

6431

6431

Form 504 Rev. April 1935 DEPARTMENT OF COMMERCE U. S. COAST AND GEODETIC SURVEY	
DESCRIPTIVE REPORT	
Topographic Hydrographic	Sheet No. H-6431
U. S. COAST & GEODETIC SURVEY LIBRARY AND ARCHIVES MAY 7 1940 ACC. No.	
State Florida	
LOCALITY	
St. Johns River	
Lake Monroe to Brickyard Slough	
1939	
CHIEF OF PARTY	
F. L. Gallen	

CP

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. 57

H6431

REGISTER NO. H-6431

State Florida

General locality St. Johns River

Locality Lake Monroe to Brickyard Slough

Scale 1:5,000 Date of survey March, 1939

Vessel Launch MIKAWA

Chief of Party F. L. Gallen

Surveyed by Edward B. Brown, Jr.

Protracted by Henry J. Bozzo

Soundings penciled by Henry J. Bozzo

Soundings in ~~fathoms~~ feet

Plane of reference M.S.L.

Subdivision of wire dragged areas by

Inked by G.H. Everett

Verified by G.H. Everett

Instructions dated Supplemental, October 20, 1938

Remarks:

Smooth Sheet H-6431 (Field No. 57)

Prepared in Washington office January 22, 1940.

Projection on ruling machine by S. Kass.

Shore line enlarged in projector by R. E. Elkins from air photographic surveys T-5687, T-5689, T-5688, and T-5690.

No hydrographic or topographic signals have been shown on the air photographic surveys from which this smooth sheet has been enlarged.

Shore line checked by R. E. Elkins.

Sent to field with shore line in pencil.

Triangulation stations have not been plotted.

Please make this memorandum a part of the descriptive report for H-6431.

DESCRIPTIVE REPORT

To Accompany Hydrographic Sheet 57.(6431)

INSTRUCTIONS - Supplemental, October 20, 1938 - Project HY-212.

LIMITS - St. Johns River, Lake Monroe to Brickyard Slough.

SURVEY METHODS

The projection for this sheet was made in Washington Office on the ruling machine. The shoreline was furnished by the air photographic party at Palatka, Florida. The triangulation stations were located by the U. S. Engineers. The U.S.E.D. scheme was connected to a first order U.S.C. & G.S. scheme, so the U.S.E.D. stations could be computed on the North American 1927 datum.

Signals north of Lat. $28^{\circ} 48.3'$ were located on graphic control sheet ZZZ, which was lost in the fire on board the MIKAWA on October 27, 1939. These signals are shown on the sheet in red and were located on smooth sheet from a tracing of the above mentioned graphic control sheet sent from the Palatka, Florida office. The graphic control sheet was used principally for locating signals for hydrographic control. The projection for the graphic control sheet was also made in the Washington Office on the ruling machine. The U.S.E.D. triangulation was used to control the sheet. All triangulation stations were recovered in good condition. The descriptions of the stations with recovery notes of Lieutenant (j.g.) H. O. Fortin seemed to be complete. The planetable was set up at all triangulation stations except Monroe and Mouth. From Monroe the lines of sight were obstructed by reeds; it would have been necessary to raise the instrument 12 feet off the ground to clear the lines. It was not considered economical to build a stand at this station, therefore, the observer climbed the pole signal over the station and measured the angles with a navigating sextant using Mouth as an initial. These angles, recorded in volume No. 1 of this sheet, were plotted on the graphic control sheet with a steel protractor. A distance was taped from Mouth on range with Woodruff for planetable cuts in that vicinity. Where additional cuts were needed the planetable was set up at a topographic station that would give the best cuts. When a planetable set-up was made, rod readings were taken to points on the shoreline. Before the sheet was destroyed it was sent to the air photographic party at Palatka. That party made full use of such rodded shoreline. The magnetic meridian was observed with the declinoire, while the table was set up at several triangulation stations. However, these data were lost with the topographic sheet.

