement in other areas is good. The present survey should supersede these prior surveys within this changeable area.

6. Comparison with Chart 1233 (Latest print date 8-20-43)
Chart 1234 (" " " 9-14-43)
Chart A-1876-1(1) (Special Print)

a. Hydrography

Within the limits of the present survey the charted hydrography on chart 1233 to the west of Long. 76°34.5' originates with the previously discussed surveys and to the east of this longitude the charted hydrography originates with the boat sheet of the present survey. The least depth into The Drain, as shown on the smooth sheet, is 3 feet. The tower on Shackelford Pt. is charted about 70 meters out of position.

The charted hydrography on chart 1234 within the limits of the present survey originates with the boat sheet of the present survey. In the process of verification of the smooth sheet, the following critical soundings have been added; 44 feet in Lat. 34°36.47', Long. 76°34.72'; 40 feet in Lat. 34°37.68', Long. 76°34.5'; 35 feet in Lat. 34°37.48', Long. 76°33.25'; 23 feet in Lat. 34°38.58', Long. 76°33.75'; 21 feet in Lat. 34°38.67', Long. 76°33.80'; and corrections have been applied to a number of soundings charted in the vicinity of Lat. 36°38.3'.

The hydrography charged on special print A-1876 originates with the boat sheet of the present survey. The area should be charted from the inked smooth sheet.

b. Aids to Navigation

The charted position of buoy FLW"2" Bell in Lat. 34°37.4', Long. 76°36.0' has been changed since the date of the present survey. The charted position of FLW"2" Bell on the special print A-1876 is not in agreement with the position on chart 1234. The nun buoy charted in Lat. 34°37.2', Long. 76°32.5' was not in place at the time of the present survey and consequently is not shown. The can buoys in the vicinity of Lat. 34°36.8', Long. 76°32.3' are of a temporary nature and are not charted.

7. Condition of Survey

Satisfactory.

8. Compliance with Instructions for the Project

Satisfactory.

9. Additional Field Work Recommended

None.

10. Superseded Surveys

H- 419 (1854)	in part
H- 577 (1857)	" "
H- 855 (1865-66)	" "
H-1391 (1878)	entirely
H-3374 (1912)	in part
H-4802 (1928)	" "

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

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

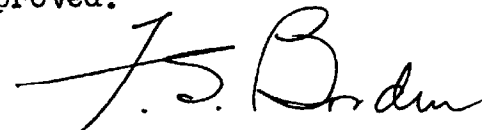
WASHINGTON 25

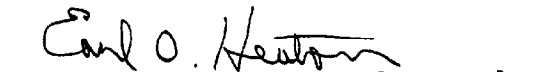
AND REFER TO No.




Examined and approved:


Chief, Surveys Branch


Chief, Division of Charts


Chief, Section of Hydrography


Chief, Division of
Coastal Surveys

(see previous sheet)

HC798

Applied to Special Chart "Lookout Bight and Approaches"
March 17, 1943. L.A.M.

applied to chart 421. Jan. 23, 1945. L.A.M.
" " " 1233 Jan 23, 1945 L.A.M.
" " " 420 " 27 1945 HFA
" " " 420 (reconstruction) Sept. 20, 1945. L.A.M.