

4377

Diag. Ch. No. 1244

Form 504
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

State: Florida

11-5613

DESCRIPTIVE REPORT.

Hydrographic Sheet No. (B) 4377

LOCALITY:

~~East Coast of Florida~~

Bikes Prairie to Ormond

24
191

CHIEF OF PARTY:

J. H. Hawley

4377

4377

DESCRIPTIVE REPORT

to accompany
HYDROGRAPHIC SHEET "B"

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East Coast of Florida
Lat. $29^{\circ} 35'$ to $29^{\circ} 18'$, North

Scale 1:40,000

Surveyed by Steamer LYDONIA

February to April

1924

J.H.Hawley, Commanding

DESCRIPTIVE REPORT

to accompany

Hydrographic Sheet No. B

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On this sheet is plotted the fixed position work executed by the steamer LYDONIA off the east coast of Florida from February 1 to April 30, 1924 and the inshore work done by a launch party from the vessel. This section of the report relates to the ship work only and is followed by a description of the launch work.

This work was executed in accordance with instructions dated November 4, 1922 and February 26, 1923. In accordance with supplemental instructions dated January 10, 1924 the lines were run normal to the beach instead of east and west.

The usual methods of control were used. Tall hydrographic signals were constructed and located by the party at intervals of from 4 to 5 miles along the beach while smaller intermediate signals were built and located by detached topographic and signal building parties. Signal buoys of the single barrel type were planted from 2 to 2-1/2 miles apart along a line about 10 miles off shore and located from the shore signals. These buoys were anchored with a bridle so that they had a short swinging radius.

In general the ship work starts about 1 mile from the shore and extends out about 2 miles beyond the line of buoys and well outside the 10-fathom curve. Near the northern limit, however, the 10-fathom curve extends out beyond the usual limit of visibility of signals and this area was developed by planting an additional buoy and using unusually clear weather on one or two days whereby the work was extended about 4 miles out from the buoy line.

Considerable change from the present chart in the location of the 10-fathom curve was found especially near the north limit of the work, as noted above, where the area with depths less than 10 fathoms extends about 8 miles farther out than as shown on the chart.

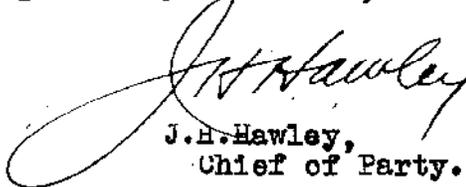
The hand lead was used for all work on this sheet and the soundings on the various lines usually agreed very well. On C and D days, however, a part of the work was done in rather rough weather and a few lines off Station HAULOVER did not check well with later lines. These lines were re-run and the later lines should be given preference as they were run in much better weather. Near the southern limit of the work a few extra lines were run in the vicinity of the buoys as it was thought that the buoys had shifted position. It was

decided later that the apparent shifting was due to distortion of the sheet so these lines were probably unnecessary.

In the area covered by this sheet the inner 10-fathom curve extends in a fairly even line from 2 to 4 miles off shore. Outside of this curve the water deepens to 11 fathoms or a little over and then shoals, about 6 miles from the shore, to a narrow broken ridge roughly parallel with the beach having a least depth of about 7 fathoms. Beyond this ridge the depth increases again to from 11 to 13 fathoms and, at about 10 to 13 miles from shore shoals to less than 10 fathoms, the shoal area being very uneven and irregular. Near the north limit of the work there are spots with depths less than 10 fathoms beyond the limits of the sheet. These shoals are shown on sheet "D".

Readings from the automatic gauge at St. Augustine were used for the reduction of all soundings on this sheet.

respectfully submitted,


J.H. Hawley,
Chief of Party.

HYDROGRAPHIC STATISTICS.

Boat: LYDONIA.

SHEET: "B"

Date	Day	Vol.	Miles	Soundings	Positions	angles	area
Feb. 2	A	1	14.6	232	63	126	
" 4	B	1	18.0	246	63	126	
" 5	C	1	45.5	584	147	293	
" 12	D	2	31.3	471	113	223	
" 13	E	2	16.7	190	56	112	
" 14	F	2	15.2	176	46	89	
" 19	G	2	15.0	308	62	118	
" 28	H	3	20.5	268	62	117	
" 29	J	3	36.5	558	129	243	
March 1	K	3	13.3	202	48	97	
" 2	L	3	18.0	239	65	130	
" 3	M	4	31.0	408	101	212	
" 4	N	4	47.6	673	172	336	
" 5	O	4&5	51.5	667	170	333	
" 6	P	5	43.0	523	135	260	
" 15	R	5	18.0	244	65	130	
" 16	S	5	23.6	362	94	186	
Apr/ 8	T	6	40.9	586	153	306	
" 9	U	6	12.0	166	45	90	
" 10	V	6	34.8	533	145	287	
" 11	W	6 & 7	34.8	529	138	276	
" 12	X	7	32.2	482	130	260	
" 13	Y	7	10.5	163	38	75	
" 18	Z	7 & 8	37.0	538	141	265	
" 19	A'	8	35.0	467	123	244	

HYDROGRAPHIC STATISTICS.

BOAT: LYDONIA

SHEET: "B"

Date	Day	Vol.	Miles	Soundings	Positions	Angles	Area
April 20	B ^r	8	47.2	650	176	338	
"	21	C ^r	8 & 9	40.2	627	168	332
"	26	D ^r	9	15.2	249	51	102
TOTALS:			801.1	11.343	2899	5696	244.7

T I D A L S H E E T
to
accompany
HYDROGRAPHIC SHEET No. B

Locality of Gauge	St. Augustine
Type of Gauge	Automatic
Reading of Gauge for M.L.W.	6.4 ft.
Highest tide observed	April 24, 1924 0 h. 06 m. A.M.
Gauge Reading	11.9.ft.
Lowest tide observed	April 20, 1924. 3 h. 42 m. P.M.
G Gauge Reading	4.9 ft.

DESCRIPTIVE REPORT

IN SHORE LAUNCH WORK
to accompany

HYDROGRAPHIC SHEET "B"

U.S.S. LYDONIA

Jean H. Hawley, Hydro. & Geodetic Eng'r
Commanding.

Authority:

The work shown on this sheet was executed under orders of the Director, dated December 28, 1923.

Limits:

The area, $1\frac{1}{2}$ miles wide from and along shore from Latitude $29^{\circ} 35'$ to $29^{\circ} 17\frac{1}{2}'$ along the east coast of Florida, proper junction being made with the ship work beyond this limit offshore.

Method of Survey:

The power launch of the Steamer Lydonia was used for the work, soundings being taken by hand lead, and positions fixed by the usual method. The speed of the boat was kept at about three knots, allowing the taking of accurate and sufficient soundings. Except when unavoidably stopped, the motion of the launch was kept uniform, no stops being made at the beginnings nor ends of lines. The turning radius of the launch is only about 5 meters. Sufficient fixes were taken to give an exact position for all soundings.

Control:

Control was furnished by the triangulation points shown on the sheets. In general there was a topographic signal available for sextant observation at intervals of about one half mile. Control was rigid and adequate.

General: No unusual hydrographic features were revealed by the survey. Depths obtained, show a uniform deepening from the low water line, giving a five fathom curve exactly parallel to the shore. Soundings were plotted during the progress of the work using predicted values for tide reducers.

The parallel system of one quarter mile lines, run normal to the shore seemed to be sufficient development.

Currents detected along the shore were negligible in ordinary weather. In general with a prevailing northerly wind a slight southerly set was noticed while working ashore building signals.

On "e" day with northerly wind recorded an allowance of about three points northerly, had to be made in steering courses in the launch after subsidence of the the wind.

In general, from the nature of the coast, the sea breaks close in to shore (about 50 meters); it was possible in the calm weather had during the work to go into depths of one fathom and even less.

Respectfully submitted.

E. H. Bernstein

E.H. Bernstein, Hydro. & Geodetic Engineer.

*Approved
J. H. Hawley
Comdr*

T I D A L S H E E T

to

accompany

HYDROGRAPHIC SHEET No. "B"

Locality of Gauge	St. Augustine
Type of Gauge	Automatic
Reading of Gauge for M.L.W.	6.4 ft.
Highest tide observed	April 24, 1924, 0 h. 06 m. A.M.
Gauge Reading	11.9 ft.
Lowest tide observed	April 20, 1924, 3 h. 42 m. P.M.
Gauge Reading	4.9 ft.

HYDROGRAPHIC STATISTICS.

BOAT: MOTOR-SAILER

SHEET: *B*

Date	Day	Vol.	Miles	Soundings	Positions	Angles	Area
April 8	a	1	22.2	704	148	296	
" 9	b	1	20.0	603	153	306	
10	c	1 & 2	25.7	664	155	310	
" 11	d	2	19.1	577	137	274	
" 12	e	2 & 3	26.6	775	200	400	
TOTALS			113.6	3523	793	1586	26.6

Field Records.

Division of Hydrography and Topography:

Division of Charts:

Tide reducers are approved in
12 volumes of sounding records for

HYDROGRAPHIC SHEET 4577

Locality: East Coast of Florida: Off Flagler Beach 5 Vols.
Off Bikes Prairie 4 Vols.
Chief of Party: Jean H. Hawley in 1924.
Plane of reference is Mean low water reading
6.5 ft. on tide staff at St. Augustine, Fla.

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 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.

Hydrographic Sheet No. 4377.
East Coast - Florida.

In this work both shore and buoy signals were used and where change is made from one set of signals to the other a jump in the line develops.

The crossings generally coincide closely. The inshore 60 ft curve which approximately parallels the shore line shows quite erratic in places.

The work can be considered good and no additional work is required.

The protracting by Field Party found approximately correct.

The pencil platting by Field Party would indicate lack of experience; much of the time spacing appears to have been done by eye instead of dividers and the number of recorded soundings appears not to have entered into the platting. In many cases less soundings were platted between positions than recorded yet spaced nearly equal and in a number of cases more soundings were platted between positions than recorded. In one case five additional soundings were platted. In the inshore or lanch work soundings were often substituted for those recorded.

Paper poor quality

John D. Torrey.
2/2/25

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

WASHINGTON April 16, 1925.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4377

Bike's Prairie to Ormond, Florida

Surveyed in 1924

Instructions dated Nov. 4, 1922, Feb. 26, 1923 and Jan. 10, 1924

Chief of Party, J. H. Hawley.

Surveyed by J. H. Hawley and E. H. Bernstein.

Protracted by G. T. Gilman.

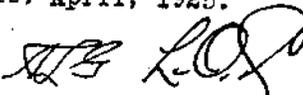
Soundings plotted by G. T. Gilman and H. J. Peterson.

Verified and inked by J. D. Torrey.

1. The records conform to the requirements of the General Instructions.
2. The plan and character of the survey conform to the requirements of the General Instructions.
3. The plan and extent of development satisfy the specific instructions.
4. The sounding line crossings are adequate.
5. The information is sufficient for drawing the usual depth curves.
6. The field plotting was completed to the extent prescribed in the General Instructions.

The protracting was accurate, but the plotting of soundings was defective in the following respects: The soundings often appear to have been plotted without the aid of spacing dividers to properly place them. When some soundings were omitted for lack of space, those plotted did not conform to time intervals. In some cases more soundings than are contained in the record were plotted -- in one case five imaginary soundings were plotted between successive positions. In the inshore or launch work imaginary soundings were often plotted.

7. The junctions with adjacent sheets are satisfactory.
8. No further surveying is required within the limits of the survey.
9. The character and scope of the surveying are excellent and the field drafting is fair.
10. Reviewed by E. P. Ellis, April, 1925.

Approved - 

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.

U. S. Coast and Geodetic Survey.

Register No. "B" 4377

State Florida

General locality East Coast of Florida

Locality Bikes Prairie to Ormond

Chief of party J.H.Hawley

Surveyed by J.H.Hawley and E. H. Bernstein

Date of survey February to April 1924.

Scale 1:40,000

Soundings in Feet

Plane of reference Mean Low Water

Protracted by G.T.Gilman Soundings in pencil by G.T.Gilman & H.J.Petersen

Inked by J.D.Torrey Verified by J.D.Torrey

Records accompanying sheet (check those forwarded):

2 Des. report, Tide books, 3 Marigrams, 3 Boat sheets,

12 Sounding books, Wire-drag books, Photographs.

Data from other sources affecting sheet One angle book of buoy locations

Remarks:

These des. reports have been filed as one.