

4911

Diag. Cht. No. 1239-2

Form 504 Ed. June, 1928	
DEPARTMENT OF COMMERCE U. S. COAST AND GEODETIC SURVEY E. Lester Jones, Director	
State: <u>South Carolina</u>	
C. & G. SURVEY L. & A. JUL 8 1929 Acc. No.	
DESCRIPTIVE REPORT	
Topographic Hydrographic	Sheet No. 9 4911
LOCALITY	
Wando River,	
Vicinity of Charleston	
Cooper River, East Branch to	
Quimby Creek	
19 28	
CHIEF OF PARTY	
R. F. A. Studds	

4911

DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SHEET NO. 9

Dec. 12, 1928 to Jan. 10, 1929. Cooper River, Vicinity of Charleston, S.C.

Launch ELSIE.

R.F.A.Studds, In Charge.

Instructions dated December 17, 1927; June 20, 1928.

INTRODUCTION:

This is the third of three sheets on a scale of 1:10,000 covering a survey of the Cooper River. The sheets begin at a junction with the limit of H2189 in the vicinity of Woods Point and extend to the Seaboard Air Line Railroad bridge in the West Branch of the Cooper River and to Quimby Creek in the East Branch of the Cooper River.

The three sheets join each other and are laid out so that they include the creeks bordering the river.

This sheet covers a portion of the East Branch of Cooper River, extending from Higgins Landing to Quimby Creek, the limit of hydrography in the East Branch.

GENERAL:

Charleston was used as a base for supplies. Quarters on the ELSIE were supplemented by a tent ashore in order to accommodate all members of the party.

Sounding was done from small boats.

SURVEY METHODS:

Control was furnished by a scheme of triangulation extended up the Cooper River from the line Field - Goose Creek. This scheme was carried up the East Branch of the Cooper River as far as station "Cherry". A number of signals for control of hydrography were located by theodolite cuts from the main scheme stations, the cuts being plotted directly on the smooth sheet.

A planetable traverse was carried from station "Cherry" to the limit of hydrography and signals for the control of hydrography located thusly.

Control for hydrography in French Quarter Creek was obtained from signals located by sextant angles. These angles are recorded in the sounding record.

Topography for the area of this sheet is shown on Topographic Sheet "E".

The shoreline of French Quarter Creek was sketched in by the hydrographic party and is so stated by a pencilled note on the smooth sheet.

Hydrography in the East Branch of the Cooper River was performed by a system of diagonal lines, supplemented by lines run parallel to the axis of the river. These latter lines were run with the current in order to obtain the best results. Shoal indications and channels were developed.

Soundings were taken in French Quarter Creek merely to indicate the depths. In the wider portion of the creek, several lines were run parallel to the axis of the creek, and where the latter narrowed, only a single line of soundings was taken.

Tides: Tidal data were obtained from two gauges for the reduction of soundings on this sheet. One gauge was located at Dean Hall, shown on sheet 8, and one at Quimby Creek.

Both gauges were compared to the Primary Tide Station at Charleston, S. C. and values obtained for lunitidal intervals and for ranges. For areas too distant from either gauge, a time correction and ratio of ranges were applied to the observed tides to obtain reducers.

RESULTS:

As a result of the development, channels and shoals are well defined. There is no previous survey available for comparison.

10 feet appears to be the depth that can be taken to Pompein Chapel and 6 feet to the North State Lumber Company log landing at the limit of hydrography. Because of the narrowness of the channel near the latter place, however, 3 feet at low water, would be a safer draft to use.

A number of shoals were discovered and the more important ones are indicated on the smooth sheet by a pencilled arrow.

There are two places where questionable soundings occur. On Position 45, A Day, the 5 foot sounding on the position was probably read one fathom too small or the sounding and the position were not taken simultaneously. Positions 97 and 98, A Day, are weak fixes and were taken on the diagonal lines. These positions should be rejected and the area charted from soundings taken between Positions 19 and 21, F Day. This latter line was run parallel to the axis of the river.

