4450

Form 504

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

11—5013

State: North Carolina

DESCRIPTIVE REPORT.

Hydrographic Sheet No. 4450

LOCALITY:

Cape Fear

Lockwoods Folly Inlet to Mad Inlet

1924

CHIEF OF PARTY:

H.A.Cotton

4450

D E S C R I P T I V E--R E P O R T

In-shore launch hydrography to accompany

HYDROGRAPHIC SHEETS (2) EXTENDING
FROM SIGNAL FEN TO MAD INLET.

AUTHORITY:

The work shown on the sheets was exacutrd under the Directors orders dated April 21, 1924.

LIMITS:

The area: extending on an average one ans one half miles from the shore line and from immediately west of signal Fen at long. 78° 11' to the eastern point of Mad Inlet, long. 78° 31'. Proper function was made with the ships work immediately off shore.

METHOD OF SURVEY:

The 24 foot power launch of the steamer LYDONIA was used for the work and operated from a parmanent camp established in Shallotte Inlet. The sounding was done by hand lead and the launch operated at a nearly uniform speed averaging three knots. This speed permitted that the soundings be taken often enough to assure sufficient data for plotting the depth curves.

Fixes, by the usual sentant angle method, were taken often enough to assure accurate control for plotting the soundings and at no time, except when not avoidable, was the launch stopped at the beginning or ends of lines. The turning radius of the launch for 90° is about 5 meters.

CONTROL:

The control was furnished by launch signals erected and located by the topographic party at intervals of about 600 meters or less. The control for the topography was furnished by triangulation and precise traverse stations which were recovered at short intervals along the beach.

GENERAL:

In general the conformation of the bottom was very regular giving a smooth five fathom curve practically parallel to the beach. In the neighborhood of the inlets the bars caused considerable variation in the bottom, out to a depth of two and sometimes three fathoms. The parallel lines spaced at 1/4 mile intervals running normal to the beach, to-gether with the two cross lines and the extra development of the inlets and channel bars, seemed to furnish sufficient data.

SPECIAL:

Lockwoods Folly Inlet:

The main entrance to this inlet has not changed appreciably since the last survey. At low water the inlet is not safe for boats of draft ofm more than three feet if there is much ground swell running on account of the heavy breakers across the eastern bar. There are two wrecks both of which are visible at low water. The first and least prominent is well to the east of the passage near the entrance and is not a menace to navigation. The second wreck is in the eastern edge of the channel beyond the bar and is generally visible at high water. The fishing boats navigating the entrance use this wreck as a range.

The inlets shown at topohraphic stations Post and Mary are both dry at low water.

Shallotte Inlet:

Shallotte Inlet is marked by buoys which are changed from time to time as the bars at the entrance shift. There are entrances both of which at the time of the survey were navigable at low water but the western entrance was gradually filling up as the eastern deepened.

There is one wreck at the eastern edge of the eastern channel which is nearly sanded over and is not visible at any time.

Tubbs Inlet:

There are two entrances to this inlet both of which offer considerable difficulty at low water. The outer ends of the channels are fairly well defined and offer sufficient water for fishing boats and small launches but at low water a flat sand bar at the inner end of the channel completely closes the eastern side and makes the weastern side difficult of passage. These bars are subject to freguent and complete changes of position.

Respectfully submitted.

S. B. Granall.

DATE 1928	LETTER	VOLUME	POSITIONS	SOUNDINGS	MILES STATUTE	VESSEL	
October 7	A	1	89	476	12.5	Motor	Sailer
" 8	B	1	66	375	8.7	"	"
" 10	C	1	115	540	18.0	"	"
" 11	D	1&2	90	491	15.5	"	"
" 13	E	2	118	737	23.3	"	"
" 14	F	2	58	388	10.4	"	"
" 18	G	3	59	371	10.2	"	"
" 20	H	3	149	900	26.1	"	"
" 21	J	3	8	52	1.0	"	"
" 22	K	3&4	73	467	15.3	"	"
" 23	L	4	37	222	6.8	"	"
" 27	M	4	17	104	2.8	"	"
" 28	N	4	104	717	18.8	"	"
" 29	P	4&5	140	909	24.5	"	"
November 26	R	5	31	211	5.1	"	"
December 11	S	5	41	235	4.3	"	"
Totals			1195	7195	203.3		

Unit for soundings -- feet

Plane of Reference -- Mean low water

Plane of Reference Reading on Gauge -- 5 feet

Lowest Tide observed Reading on Gauge - - 4.4 feet

Highest Tide observed Reading on Gauge - - 10.7 feet

Location of Ft. Caswell Tide Gauge -- Lat.33°-54' Long. 78°-01'

A portable tide gauge was installed in Lockwoods Folly Inlet and Tubbs Inlet and a tide staff at Shallotte Inlet in order to get a comparison with the Automatid Tide Gauge at Ft. Caswell

An allowance of 30 minutes in time was made, assuming that the tide to the Westward of Ft. Caswell occurs earlier than at the latter place, and the range was taken as one tenth greater; as approved in your letter of February 21, 1925. Ref. # 41WEM

The marigrams for Ft. Caswell and subordinate stations have been forwarded.

field records.