The signals shown in green on boat sheet, Oat, Der, Tal and Ear, were located by radial plot by the air photographic party at Palatka. The signals shown in blue were located by sextant cuts from triangulation or photographic signals. The cuts were recorded in sounding volume No. 1

The soundings were taken with a hand leadline from a skiff propelled by an outboard motor. In the shoal sloughs the soundings were taken with a pole graduated in feet and half feet. Except in the broad sloughs,

where the skiff was run on ranges, the lines were run parallel to the general trend of the shorelines. A line was run as close to each shore as possible, then two lines spaced equally between the two, along shore lines. Where additional development was considered necessary and in the wide reaches, these lines were split. Where shoal flats extended offshore, detached soundings were taken to show limits of flats. The lines were run as far as possible in the sloughs. When the bottom was soft the boat would run a short distance in 1 foot of water but when the bottom was hard the boat required at least $1\frac{1}{2}$ feet of water. Some sloughs were open from one part of the river to another but were too shoal to sound and too soft to walk through. In this case an estimate was made of the depth and noted on the boat sheet. Some areas were not sounded because they were blocked with hyacinth but in most cases those areas were shoal. Where notes referred to dead hyacinth the water was generally less than $\frac{1}{2}$ ft. The tuckahoes referred to in this area are broad leafed plants extending 2 to 3 feet above the surface of the water, growing in shoal areas. They have a yellow cup shaped flower about $1\frac{1}{2}$ inches in diameter that projects a little above the surface of the water.

In Woodruff Creek a line was run close to each shore and a single line run in the ebb tide channel. This creek has no connection with the river. The canal to the river has been blocked at its southeastern end by a top soil road.

DISCREPANCIES

Positions 99d, 100d and 101d were taken to correct the shoreline. Positions 102c, 14d and 44d plot on shoreline. Pos 39a plots inshore from H.W.L. This position is located from signal Ant, which according to boat sheet note is $1\frac{1}{2}$ meters inshore from H.W.L., however, on smooth sheet this distance is 11 meters. Positions 8c, 15c and 16c plot on shoreline. Notes in record book state that soundings were taken at the edge of tuckahoes, which was possibly mistaken for shoreline. Position 113b plots on location of a dock or building. Boat sheet does not show the building extending as far north as on smooth sheet.

23, 100, 101d. Error in compilation, corrected.
 102c. On edge of shoreline, accepted
 44d. Pos. close to center object, shifted slightly.
 39a. Error in shoreline transfer, corrected.

No other discrepancies are known to exist.

8, 15, 16c. Accepted.
 113b. Error in transfer, corrected.

DANGERS

Note: No structure shown here on photographs.

The canal between Woodruff Creek and the river is no longer open. There is a wreck of a steel launch offshore near the eastern side of the channel in the small slough at Lat. 28 48.35, Long. 81 12.8, see position 87c. A shoal flat lies on the eastern side of the channel off the western shore of the island on which signals All and Erg are located, Lat. 28 49.3, Long. 81 13.4. The soundings on position 19a, 20a, 22a, 81b, and 82b were taken on the flat. Two bare spots lie on a detached shoal to the northward of signal Kit, Lat. 28 48.8, Long. 81 12.95. These spots along with the north and south ends of the shoal were rodded in on graphic control sheet ZZZ. The soundings are recorded in sounding volume 1, positions 68 to 71a day. A large shoal flat lies on the east side of the mouth of Indian Mount Slough at Lat. 28 48.4, Long. 81 13. The northeastern part of the flat has a depth of $\frac{1}{2}$ foot. It was developed on c day.

Connected by one curve

CHANNELS

The controlling depth in the channel of the river, covered by this sheet is 5 feet. The Osteen Bridge, which crosses the river on this sheet, is a swing type hand operated bridge with horizontal clearance of 19.8 meters west span, 20 meters east span and vertical clearance of 2.7 meters above high water mark.

8.8' Engineers value of 7.5 shown on sheet.

GEOGRAPHIC NAMES

All data on geographic names were turned over to the air photographic party at Palatka, Florida.

NOTE

Hydrography on this sheet was accomplished by Lieutenant (j.g.) Edward B. Brown, Jr. Mr. Brown was transferred from this party before the smooth copy of this report was completed and the report is, therefore, transmitted without his signature.

Approved and forwarded,



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

STATISTICS

Date	Day	Statute Miles	Soundings	Positions
March 1	a	7.0	418	71
2	b	10.5	634	137
3	c	9.5	570	114
6	d	<u>13.4</u>	<u>842</u>	<u>164</u>
		40.4	2464	486

TIDAL DATA

Soundings on this sheet were controlled by an automatic portable tide gage located at Sanford, Florida. Mean Sea Level was used as the datum because there is no daily rise and fall of tide. The elevation of the water surface is controlled by the amount of rain water the river must carry to the sea. In rainy periods the water is high and in periods of drouth the water is low approaching Mean Sea Level. The water was near its lowest stage at the time this survey was made.

Sanford Tide Gage: Lat. 28 48.92, Long. 81 16.09.
M.S.L. on staff - 0.0 feet.

All tidal data secured at this station have been forwarded to the Washington Office.

Smooth sheet No. H-6431⁽¹⁹³⁹⁾ was plotted under the immediate supervision of the Chief of Party. The sheet and records have been inspected and are approved.



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

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. **HC431**

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

Number of positions on sheet	486
Number of positions checked	15
Number of positions revised	3
Number of soundings recorded	2464
Number of soundings revised	—
Number of soundings erroneously spaced	—
Number of signals erroneously plotted or transferred	—

Date: *May 24, 1940*

Verification by *G.H. Everett*

Review by *Harold W. Murray*

Time: *22 1/2 hrs*

Time: *7 1/2 "*

Report on Verification of H6431

Contemporary Topo surveys: T 5687 (1935); T 5688 (1935-A);
T 5689 (1938); T 5690 (1938) All planimetric maps ✓

Records: Conform to Requirements of General Instructions ✓

Field Drafting: Very good ✓

Curves: The 0 curve for most part is from Boat sheet and
is approximate. ✓

Junctions: Junction made with H6307 (1938) and H6432 (1939),
with good agreement.

Notes - Corrected shoreline at Lat. $28^{\circ}-47.8'$; Long. $81^{\circ}-11.5'$ ✓

(see D.R. pg. 2) affects T 5690, which should be made in agreement
with hydro survey. Topo corrected. ✓

Pos. 39 a (see D.R. pg. 2) near station 'Ant' Lat. 28-49.7
Long. 81-13.6. The
shoreline is from T 5688. (scale 1:10,000 approx.) The shoreline was
redrawn from T 5688 by aid of projection camera, which showed ✓
a slight error in original transfer. Pos. 39 a is an estimated
distance from © Ant. Station Ant is $1\frac{1}{2}$ m in from HWL per B.S. ✓

Pos. 44 d (see D.R. pg. 2) as noted in Sounding Volume had
a questionable right angle. Changing rt. angle $30'$ places
position in agreement with shoreline and other positions. ✓

Pos. 44 d (see D.R. pg. 2) Lat. $28^{\circ}-48.1'$
Long. $81^{\circ}-12.2'$ Transfer of shoreline checked
and is OK. Pos. 44 d is ~~very~~ close to center object with rapidly ✓
changing angles which may account for discrepancy. Position moved
slightly to clear shoreline.

Pos. 8, 15, 16 C (see D.R. pg. 2) These positions are in Woodruff Cr. Transfer of shoreline OK. Pos. 32 b is a check on shoreline which agrees with topo.

T5688 shows marsh shoreline which may account for discrepancies. Also in same creek Pos. 21-22 b were supposed to be in Mid stream (see Vol.) but plot much closer to north bank. A change of 5' in angles makes a better plotting. (Accepted)

Pos 113 b (see D.R. pg. 2) Lat. 28-48.1
Long. 81-12.8'' An error in transfer of topo.

No such dock or building on T5690. Hydro survey corrected.

Notes on B.S. Log boom Lat. 28-48.2'
Long. 81-13.0 from B.S. but not mentioned in records. (sounding volumes)

⊙ Hop Lat. 28-48.15'
Long. 81-12.30 per B.S. is on a small reed island.

