8020

Diag. Cht. No. 1261-2 5-351

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. SO-1352 *Office No.* H-8020

LOCALITY

State FLORIDA

General locality APALACHEE BAY

Locality ENTRANCE TO ST. MARKS RIVER

~~1944~~ 1952

CHIEF OF PARTY

R. J. Sipe

LIBRARY & ARCHIVES

DATE MAY 5, 1954

B-1870-1 (1)

8020

16

Form 537
(Ed. June 1946)

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

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.

REGISTER No. H-8020

Field No. So-1352

State FLORIDA

General locality APALACHEE BAY

Locality ENTRANCE TO ST. MARKS RIVER

Scale 1:10,000 Date of survey 16 OCT. to 2DEC. 1952

Instructions dated 17 JUNE 1952

Vessel SOSBEE

Chief of party RILEY J. SIPE

Surveyed by SHIP'S OFFICERS

Soundings taken by ~~echo sounder~~, graphic recorder, ~~hand lead, wire~~ POLE

Fathograms scaled by SHIP'S PERSONNEL

Fathograms checked by SHIP'S PERSONNEL

Protracted by RICHARD D. LYNN

Soundings penciled by RICHARD D. LYNN

Soundings in ~~fathoms~~ feet at MLW ~~MLLW~~ and are true depths.

REMARKS: This survey was smooth plotted in the Hydrographic Section of the Norfolk rrocessing Office.

U. S. GOVERNMENT PRINTING OFFICE 777082

DESCRIPTIVE REPORT

TO ACCOMPANY

HYDROGRAPHIC SURVEY No. H-8020 (Field No. SO-1352)

Apalachee Bay, Florida - St. Marks River Entrance

Scale 1:10,000 16 October to 2 December 1952

U.S.C. & G.S.S. SOSBEE Riley J. Sipe, Commanding

A. PROJECT:

This survey is part of Project CS-351 and was done under Instructions dated 17 June 1952.

B. SURVEY LIMITS AND DATES:

The survey covers the waters of Apalachee Bay, Florida immediately off the mouth of the St. Marks River, and including the marked channel through the extensive shoal area typical of this coast. Hydrography was complete from latitude 30° 01' northward to the shoreline on either side of the river mouth, and in the navigable channel only as far as latitude 30° 04' where junction was made with H-8022 (1952) (Field No. SO-05252) covering the lower part of the St. Marks River. In longitude, this survey extends from 84° 09.5' W. to 84° 13.0' W.

Field work was begun on 16 October and completed on 2 December 1952.

C. VESSELS AND EQUIPMENT:

Skiff No. 735, a 25 foot wooden skiff powered by two ten-horsepower outboard motors was used for all the hydrography in the channel and shoal areas. This craft has a maximum speed of about 5 knots and a turning radius of about 20 meters.

In the southerly one-fourth of the area, in depths of from 9 to 15 feet, sounding was done by the Ship SOSBEE, a 68-foot wooden hull vessel having a maximum speed of about 9 knots at 1500 rpm which is standard sounding speed. Turning radius of the SOSBEE at this speed is about 90 meters when turning to the left and about 110 meters when turning right.

In depths of less than 4 feet most of the soundings were obtained by a sounding pole. Also, in many places where it could be seen that the bottom was covered with grass, the pole was used in depths up to 6 feet occasionally to check the depth recorded on the fathometer. In all areas of over 4 feet in depth, an 808 model portable fathometer was used to obtain the soundings. Two of these machines were used,

C. VESSELS AND EQUIPMENT- CONT.:

serial No. 115-S for the first seven days, after which the speed regulator gave trouble, then No. 140-SP was used. Both of these machines are calibrated for a velocity of sound in water of 820 fm/sec.

D. TIDE AND CURRENT STATIONS:

A portable automatic tide gage was maintained at St. Marks Lighthouse during the period of this survey. No time correction was used in applying reducers to the soundings.