June 15, 1926.

~~Division of~~ Hydrography and Topography:

Division of Charts:

Tide reducers are approved in
8 volumes of sounding records for

HYDROGRAPHIC SHEET 4480

Locality: Vicinity of Cape Fear, North Carolina

Chief of Party: H. A. Cotton in 1924.
Plane of reference is mean low water and is
5.0 ft. on tide staff at Fort Caswell, North Carolina.

For reduction of soundings, 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 wrong column.
7. Field reductions entered in "Office"column.
8. Location of tide gauge not given at beginning of each day's work.
9. Leadline corrections not clearly stated.
10. Kind of sounding tubeused not stated.
11. Sounding tube No. entered in column of"Soundings" instead of "Remarks".
12. Legibility of record could be improved.
13. Remarks

G T Rude

Chief, Division of Tides and Currents.

Report on Verification and Inking Hydrographic Sheet No. 4450.

Records were well kept and easily read.

In general, the protracting was well done. Quite a few positions were numbered wrong.

Completed field plotting was good. However, in the inlets the scale was so small some of the soundings had been left off the sheet. Two of these inlets have been enlarged, reprotracted and replotted.

In the open spaces sounding line crossings check well. In the inlets not so well.

Information was sufficient for developing the usual depth curves.

C. Brooks.

Note: Oct. 17, 1925.

The work of "x" day in Shallotte Inlet was done a month after the other work in Shallotte Inlet. The work of "x" day in Tubbs Inlet was done a month and a half later than the other work in that inlet. These facts may explain the difference between some of the soundings in these localities, as the change of bottom is rapid at the inlets along this part of the coast.

John C. MacRae.

ADDRESS THE DIRECTOR
U. S. COAST AND GEODETIC SURVEY

AND REFER TO No. 4-DRM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
WASHINGTON November 5, 1925.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4450

Cape Fear, North Carolina

Surveyed in 1924

Instructions dated April 21, 1924

Chief of Party, H. A. Cotton.

Surveyed by R. D. Horne and S. B. Grenell.

Protracted and soundings plotted by W. M. Gibson and H. R. Edmonston

Verified and inked by C. B. Brooks and J. C. MacNab.

1. The records as well as the plan and character of the work conform to the requirements of the General Instructions.

2. The plan and extent of the survey satisfy the specific instructions with the exception that 1:20,000 scale was used instead of 1:40,000. This departure from the instructions appears to have been justified. It was found impossible to represent two of the inlets adequately on 1:20,000 so they were re-plotted in the office on 1:10,000 scale.

3. The sounding line crossings are adequate, except in the inlets where the differences are so great in a number of instances that they showed that some of the lines are out of position.

4. The information is sufficient for drawing the usual depth curves except in the inlets.

5. The usual field plotting was done by the field party. The plotting on the outside coast was well done but the following defects were noted:

   10 signals and triangulation points were incorrectly located, the maximum error being 30 meters.

   A number of sounding lines in the inlets were erroneously plotted and about 8 lines were omitted.

   A number of positions were wrongly numbered.

GPO

6. The junctions with the adjoining sheets are, in general, satisfactory. There are differences of 2 or 3 feet which cause irregularity in the 30 foot curve.

7. No further surveying is required.

8. In some cases the discrepancies between sounding lines in the inlets may be due to changes having taken place during the 4 to 6 weeks time occupied by the surveying.

9. The character and scope of the surveying on the outside coast is excellent while that of the inlets is only fair. The field drafting was fair.

10. Reviewed by E. P. Ellis, October, 1925.

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Form 537
11—5812

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.

C

U. S. Coast and Geodetic Survey.

Register No. 4450

State . . . . . North Carolina . . . . . .

General locality . ~~West of~~ Cape Fear . . . . . .

Locality . . . . . Lockwoods Folly Inlet to Mad Inlet ~~Cape Fear to Mad Inlet~~ . . . . . .

Chief of party . . Harold A. Cotton . . . . . .

Surveyed by . . . R. D. H. Bruce & S. B. Grenell . . . . . .

Date of survey . . October 7, 1924,--December 18, 1924. . . .

Scale . . . . . 1.-.20,000 . . . . . .

Soundings in . . . Feet . . . . . .

Plane of reference M. L. W. . . . . .

Protracted by . . W. M. Gibson Soundings in pencil by W. M. G. . .

Inked by . . . . . Verified by . . . . . .

Records accompanying sheet (check those forwarded):

1 Des. report, ... Tide books, ... Marigrams, 2 Boat sheets,

5 Sounding books, ... Wire-drag books, ... Photographs.

Data from other sources affecting sheet . . . . . .

Remarks: