

4294

Diag. ckt. No. 1244

Form 504 DEPARTMENT OF COMMERCE U. S. COAST AND GEODETIC SURVEY
State: FLORIDA <small>11-5613</small>
DESCRIPTIVE REPORT. Hydrog. Sheet No. 4294 "B"
LOCALITY: East Coast of Florida Crescent Beach to Bikes Prairie
1923
CHIEF OF PARTY: A.M. Sobieralski

4294

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
E. Lester Jones, Director.

DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SHEET ^B~~21~~

East Coast of Florida

off

MATANZAS INLET

Scale 1:20,000

Season of 1923

Steamer LYDONIA.

A. M. Sobieralski, H. & G. E., Chief of Party.

DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SHEET "21"

* * * * *

In accordance with instructions dated November ~~11, 1923~~^{4, 1922}, a hydrographic survey was made off the east coast of Florida. Between Lat. 29°-35' and Lat. 29°-47.5' joining ship hydrography on the east and as close to the shore as practicable a survey was made by the motor sailer.

CONTROL.

The survey was controlled by triangulation supplemented by an adequate topographic survey. Lines were run at intervals of 200 meters laid at right angles to the shore.

CHANGES IN CHART.

No indication of a 4³/₂ fm. shoal shown on the chart in Lat. 29°-46.7' Long. 81°-14.1' was found. Two wrecks not shown on the chart were located by the motor sailer. One, the wreck of the Isis with her davits projecting above water is located in Lat. 29°-46' 1680 m Long. 81°-15' --202 M.; the other, the wreck of the "Northwester" with a corner of her deck awash is located in Lat. 29°-35' 1120 m Long. 81°-10' --934 m. The depth of water close to the wrecks is two fathoms.

COAST FEATURES.

North of the north side of Matanzas Inlet the beach is hard packed sand where at low water automobiles may frequently be seen. At some sections of the beach these automobiles give the appearance of a lighted moving village at night. South of Matanzas Inlet between Lat. 29°-38' and Lat. 29°-40' there is a peculiar boulder formation on the beach which from seaward has the appearance of rugged reddish colored rock. The shore line is generally monotonous, low, with a background of uneven tree tops growing on slightly higher ground. Just south of Matanzas Inlet is a group of houses conspicuous two miles off the coast. The outstanding landmark of this group of houses is the red brick chimney of a house which was located by triangulation known as Vitrees 1923. North of Matanzas Inlet are a number of sand dunes which stand out above the nearby country.

MATANZAS INLET.

Off Matanzas Inlet shoals make out three tenths of a mile. On these shoals breakers were continually in evidence whenever the launch was working in this vicinity. In moderately rough weather the breakers extend entirely across the entrance. During the progress of the work the sea was too rough to attempt sounding the channel into Matanzas.

OCEAN BED.

The bottom was found regular gradually shoaling to within four tenths of a mile of the beach and then shoaling rapidly to the beach. At four tenths of a mile from the beach small boats may proceed safely.

SIGNALS.

^{when} The topographic signals which were white showed up very well, the sun shone on them during the morning. With the sun behind the signals they were difficult to pick up. Signals built with white for the lower part and black for the upper and twenty feet high are probably the best combination practicably along this section of the beach.

CHARACTER OF WORK.

The work was carried on from the ship due to the uncertain condition of Matanzas bar. On relatively few days the motor sailer is able to carry on hydrography along this section of the coast from the ship. In smooth weather soundings may be taken in 8 feet of water; in choppy weather soundings may be taken in about ~~2~~^{2 1/2} fms. of water. In shoaler water the seas pile up and break. It may be possible in working south to carry on the motor sailer work from Mosquito Inlet more economically than from the ship. The equipment of the Lydonia makes hoisting the motor sailer hazardous in choppy weather.

G. D. Meaney,
G. D. Meaney,
Jr. H. & G. Eng'r.
U.S.S. LYDONIA.

* * STATISTICS SHEET No. 21 * *

<u>Vol.</u>	<u>1923</u> <u>Date</u>	<u>Miles</u>	<u>Soundings</u>	<u>Positions</u>	<u>Angles</u>	<u>Letter</u> <u>Day</u>
1	March 5	23.0	604	151	302	a
1	" 6	24.0	551	157	314	b
1	" 7	7.0	173	51	102	c
2	" 7	13.0	323	96	192	c
2	April 6	4.5	122	31	62	d
2	" 12	23.0	644	178	357	e
3	" 12	2.8	64	22	44	e
3	" 13	13.1	419	96	192	f
3	" 19	32.0	707	193	386	g
4	" 19	1.2	30	7	14	g
4	" 20	23.0	458	115	230	h
TOTALS:		166.6	4095	1097	2195	

Report on Inking and Verifying H. 4294.