A current station was occupied in the channel at Lat. 30° 02.80' Long. 84° 10.80'. Observations were made by a Price current meter and pole and were continuous for 100 hours.

E. SMOOTH SHEET:

Not within the scope of this report.

F. CONTROL STATIONS:

Triangulation stations are all on the North American 1927 datum and are listed below:

LIGHTHOUSE 1933 - Geographic position from page 12, computation G-1788, "Jacksonville, St. Augustine to Port Inglis and Dunnellon to Tallahassee."

FRONT RANGE BEACON 1935 - re-located 1952.

ST. MARKS LIGHTHOUSE 1933 - re-located 1952.

CHANNEL BEACON 1935 - re-located 1952.
(St. Marks River Lt. 1)

MOUND TOWER 1935 - re-located 1952.

SPRA 1935 - re-located 1952.

AXE (Topo 1940) - 1952.

PAL - 1952.

ST. MARKS RIVER LIGHT 4 - 1952.

ST. MARKS RIVER LIGHT 8 - 1952.

MUD U.S.E. - 1952.

F. CONTROL STATIONS - CONT.:

The stations listed below were located on the photogrammetric plot of RS 448 of Ph 97(52):

WHY (No. 842)

SOL (No. 843)

Stations listed below were located by sextant angles observed on objects located by triangulation. They are shown on the boat sheet by blue circles:

LOB

FOG

HOE

WEE

ALP

SOX

G. SHORELINE AND TOPOGRAPHY:

From Shoreline Manuscript RS 448 of Ph 97(52), by Baltimore Photogrammetric Office from nine-lens photographs taken in February 1952.

H. SOUNDINGS:

Depths were measured, where practicable, by a portable fathometer, type 808. A wooden pole graduated in feet, was used in obtaining the least depths on shoals, in general depths of 4 feet or less, and for checking the depth recorded on the fathogram in areas where a heavy growth of grass obscured the bottom trace.

I. CONTROL OF HYDROGRAPHY:

Hydrography was controlled in position by three-point sextant fixes on objects located as listed under Item F.

J. ADEQUACY OF SURVEY:

The survey is complete and adequate to supersede prior surveys for charting.

Junctions with adjoining surveys are satisfactory. Depth curves are continuous at junctions.

K. CROSSLINES:

Crosslines, not counting any channel lines, comprise seventeen per cent of the total mileage. Discrepancies are not in excess of one foot, which is the unit used on the boat sheet. On some of the lines across the extensive shoal areas, there is a consistent discrepancy of a foot which appears to be the result of some lines being run at a high tide when fathometer readings were used, and other lines where the sounding pole was used altogether. This discrepancy was found only in the unimportant shoal areas where there was an abundant growth of marine vegetation on the bottom. *Crossings in adequate agreement.*

L. COMPARISON WITH PRIOR SURVEYS:

Comparison was made with surveys H-1330a and H-1330b. Very close agreement was found with these prior surveys. The shoal at Lat. 30° 04.40' and Long. 84° 12.44' called "Oyster Rock" on Survey H-1330a was found to be a shoal with oysters on it. Closely spaced sounding lines were run over it when the bottom was clearly visible, and a least depth of 0 feet obtained. Depth curves on this and the prior surveys agree quite well, considering the fact that the wide spacing of lines in the prior survey made for poor definition of the curves in many places. *See #6 of Review*

M. COMPARISON WITH CHART 1261:

This survey is in agreement with Chart No. 1261, print date 4/28/52. *See #6 of Review*

N. DANGERS AND SHOALS:

No new dangers or shoals were found.

O. COAST PILOT INFORMATION:

Approaching the entrance to St. Marks River from seaward, the mariner should follow the range on course 356° T. Rear Range is St. Marks Lighthouse, a white masonry structure 82 ft. high. Front Range is a large slatted structure, in the shape of a truncated pyramid, built on piles. When about 450 yards from this Front Range, change course to 338° T., leave the Front Range about 125 yards to starboard, and head for St. Marks River Lt. 1, passing red nun buoys 4 and 6 at a distance of about 100 yards to starboard. Controlling depth in this channel is 10 feet about 200 yards northwest of buoy 4.

A current station was occupied in the channel at Lat. 30° 02.80' Long. 84° 10.80'. Currents were found to flow along the axis of the channel, as might be expected. The direction and force of the wind were found to have a great effect on the tides,

O. COAST PILOT INFORMATION - CONT.:

especially when a steady north breeze lowered the water level in the Gulf. Corresponding variations in currents can be expected in periods of steady winds.

P. AIDS TO NAVIGATION:

All fixed aids to navigation in this area were located by triangulation methods and are reported on Form 567.

Floating aids to navigation were located as follows:

Sea Buoy: Lat. 30° 01.45' Long. 84° 10.55'; in 13 feet; located on 11 and 12 November 1952, positions 48A and 37B.

East Bank Buoy 2: Lat. 30° 01.88' Long. 84° 10.53'; in 12 feet; located on 12 November 1952, positions 35B to 39B.

Middle Ground Buoy 4: Lat. 30° 03.66' Long. 84° 11.23'; in 9 feet; located on 5 November 1952, position 38d.

Long Bar Buoy 6: Lat. 30° 04.14' Long. 84° 11.47'; in 13 ~~12~~ Feet; located on 16 October 1952, position 1a.

The position of the rear range light (St. Marks Lighthouse) and Front Range were determined by triangulation. The azimuth of this range, as scaled from plotted positions, is 338° T.

Q. LANDMARKS FOR CHARTS:

Landmarks for charts for the whole St. Marks River area are listed on form 567.

Prominent landmarks found within the limits of this survey are:

St. Marks Range Front Light
St. Marks Range Rear Light (St. Marks Lighthouse)
Mound Tower

All of these were located by triangulation.

R. GEOGRAPHIC NAMES:

Charted names were verified by consultation with local residents.

S. SILTED AREAS:

None found.

T. BY-PRODUCT INFORMATION:

NONE.

U. CORRECTIONS FOR SETTLEMENT AND SQUAT:

The soundings obtained with the Ship SOSBEE were corrected for settlement and squat, using data contained in the special report on settlement and squat tests made on 28 and 29 May 1951.

A sheet listing these corrections is pasted in the front of Volume 4 - the first volume of the ship work.

V. BOAT SHEET:

The boat sheet was furnished by the Washington Office. It was received with the projection lines inked, the triangulation plotted in pencil, and bearing only the note "SO-1152 1:10,000 polyconic Ruled 3/25/52 J.A."

When work (plotting of signals, etc.) prior to hydrography was begun in September, it was discovered that the sheet had expanded in a north and south direction, which is across the roll of the paper, to the extent of 17.5 meters per minute of latitude, At the time, this discrepancy was believed to be an error in laying out the projection and corrected projection lines were drawn in red ink on the sheet. About a month later it was found that the sheet had come back to its original dimenions. The objects located by triangulation were plotted by dms and dps, on the original projection lines, using meter bar and beam compass. The positions of the two photo-hydro stations were scaled. from the map manuscript by means of a Sylar-Lockerbie scale and plotted on the boat sheet by the same method.

Z. TABULATION OF APPLICABLE DATA:

Attached to this report are:

1. Statistics Sheet.
2. Tidal Note.
3. Approval Sheet.
4. List of Signals.

Submitted by,

Arthur L. Wardwell

Arthur L. Wardwell
Commander, C&GS

STATISTICS

For Hydrographic Survey H-8020 (Field No. SO-1352)

Project CS-351 Scale 1:10,000

U.S.C.&G.S.S. SOSBEE-Riley J. Sipe, Chief of Party

Day Letter	Vol. No.	Date 1952	No. of Positions	Statute Miles	No. of Pole Sdgs.
a	1	16 Oct.	18	2.4	21
b	1	17 Oct.	116	17.4	-
c	1	30 Oct.	87	14.4	13
d	1 & 2	5 Nov.	159	22.4	310
e	2 & 3	6 Nov.	213	32.6	-
f	3	10 Nov.	203	29.9	438
A	4	11 Nov.	177	36.2	-
B	4 & 5	12 Nov.	210	42.8	-
C	5	13 Nov.	104	14.3	-
g	3 & 6	18 Nov.	293	40.3	133
h	6 & 7	20 Nov.	98	12.0	265
j	7	1 Dec.	145	21.3	101
k	7	2 Dec.	16	1.3	17
		Totals	1839	287.3	1298

Area = 17.6 square statute miles.

TIDE NOTE

A portable tide gage was in operation at the boat basin just north of St. Marks Lighthouse, Lat. 30° 04.75' Long. 84° 10.71' during the period of this survey.

Zero of the tide staff was determined by levels run to previously established bench marks to be 2.0 feet below the mean low water plane of reference.

No time corrections were applied to the observed tides in reducing these soundings.

APPROVAL SHEET

The Survey of the area covered by SO-1352(H-8020) is adequate for charting purposes. The sounding records and boat sheet have been inspected and are approved this date. Additional work is not necessary.

15 Jan. 1953

Riley J. Sipe,
Chief of Party, C&GS

LIST OF SIGNALS
H-8020

TRIANGULATION STATIONS

AXE	AXE (1940 TOPO), 1952
CON	ST. MARKS RIVER, LT. 1, 1935-52
DAY	ST. MARKS RIVER, LT. 8, 1952
FRO	ST. MARKS RIVER, FRONT RANGE LT., 1952
LIG	LIGHTHOUSE, 1933-52
MAR	ST. MARKS LIGHTHOUSE, 1933-52
MUD	MUD (USE), 1952
NOR	ST. MARKS RIVER, LT. 4, 1952
OUT	MOUND TOWER, 1935-52
PAL	PAL, 1952
SPRA	SPRA, 1935-52

TOPOGRAPHIC STATIONS COMPILATION RS-448

Sol Why

HYDROGRAPHIC STATIONS

Alp	Vol. 3, pg. 13
Fog	Vol. 3. pg. 69
Hoe	Vol. 3, pg. 71
Lob	Vol. 1, pg. 9 - Vol. 2, pg. 32
Sox	Vol. 3, pg. 54
Wee	Vol. 6, pg. 5

ADDENDUM
To Accompany

HYDROGRAPHIC SURVEY H-8020 (Field No. So-1352)

GENERAL

This appears to be an excellent basic survey and no unusual conditions were encountered during the smooth plot.

Irregularaties in the depth curves in the flat areas are caused by numerous sloughs and pot-holes.

Respectfully submitted,

Hugh L. Proffitt
Cartographer

Norfolk, Va.
4 May 1954

GEOGRAPHIC NAMES

Survey No. H-8020

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	
Florida									B.G.N.	1
Apalachee Bay									"	2
St. Marks River										3
Sprague Island										4
Big Pass										5
Little Pass										6
Sprague Pt.										7
										8
										9
										10
					Names approved 5-17-54.					11
							L. HECK			12
										13
										14
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										16
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										25
										26
										27

M 234

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H-8020

Records accompanying survey:

Boat sheets ..1..; sounding vols. ..7..; wire drag vols. .....;

bomb vols. .....; graphic recorder rolls 7 Env.;

special reports, etc. ..1 Smooth Sheet; 1 Descriptive Report; .....

.....

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

Number of positions on sheet		1839	1839
Number of positions checked		29	211
Number of positions revised		1	1
Number of soundings revised (refers to depth only)		300	* 0
Number of soundings erroneously spaced		5	22
Number of signals erroneously plotted or transferred		0	✓
Topographic details	Time	4	✓
Junctions	Time	2	✓
Verification of soundings from graphic record	Time	9	8

Prelim. Verification - L. M. Zeskind 52 6-24-54

Verification by J. P. Hawkins Total time 98 Date 10-3-55

Reviewed by L. M. Zeskind Time 27 Date 6-30-54

Review Addendum - J. P. Evans 11 3/20/56

* Bar check corrections erroneously applied to soundings on 9 day. Fath. corrections applied with wrong sign on 9-day

M-2232-1

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8020 FIELD NO. SO-1352

Florida, Apalachee Bay, Entrance to St. Marks River

Project No. CS-351

Surveyed - Oct. - Dec., 1952 Scale 1:10,000

Soundings: Control:

Pole
808 Fathometer

Sextant fixes on shore signals

Chief of Party - R. J. Sipe
Surveyed by - R. J. Sipe and A. L. Wardwell
Protracted by - R. D. Lynn
Soundings plotted by - R. D. Lynn
Preliminary Verification by - I. M. Zeskind
Verified and inked by - J.C. Chambers
Reviewed by - I. M. Zeskind 6-30-54
Inspected by R. H. Carstens

1. Shoreline and Control

The shoreline originates with the unreviewed air-photographic revision survey RS 448 of Ph 97 (52).

The source of the control is described in the Descriptive Report.

2. Sounding Line Crossings

Depths at crossings are in good agreement.

3. Depth Curves and Bottom Configuration

The usual depth curves were adequately delineated. The 3-ft. curve was drawn to better delineate the bottom configuration.

A natural channel divides the area covered by the present survey. The bottom is fairly smooth, except for pot holes in the shoal flats and irregularities in the channel.

4. Junctions with Contemporary Surveys

An adequate junction was effected with H-8022 (1952) on the north. The present survey extends to the limits of the Project on the south where it is in adequate agreement with the charted hydrography.

5. Comparison with Prior Surveys

Misc. 9 (1852), 1:20,000
H-305 (1852), 1:20,000
H-540 (1856), 1:20,000
H-541 (1856), 1:10,000
H-1330a (1875), 1:10,000
H-1330b (1876), 1:20,000

A comparison between the prior surveys of 1852-56 and the present survey reveals only minor differences in depths, except for an area of about 2 square miles in the southwest portion of the present survey where present depths are about 3 ft. deeper than prior depths. Subsequent to the surveys of 1875-76 no important changes in depth have occurred in any portion of the common area. The axis and controlling depth of the natural channel have remained relatively unchanged since the 1852 surveys.

The present survey is adequate to supersede the prior surveys within the common area.

6. Comparison with Chart 484 (Latest print date 5-31-54)
Chart 1261 (Latest print date 5-24-54)

A. Hydrography

The charted hydrography originates principally with advance information of the present survey (Bp. 50152). Except as listed below only minor differences of 1 ft. between the charted and present depths were noted.

1. The 8-ft. sounding charted in lat. 30°02.57', long. 84°10.82', from advance information (Bp. 50152) of the present survey should be deleted from the chart. The charted sounding was revised to 13 ft. during verification and review of the present survey.

2. The rock awash (Oyster) charted in lat. 30°04.43', long. 84°12.51', from H-1330a (1875) falls in present depths of 2-3 ft. and should be deleted from the chart. The area was developed during the present survey when the bottom was clearly visible at which time no indication of the rock was revealed. The rock awash was probably composed of poorly consolidated material which has since disintergrated. The danger of the shoal is adequately marked on the present survey by the zero sounding which falls about 150 meters southeastward of the charted rock awash.

3. The Platform charted in lat. 30°02.5', long. 84°09.7', from air-photographic survey T-5781 (1940) should be deleted from the chart. No indication of the platform is found in the sounding volumes or on the boat sheet of the present survey or on recent photographs of the area taken in 1952. The platform is now considered to be nonexistent.

The present survey is adequate to supersede the charted hydrography within the common area.

B. Aids to Navigation

The survey positions of the aids to navigation are in substantial agreement with the charted positions and adequately mark the features intended.

7. Condition of Survey

a. This survey has only been given a preliminary verification. A complete statement concerning the condition of the survey is deferred until the present survey has been completely verified.

b. Bar check corrections were erroneously used to reduce pole soundings on g-day.

c. Bar check corrections were erroneously subtracted from instead of being added to fathometer soundings on g-day.

Inaccuracies in depths due to conditions stated in paragraph b and c above were corrected in the sounding records and on the smooth sheet.

8 Project Instructions

The survey adequately complies with the Project Instructions.

9. Additional Field Work Recommended

This is an excellent basic survey and no additional field work is recommended.

Examined and approved

H. R. Edmonston
Chief, Nautical Chart Branch

E. R. McCarthy
Acting Chief, Division of Charts

G. R. Fish
Chief, Hydrography Branch

Earl O. Heaton
Chief, Division of Coastal Surveys

Addendum to Review

H-8020 (1952)

Verified and inked by - J. C. Chambers (Norfolk)
Review Addendum by - L. V. Evans III, 3/20/56
Inspected by - R. H. Carstens

The verification of this survey has been completed. Soundings and depth curves are now inked and the junctional soundings have been transferred to the adjoining contemporary survey.

Junction with Contemporary Surveys

An adequate junction was made with H-8022 (1952) on the north.

Comparison with Chart 484 (latest print date 5/31/54)
Chart 1261 (latest print date 12/19/55)

No changes in charted information within the area of the present survey have been made since the original Review was written.

Condition of Survey

Completion of the verification reveals that the smooth plotting was well done.

Approved:

E. R. McCarthy
Chief, Chart Division

RHC

Form 712
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
Rev. Apr. 1950

839

TIDE NOTE FOR HYDROGRAPHIC SHEET

Division of Coastal Surveys 20 May 1954

Division of Charts: R. H. Carstens

Plane of reference approved in
7 volumes of sounding records for

HYDROGRAPHIC SHEET 8020

Locality St. Marks River, Florida

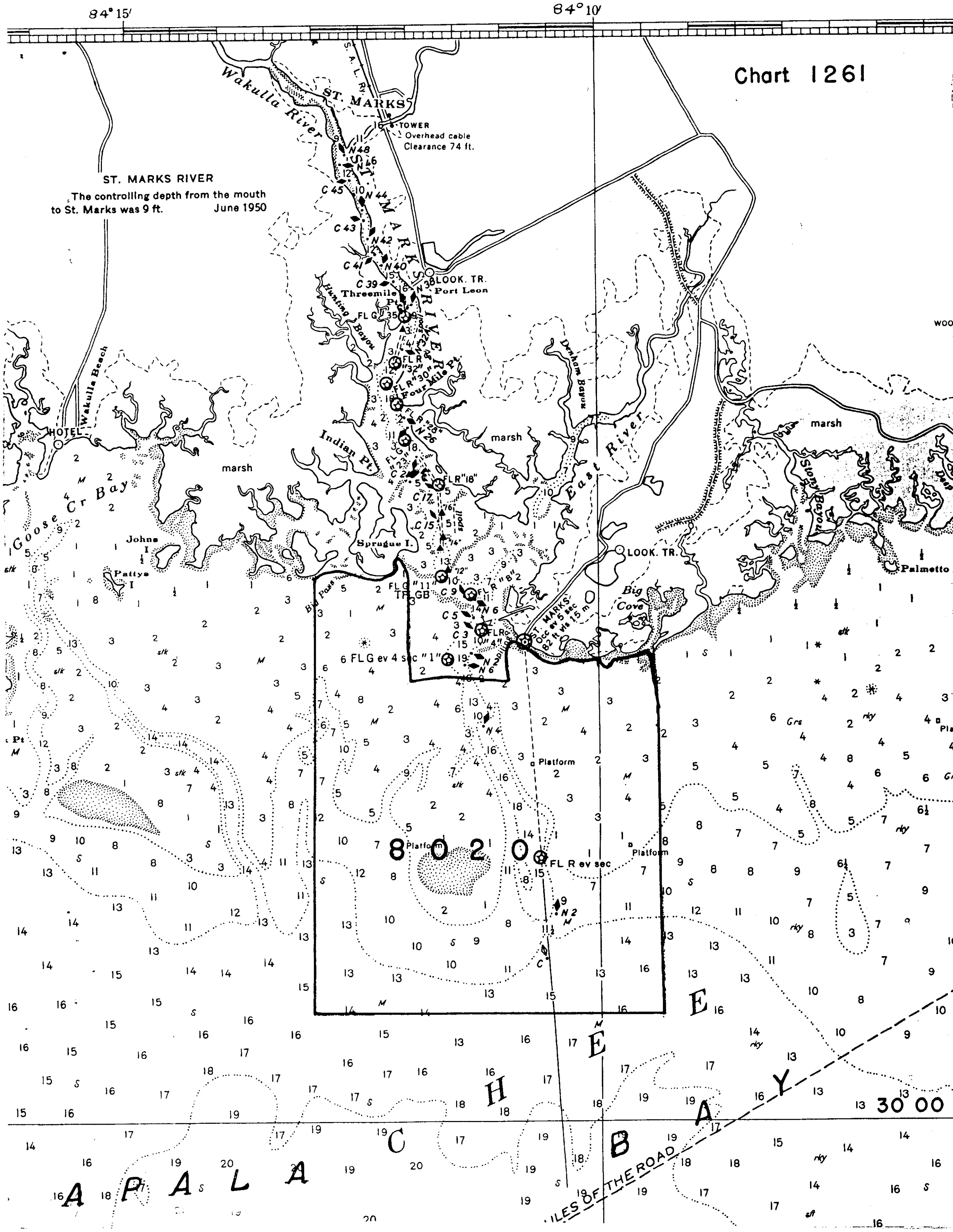
Chief of Party: R. J. Sipe in 1952
Plane of reference is mean low water, reading
2.1 ft. on tide staff at St. Marks Lighthouse
2.7 ft. below B. M. 1 (1933)

Height of mean high water above plane of reference is 2.4 feet.

Condition of records satisfactory except as noted below:

E. C. McKay
Tides Branch
Chief, Division of Tides and Currents.

U. S. GOVERNMENT PRINTING OFFICE 877933



84° 15'
84° 10'
Chart 1261
ST. MARKS RIVER
The controlling depth from the mouth to St. Marks was 9 ft. June 1950
Wakulla River
ST. MARKS
TOWER
Overhead cable
Clearance 74 ft.
ST. MARKS RIVER
LOOK. TR.
Port Leon
Threemile Pt.
Hunting Bayou
Four Mile Pt.
Denham Bayou
Wakulla Beach
HOTEL
marsh
Indian Pt.
Goose Cr Bay
Johns I
Pattys I
Sprague I.
Big Pass
East River
LOOK. TR.
Big Cove
Stony Bayou
Palmetto I
6 FL G ev 4 sec "1"
Platform
8020
FL R ev sec
APALACHEE BAY
MILES OF THE ROAD
30 00

NAUTICAL CHARTS BRANCH

SURVEY NO. H-8020

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
14 May 54	484	Ernest H Bell	Before ~~After~~ Verification and Review Opam
10/9/56	1261	[illegible]	~~Before~~ After Verification and Review Completely applied
6-17-60	484	R. K. DeLaude	~~Before~~ After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review

M-2168-1

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

Cht 484 - Before V & R - Exam for contract corrections 14 May 54
Bell