T5690 interprets shoreline of main island out to ⊙ Hop. B.S. considered indefinite. topo accepted

Highway drawbridge - B.S. gives clearances by measurements in field. Topo gives clearances from Official Bridge Book. Horizontal clearance in field checks but vertical clearance at MSL in field is 8.8' as against 7.5' in Bridge Book. Clearance as given in Bridge Book inked on survey to agree with topo survey.

Notes on tracing of Graphic Control sheet 222 (see D.R. pg. 1)

Tracing shows differences in HWL with topo surveys.

See Lat. 28-49.7
Long. 81-13.65 considerable difference here. Pos. 51-53 b is following shoreline 6 to 8 m off L.W.L. which agrees with shoreline from planimetric maps rather than tracing. No corrections made to shoreline to agree with tracing.

Submitted May 24, 1940

St. Everett

HYDROGRAPHIC SURVEY NO. H6431

Smooth Sheet Yes

Boat Sheet Yes

Records; Sounding 2 Vols., Wire Drag Vols., Bomb Vols.

Descriptive Report Yes

Title Sheet Yes

List of Signals Yes

Landmarks for Charts (Form 567) No

Statistics Yes

Approved by Chief of Party Yes

Recoverable Station Cards (Form 524) --

Special Chart for Lighthouse Service No
(Circular Nov.30, 1933)

Hydrography: Total Days 4; Last Date March 6, 1939

Remarks _____

Remarks

Decisions

1		288812
2		"
3		USGB
4		287811
5		288812
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GEOGRAPHIC NAMES
 Survey No. **H6431**

Name on Survey											
	A, On Chart No.	B, On previous survey No.	C, On U. S. quadrangle Maps	D, From local information	E, On local Maps	F, P. O. Guide or Map	G, Rand McNally Atlas	H, U. S. Light List	K		
<u>Lake Monroe</u>											1
<u>Osteen Bridge</u>											2
<u>St. Johns River</u>											3
<u>Brickyard Slough</u>											4
<u>Woodruff Creek</u>											5
<u>Indian Mound Slough</u>											6
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Names underlined in red approved
 by L. Heck on 5/31/40

MEMORANDUM

IMMEDIATE ATTENTION

SURVEY
DESCRIPTIVE REPORT
PHOTOSTAT OF

No. H **H6431**
~~No. H~~

{ received **May 8, 1940**
registered **May 9, 1940**
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	✓	<i>IBC</i>	<i>Pages 2 + 3</i>
26			
30			
40			
62			
63			
82			
83			
88			
90			

RETURN TO

82	T. B. Reed
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✓ TBR

RAC.
HRC

TIDE NOTE FOR HYDROGRAPHIC SHEET

May 14, 1940

Division of Hydrography and Topography:

✓ Division of Charts: Attention: Mr. H. R. Edmonston

Plane of reference approved in
2 volumes of sounding records for

HYDROGRAPHIC SHEET 6431

Locality Lake Monroe to Brickyard Slough, St. Johns River, Florida

Chief of Party: F. L. Gallen in 1939
Plane of reference is mean low water reading
1.3 ft. on tide staff at Sanford
8.9 ft. below B. M. 1

There is no periodic tide in this area. The plane of reference is average water level during the period of lower lake levels and corresponds approximately to the sea-level datum of the Level-net.

Condition of records satisfactory except as noted below:



Acting Chief, Division of Tides and Currents.

DIVISION OF CHARTS

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 6431 (1939) FIELD NO. 57

Florida, St. Johns River, Lake Monroe to Brickyard Slough
Surveyed in March 1939, Scale 1:5,000
Instructions dated October 20, 1938 (MIKAWA)

Soundings:
Hand lead and Pole

Control:
Three point fixes on shore signals

Chief of Party - F. L. Gallen
Surveyed by - Edward B. Brown, Jr.
Protracted by - Henry J. Bozzo
Soundings plotted by - Henry J. Bozzo
Verified and inked by - G. H. Everett.
Reviewed by - Harold W. Murray, May 28, 1940.
Inspected by - H. R. Edmonston.