The records were well kept; the field drafting was good but in plotting soundings where one crossed another, the shoaler was often omitted.

Consistent variations of one and two or more feet in depth gave evidence of either defective reducers or leadline error. The tide gauge at Matanzas Inlet was unfavorably located (as noted in report of adjoining sheet) and may be responsible for the differences. The Division of Tides was unable to change the reducers so it was decided by the chief of Field Records to retain soundings as reduced.

March 22, 1924.

Frank M. Albert,
Draftsman, Section of Field Records.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

WASHINGTON

April 22, 1924.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4294

Crescent Beach to Bikes Prairie, Florida.

Surveyed in 1923

Instructions dated November 4, 1922.

Chief of Party, A. M. Sobieralski.

Surveyed by C. D. Meaney.

Protracted and soundings plotted by C. D. Meaney.

Verified and inked by F. M. Albert.

1. The records conform to the requirements of the General Instructions.
2. The plan and character of development conform to the requirements of the General Instructions.
3. The plan and extent of development satisfy the specific instructions, except that there are twice as many lines as were called for in the instructions.
4. The sounding line crossings are not as good as they should be. There are systematic differences which indicate erroneous tidal planes rather than accidental errors or poor surveying.

For the work north of 29° 40' the tide gauge used was located on a narrow, shoal creek one mile inside of Matanzas Inlet. For the work south of 29° 40' the tide gauge used was located on St. Augustine waterfront. Good results could hardly be expected from either gauge. An automatic gauge at Daytona, as suggested in the specific instructions would have given more accurate tidal reducers.

Owing to the moderate range of the tide (4 1/2 feet) the errors do not appear to exceed 2 feet - not enough to vitiate the survey.

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 plotting was good, but where there were differences at crossings if the first sounding plotted was the deeper it was retained instead of substituting the shoaler one.
7. The junction with the offshore work is satisfactory.
8. The surveyor stated in the descriptive report that no indication of the $4 \frac{3}{4}$ fathom spot in Latitude $29^{\circ} 46.7'$ could be found. This sounding was based on Notice to Mariners 33, 1920, which states that it was on a wreck "the wreck having been removed to a depth of 28 feet". As the wreck might have been missed in sounding it is recommended that the $4 \frac{3}{4}$ be retained on the chart.
9. No further surveying is required within the area covered by the sheet.
10. The character and scope of the surveying and field drafting are good.
11. Reviewed by E. P. Ellis, April, 1924.

COPY TO FIELD RECORDS

Nov. 21, 1923.

Division of Hydrography and Topography:

Division of Charts:

Tide reducers are approved in:

4 volumes of sounding records for

HYDROGRAPHIC SHEET 4294

Locality: North East Coast of Florida, between St. Augustine and Matanzas

Chief of Party: A. M. Sobieralski, in 1923

Plane of reference is mean low water, reading

1.4 ft. on tide staff at Summer Haven (Matanzas Inlet)

6.5 " " auto. gauge " St. Augustine

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 in 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.

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. **4294 "B"**

State **FLORIDA.**

General locality . **East Coast Of Florida.**

Locality **Crescent Beach to Bikes Prairie**
~~Between Lat. 29° 35' and Lat. 29° 47.5'~~

Chief of party . **A. M. Sobieralski.**

Surveyed by . . . **C. D. Meaney.**

Date of survey . . **March 5, 6, 7--April 6, 12, 13, 19, 20, 1923.**

Scale **1:20,000.**

Soundings in . . . **Fest.**

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

Protracted by **C.D. Meaney** . Soundings in pencil by **C. D. Meaney**

Inked by *J.M. Albert* . Verified by *J.M. Albert*

Records accompanying sheet (check those forwarded):

Des. report, _____ Tide books, _____ Marigrams, **1** Boat sheets,

4 Sounding books, _____ Wire-drag books, _____ Photographs.

Data from other sources affecting sheet

Remarks: