6316

6316

6316
SOX
SOG

Form 504
Rev. April 1935
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

~~Topographic~~
Hydrographic } Sheet No. 38

State Florida

LOCALITY

St. Johns River Morrison
Lake George to Fort Poole's Island
~~L. George southward to Lat. 29°10.4'~~

1938

CHIEF OF PARTY

L. D. Graham & F. L. Gallen

U. S. GOVERNMENT PRINTING OFFICE

✓ 4

Form 537

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

REG. NO.

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. 38

REGISTER NO. H6316

State Florida

General locality St. Johns River Morrison to Tom Fools Island

Locality Lake George ~~southward to Lat. 29°10.4'~~

Scale 1:5,000 Date of survey January, 1938

Vessel Launch MIKAWE

Chief of Party L. D. Graham - F. L. Gallen

Surveyed by Raymond H. Carstens

Protracted by George E. Varnadoe

Soundings penciled by George E. Varnadoe

Soundings in ~~fathoms~~ feet

Plane of reference M.S.L.

Subdivision of wire dragged areas by

Inked by G.F. Jordan

Verified by G.F. Jordan

Instructions dated November 9, 1936

Remarks:

U. S. GOVERNMENT PRINTING OFFICE

DESCRIPTIVE REPORT

To Accompany Hydrographic Sheet 38 H-6136

INSTRUCTIONS - November 9, 1936 Project HT-212

LIMITS

This sheet includes that part of the St. Johns River from Lake George southeastward to Lat. 29°10.4' about ½ mile southeast of Tan Fools Island. Morrison

CONTROL

The primary control for this sheet consisted of two triangulation stations, Volusia Bar Beacon No. 102 and Adams, and numerous signals spotted from air photographs and radially plotted on the map drawing. Other signals were located by sextant cuts and telemeter rod readings or sextometer readings from the spotted signals.

The sextometer, similar to that described by Carl I Aslakson in a report, "Methods Employed in Making Surveys of Mangrove Fringed Rivers and Creeks", is an instrument for determining distances. It consists of two targets fixed 6.0 meters apart on a bamboo pole. The pole was held horizontally toward the observer who observed the angle between the targets with a 10" navigating sextant and computed his distance from the rodman by the use of a hypsograph. The sextant was carefully adjusted on a star at night and when observing on the sextometer, three readings were taken. Often times both the telemeter and sextometer were used, one as a check on the other. In most cases they were found to check each other within 1 or 2 meters. The telemeter was read with a planetable alidade.

In the north part of the sheet, Graphic Control Sheet CS141M DDD was used in locating signals Lit, Old, Dog, Runt, Flat, Hop, Day, Are, Sig, and Pan. The signals located by sextant cuts and telemeter or sextometer distance readings were inked in blue. The shoreline was transferred from air photographs by Lieutenant H. A. Paton. In as much as several signals located by air photographs and only one triangulation station were used for control, the topographic signals were considered to be located with about the same degree of accuracy as hydrographic signals and were inked in blue. The signals taken from the air photographs were inked in green. The location was, of these signals, determined by a party under Lieutenant H. A. Paton.

SURVEY METHODS

A general system of five lines was run down the main part of the river. These were run following the general trend of the shoreline or the tuckahoe line in places where tuckahoes grew off shore. Crosslines were run as straight lines. In the mouth of the river and in Lake George sounding lines were run on ranges. Positions on sounding lines were secured by sextant fixes on signals ashore or were spotted by estimated distances off topographic features.

Soundings were taken with the leadline. Many of the streams leading in to the St. Johns River were blocked with hyacinth and in them no sounding was possible. Axle Creek and Paynes Creek were found to be too shoal to sound.

DISCREPANCIES

No discrepancies are now known to exist.

DANGERS

The only dangerous shoal on this sheet lies east of Lights 3 and 5 in the north end of the St. Johns River. This shoal makes the navigable channel rather narrow at this point though it can easily be avoided if the lights are carefully followed. Shoal soundings of 1 ft. were found over a considerable portion of it and it probably bares during a real dry season. The top of the shoal is foul with sunken logs and fishing stands.

CHANNELS

Only one main channel, running through the guide piles in Lake George and then more or less up the middle of the St. Johns River, is on this sheet. The bend around Tam Fools Morrison Island, though appearing to have fair water in it, is closed by hyacinth on the south and east sides of the island. The least depth in the main channel is 10 feet found in Lat. 29° 12.08', Long. 81° 34.10'. This depth occurs in several places in the channel in this vicinity.