1. Shoreline and Signals.

- a. The shoreline originates with planimetric maps: T-5687 and T-5688 of 1935 and T-5689 and T-5690 of 1939.

The descriptive report, page 2, listed several shoreline discrepancies which were investigated in the office. Some of the discrepancies were small and no changes were made. Others were due to differences in shoreline transfer and were corrected. The most important difference, however, was a 5 to 10 m. change (noted in red) in lat. $28^{\circ}47.8'$, long. $81^{\circ}11.5'$ (pos. 99 to 101d) which was corrected on the compilation (T-5690).

- b. The origin of the signals is given in the descriptive report, page 1.

2. Sounding Line Crossings.

Agreement of such cross lines as were run or result from the work is satisfactory.

3. Depth Curves.

The usual depth curves may be satisfactorily drawn within the limits of the hydrography. Most of the low water line shown on the smooth sheet was transferred from the boat sheet.

4. Junctions with Contemporary Surveys.

The junctions on the east with H-6432 (1939) and on the west with H-6307 (1938) are satisfactory.

5. Comparison with Prior Surveys.

T-1512 (1883), scale 1:80,000.

This is a reconnaissance survey containing about 12 soundings falling within the limits of the present survey. An adequate comparison of depths cannot be made because of the sparseness of soundings and the small scale of the old survey. It is noted, however, that the old survey depths of 9 to 18 feet appear to be deeper than the present survey depths.

The plane of reference to which the old survey soundings are referred is not indicated on the smooth sheet. These soundings, however, as charted on obsolete Chart 458 are unchanged in depth and are referenced to the plane of mean low water.

The present survey within the area covered supersedes this 1883 survey.

6. Comparison with Chart 509 (New Print dated Nov. 27, 1939)

a. Hydrography.

Hydrography shown on the chart originates with miscellaneous sources. Most of these soundings are from blue prints 12606 and 14004 of 1907-08 on a scale of 1:40,000 and are in fair agreement with the present survey. The present survey supersedes this information.

Blue prints 28952 and 28953 of 1935 on a scale of 1:6,000 cover the present survey and have not been applied to the chart. These blue prints show a proposed readjustment of the waterway with an entrance to Lake Monroe via Woodruff Creek. The hydrography consists of a single line of soundings and is in fair agreement with the closer developed present survey. The present survey supersedes these soundings.

b. Controlling Depths.

A note on the chart states that the controlling depth in St. John's River from Sanford to Lake Harney is 3 feet as of November 1939. This information is subsequent to the present survey information.

which shows a controlling depth of 5 feet within the area covered by the present survey.

7. Condition of Survey.

- a. The sounding records were neat and legible and conform to the requirements of the Hydrographic Manual.
- b. The descriptive report was clear and satisfactorily covers all items of importance except that no direction was given for the power line or cable crossing just east of Osteen Bridge. It is assumed that the crossing is normal to the axis of the stream. Only one power line pole on the north bank was located.

The Osteen Bridge clearance listed in the descriptive report, page 3, are in agreement with the Engineers' Bridge Book values except that the vertical clearance was measured as 8.8 feet which is 1.3 feet greater than the Engineers' value of 7.5 feet at mean sea level. The Engineers' value has been shown on the smooth sheet.

- c. The field protracting and plotting were exceptionally accurate and conform to the requirements of the Hydrographic Manual.

8. Compliance with Instructions for the Project.

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

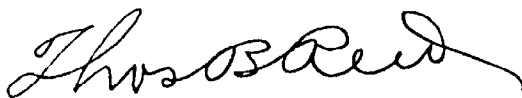
9. Additional Field Work Recommended.

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

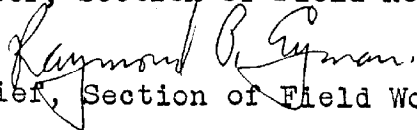
10. Superseded Prior Surveys.

T-1512 (1883) in part.

Examined and approved:



T. B. Reed,
Chief, Section of Field Records.



Chief, Section of Field Work.



Chief, Division of Charts.



Chief, Division of H. & T.