CONCLUSION:

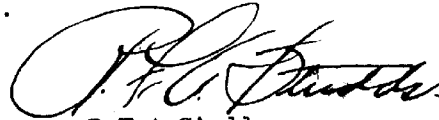
Names shown on this sheet were obtained from Topographic

Sheet "E". Authority for their adoption is given in the Descriptive Report of that sheet.

Landmarks for this area are also given in the Descriptive Report of that sheet.

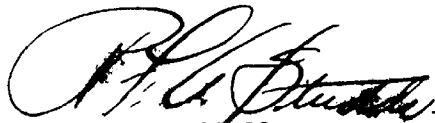
The extent of regular traffic on the East Branch consists of a tug, towing two barges, which makes three round trips weekly from Quimby Creek to Charleston, and several small freight boats which run at irregular intervals. The river is occasionally used by yachts, especially during the hunting season. Only occasional small launches use French Quarter Creek.

The tidal current is quite strong in the main portion of the river, and pilots usually wait for a favorable tide in making a run.



R.F.A. Studds,
Jr. H & G E,
USC&G Survey.

Forwarded:



R.F.A. Studds,
Chief of Party,
USC&G Survey.

HYDROGRAPHIC SHEET

-No. 9-

STATEMENT OF CHIEF OF PARTY

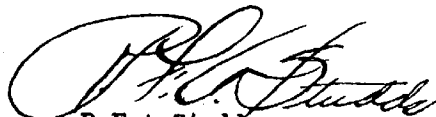
(in accordance with Paragraph 174, Special Publication 143)

This sheet and its accompanying records have been inspected and are approved.

The East Branch, especially where it approaches Quimby Creek, is quite narrow and consequently difficulty will be experienced in charting both channels and shoals. It is recommended, therefore, that a note be placed on the chart stating that the channel follows the course of the ebb tide.

*not to be used
by chief of party*

The Geological Survey Advance Sheet of "Cordesville Quadrangle" is of no value in the compilation of the chart of this area, unless it can be used to supplement topography shown on Topographic Sheet "E".



R.F.A. Studds,
Chief of Party,
USC&G Survey.

HYDROGRAPHIC SHEET

-NO. 9-

TIDAL DATA

Data from two gauges were used for the reduction of soundings in the area shown on this sheet. One gauge was located at Dean Hall in Latitude $33^{\circ} 03.4' N$, Longitude $79^{\circ} 56.1' W$, and the other at Quimby Creek in Latitude $33^{\circ} 06.2' N$, Longitude $79^{\circ} 49.3' W$.

Comparisons were made with the Primary Tide Station at Charleston and values obtained for lunitidal intervals and ranges.

The mean difference in lunitidal intervals between the Dean Hall gauge and the gauge at Quimby Creek is 82', the interval being greater at Quimby Creek. The difference in ranges is 0.2', the range being greater at Quimby Creek, also. For areas too distant from any one gauge, a time correction and ratio of ranges were applied to the observed tides to obtain reducers.

Data for the two gauges are as follows:

	Referred to zero of staff.	Referred to Plane of Reference.
Dean Hall:		
Highest tide observed	13.8	5.4
Mean High water	12.4	4.0
Mean Tide Level	10.4	2.0
Mean Low Water (plane of ref.)	8.4	0.0
Lowest tide observed	6.8	-1.6
 Quimby Creek:		
Highest tide observed	8.4	5.3
Mean High Water	7.4	4.3
Mean Tide Level	5.3	2.2
Mean Low Water (plane of reference)	3.1	0.0
Lowest tide observed	1.4	-1.7



R.F.A. Studds,
Chief of Party,
USC&G Survey.

STATISTICS FOR HYDROGRAPHIC SHEET, FIELD NO. 9

Date	Letter	Volume	Positions	Soundings	Miles, statute
1928					
Dec. 12	A	1	172	339	9.2
13	B	1	97	154	4.2
14	C	1	93	179	4.2
27	D	1,2	125	271	6.9
28	E	2	33	74	1.9
30	F	2	83	186	4.7
1929					
Jan. 5	G	2	63	140	3.8
6	H	2	13	28	1.0
7	J	2	6	76	2.1
8	K	2,3	255	521	13.7
9	L	3	77	136	3.2
10	M	3	10	10	0.3
TOTALS.....			1027	2114	55.2
Area.....			0.5 sq. st. miles		

Section of Field Record

8cm

August 29, 1929.

Division of Hydrography and Topography:

✓ Division of Charts:

Tide Reducers are approved in
3 volumes of sounding records for

HYDROGRAPHIC SHEET 4911

Locality: East Branch, Cooper River

Chief of Party: R. F. A. Studds in 1928
Plane of reference is mean low water, reading
8.4 ft. on tide staff at Dean Hall

~~8.4 ft. on tide staff at Dean Hall~~
3.1 ft. on tide staff at Quimby Creek

Allowance made for time and range

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.

Section of Field Records.

Report on sheet H 4911
Chief of Party R.F.A. Stodds
Protracted by R.A. Earle
Verified & dated by J.W. Walker

Surveyed in 1928 & 1929
Surveyed by R.F.A. Stodds.
Soundings plotted by
R.A. Earle.

The sounding records were not very neatly kept. Paragraph 75 (a) page 9 of the Hydrographic Manual, relating to description of beginning and ending of each day, was not followed.

The protracting was very accurate.
Soundings were plotted according to time.

The channels and shoals were sufficiently developed.

The sheet was clean and the work was legible.

The drafting conformed to General Instructions for field work.

A 5 foot sounding near shore at 45 A, 160 m. N. & Δ Log was rejected by the field but I saw no adequate reason for rejecting it and inked it in.

Reviewed by _____

Respectfully submitted
J.W. Walker
10/19/29

Section of Field Records
Report on Hyd. Sheet No 4911
Cooper River - East Branch, South Carolina
Surveyed in 1928 and 1929

Original instructions dated Dec. 17, 1927 (Lieut. P. F. A. Studds)
Supplemental instructions dated June 20, 1928 " " "

Chief of Party - P. F. A. Studds

Surveyed by - P. F. A. Studds

Protracted and plotted by - R. A. Earle

Verified and inked by - J. T. Walker

1. The records conform to the requirements except that the beginning and ending of each day was not described.
2. The plan and character of development conform to the requirements of the General Instructions.

3. The plan and extent of the survey satisfy the specific instructions except that the supplemental instructions call for the omission of soundings in the creeks.
4. In general the sounding line crossings are fairly good. The river is narrow, the bottom uneven and perfect agreement can hardly be expected.
5. The information is sufficient for drawing the usual depth curves.
6. The junction with H. 4910, is satisfactory.
7. The usual amount of field plotting was carefully and accurately done.
8. Character and scope of surveying - good.
All the work on this sheet is controlled by three point fixes. The ground is well covered and shoal development is sufficient.
9. No additional work is necessary.

Reviewed by R.L. Johnston
Note - Survey of French Quarter Creek, while sufficient for the scale of the chart, is not of standard quality and is rated reconnaissance
Nov. 5, 1929
G.M. Sobieralski

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO.
4911

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. 9

REGISTER NO. 4911

State South Carolina

General locality Vicinity of Charleston, S.C.

Locality Cooper River, East Branch to Quimby Creek

Scale 1:10,000 Date of survey Dec. 12, 1928 to Jan. 10, 1929

Vessel Launch ELSIE

Chief of Party R.F.A. Studds

Surveyed by R.F.A. Studds

Protracted by Robert A. Earle

Soundings penciled by Robert A. Earle

Soundings in ~~fathoms~~ feet

Plane of reference Mean Low Water

Subdivision of wire dragged areas by ---

Inked by J.T. Walker

Verified by J.T. Walker

Instructions dated Dec. 17, 1927; June 20, 1928

Remarks: Sheet 3 of 3 sheets of Cooper River

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. 4911

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

Number of positions on sheet . 1027
Number of positions checked . 205
Number of positions revised . . . 1
Number of soundings recorded . 2114
Number of soundings revised . . . 6
Number of signals erroneously
plotted or transferred 0

Date: - Oct 19, 1929 - - - - -

Cartographer: - J Walker - - - - -