COMPARISON WITH PREVIOUS SURVEYS

The only previous survey available was that shown on chart 509, last print 7/11/35. A number of differences were found with the few scattered soundings shown on that chart. Where the 8 ft. sounding is shown at the south end of the Volusia Bar guide Piles, 10 feet can now be carried. The 8 ft. sounding shown 0.6 mile southeast of the Volusia Bar guide piles is in the vicinity of the least depth found on sheet 38, but by careful sailing 10 ft. can now be carried through this part of the channel. A depth of over 3 fathoms was found where the 7 3/4 ft. sounding is shown on the chart about 1.1 miles northwest of Tam Fools Morrison Island. Other differences concern the location of soundings deeper than the controlling depth for this area and are not noted.

GEOGRAPHIC NAMES GHE

For new geographic names see the report submitted by the party under Lieutenant H. A. Paton covering the air photographic survey of this region.

Paynes Cr. } obtained from a local fisherman
Axle Cr. } reported by R. H. Carstens.
Cross Cr. } per GHE

Submitted by,

Raymond H. Carstens
Raymond H. Carstens
Deck Officer, C.& G.S.

Approved and forwarded:

F. L. Gallen
F. L. Gallen
H. & G. Engineer
Chief of Party

STATISTICS

Date	Day Letter	Positions	Soundings	Statute Miles
Jan. 19	a	49	295	4.7
20	b	84	555	8.1
21	c	61	348	6.4
24	d	97	566	7.9
25	e	130	756	10.1
27	f	111	620	10.0
Feb. 10	g	14	52	0.8
		546	3192	48.0

H-6136

Smooth sheet, field No. 38, was plotted under the immediate supervision of the Chief of Party. The sheet and accompanying records have been inspected and are approved.

F. L. Gallen.

F. L. Gallen
H. & G. Engineer
Chief of Party

Verifier's Report on H-6316 (1938)

1. Junctions have been made with H-6266 (1938) and H-6301 (1938). In joining the latter the deeper soundings on this sheet have been accepted in drawing the 5-fathom curve.

2. Control and shoreline are from T.S. 141 and T-5682.
   The shoreline was inked in the field, and considerable amount of changes have been made to conform to T-5682.

3. The records and plotting conform to general requirements, except that the notation of reference station was omitted. Noted in review. JAM

4. Remarks.
   (a) Piling at Lat 29° 12.1, Long 81° 34.4 and Lat 29° 12.0, Long 81° 33.9 (two groups) was transferred from T-5682. Only one reference was made to piling on "F" day when "passing piling." The boat sheet shows piling at these points, but with no fixes.

Nov. 29, 1938

George F. Jordan

Field Records Section (Charts)

H6316

HYDROGRAPHIC SHEET NO. .....:

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

Number of positions on sheet	546
Number of positions checked	7
Number of positions revised	0
Number of soundings recorded	3192
Number of soundings revised	12
Number of signals erroneously plotted or transferred	0

Date: Nov. 29, 1938

Verification by G. F. JORDAN Time: 29 hrs,

Review by Harold W. Murray Time: 4 hrs.

HYDROGRAPHIC SURVEY NO. H6316

Smooth Sheet Yes

Boat Sheet Yes

Records; Sounding 3 Vols., Wire Drag ___ Vols., Bomb ___ Vols.

Descriptive Report Yes

Title Sheet Yes

List of Signals Vol.#1

Landmarks for Charts (Form 567) ~~None~~ Yes

Statistics Yes

Approved by Chief of Party Yes

Recoverable Station Cards (Form 524) None

Special Chart for Lighthouse Service (Circular Nov.30, 1933) ----

Hydrography: Total Days 7 ; Last Date Feb. 10, 1938

Remarks

2776

	Remarks	Decisions
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
M 234		

GEOGRAPHIC NAMES

Survey No. H-6316

Name on Survey	On Chart No. A,	On previous survey No. B,	On U. S. quadrangle Maps C,	From local information D	On local Maps E	P. O. Guide or Map F	Rand McNally Atlas G	U. S. Light List H	K	
Volusia Bar										1
Lake George		See G.N. File Nos 291815								2
St. Johns River					292815					3
Zinder Point		for name sources.								4
Hitchens Creek										5
Blue Island										6
Blue Creek										7
Morrison I.										8
Payne Cr.										9
Axle Cr.										10
Morrison Cr.										11
Cross Creek										12
										13
										14
										15
										16
										17
										18
										19
										20
										21
										22
										23
										24
										25
Names appd 9/29/38 GYE										26
										27

M 234

FORM M-238

MEMORANDUM

IMMEDIATE ATTENTION

SURVEY
DESCRIPTIVE REPORT
~~PHOTOSTAT OF~~ } No. H-6316
~~No.~~

received Sept. 16, 1938
registered Sept. 23, 1938
verified
reviewed
approved

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			
26			
30			
40			
62			
63			
82			
83			
88			
90			

RETURN TO

82	T. P. Reed

V HSR.

QQC

Form 712
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
Ed. Feb. 1935

TIDE NOTE FOR HYDROGRAPHIC SHEET

October 12, 1938.

Division of Hydrography and Topography:

✓ Division of Charts: Attention Mr. E. P. Ellis

Plane of reference
approved in
3 volumes of sounding records for

HYDROGRAPHIC SHEET 6316

Locality Lake George to Tom Fools Island, St. Johns River, Florida

Chief of Party: L. D. Graham in 1938
Plane of reference is mean low water reading
3.0 ft. on tide staff at Astor
6.0 ft. below B.M. R 38

There is no periodic tide in this area. The plane of reference is the average water level during the period of lower river stages and corresponds approximately to the sea level datum of the Level Net.

Condition of records satisfactory except as noted below:

P. Schureman

Acting Chief, Division of Tides and Currents.

U. S. GOVERNMENT PRINTING OFFICE

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 6316 (1938) FIELD NO. 38

Lake George to Morrison Island, St.Johns River, Florida
Surveyed in January 1938, Scale 1:5,000
Instructions dated Nov. 9, 1936 (MIKAWE)

Hand Lead Soundings. 3 Point fixes on shore signals.

Chief of Party - L. D. Graham - F. L. Gallem.
Surveyed by - R. H. Carstens.
Protracted by - George E. Varnadoe.
Soundings plotted by - George E. Varnadoe.
Verified and inked by - G. F. Jordan.

1. Condition of Records.

The records are neat and legible and conform to the requirements of the Hydrographic Manual except that reference station and datum notes were omitted from the smooth sheet and had to be added in the office. The practice of showing a brief description of each signal on the boat sheet is a commendable one.

The Descriptive Report is clear and satisfactorily covers all items of importance.

2. Compliance with Instructions for the Project.

The plan, character and extent of the survey satisfy the instructions for the project.

3. Shoreline and Signals.

a. The shoreline originates with topographic map T-5682 (1935).

b. Signals originate with correction sheet CS 141M and in the sounding records of the present survey. Signals inked in green are spotted from topographic features on T-5682 (1935) mentioned above.

4. Sounding Line Crossings.

Agreement of sounding line crossings is satisfactory.

5. Depth Curves.

The usual depth curves may be satisfactorily drawn.

6. Junctions with Contemporary Surveys.

The junctions on the north with T-6266 (1938) and on the south with H-6301 (1938) are satisfactory.

7. Comparison with Prior Surveys.

T-2027 (1875), Scale 1:80,000.

This small scale reconnaissance survey contains a single line of soundings running down the middle of St.Johns River. The present survey bears out the essential features in considerably more detail and should supersede this survey in the common area in future charting.

8. Comparison with Charts 508 (New Print dated July 7, 1938) and 509 (New Print dated March 14,1938).

a. Hydrography.

Hydrography shown on the charts originates entirely with U. S. Engineers' survey B.P.14004 of 1907-8, scale 1:40,000, B.P. 21059, scale 1:24,000 and B.P. 21060, scale 1:6,000 and 12,000 of 1925-26. Because of the sparseness of detail an adequate comparison cannot be made. It is noted, however, that the present survey shows deeper depths in the main channel on the north. The present survey also shows slightly different piling and other details in the vicinity of lat. 29°12', long. 81°34' originating with B.P. 14004 mentioned above and Chart letter 509 of 1931. The present survey covers the above information in considerably more detail and should supersede these sources in the common area in future charting.

b. Controlling Depths.

A note on chart 509 states that the controlling depth in St. Johns River in the area covered by the present survey is 8 feet as of Nov. 1937. The present survey shows a controlling depth of 10 feet which is greater than the above.

c. Aids to Navigation.

Charted aids are in general spotted in relation to the topography because no projection is shown on the chart. The charted aids are in substantial agreement with the present survey and satisfactorily mark the features intended.

9. Field Plotting.

Field protracting and plotting were accurate and conform to the requirements of the hydrographic Manual.

10. Additional Field Work Recommended.

This is an excellent survey and no additional field work is required.

11. Superseded Prior Surveys.

Within the area covered, the present survey supersedes the following survey for charting purposes:

T-2027 (1875) in part (Hydrography only)

12. Reviewed by Harold W. Murray, November 30, 1938.

Inspected by J. A. McCormick,

Examined and approved.

Thos. B. Reed
Chief, Section of Field Records

K. T. Adams
Chief, Division of Charts

Fred. L. Peacock
Chief, Section of Field Work

Chief, Division of Hydrography and Topography

Applied to Chart #687. December 1939. L.A.M.