

8021

Diag. Cht. No. 1261-2

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. SO-05152 Office No. H-8021

LOCALITY

State FLORIDA

General locality St. Marks River

Locality Port Leon to Newport

1952

CHIEF OF PARTY

Riley J. Sipe

LIBRARY & ARCHIVES

DATE APR 26 1954

B-1870-1 (1)

8021

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-8021...

Field No. So-05152

State FLORIDA

General locality ST. MARKS RIVER

Locality PORT LEON TO NEWPORT

Scale 1:5,000 Date of survey 4 Dec. to 9 Dec. 1952

Instructions dated 17 June 1952

Vessel SOSBEE

Chief of party RILEY J. SIPE

Surveyed by SHIP'S OFFICERS

Soundings taken by ~~W. H. GIBSON~~, graphic recorder, ~~W. H. GIBSON~~ POLE

Fathograms scaled by SHIP'S PERSONNEL

Fathograms checked by SHIP'S PERSONNEL

Protracted by GEO. L. FERNANDES

Soundings penciled by GEO. L. FERNANDES

Soundings in ~~1000~~ feet at MLW ~~MLW~~ and are true depths

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

2062

DESCRIPTIVE REPORT

TO ACCOMPANY

Hydrographic Survey No. H-8021 (Field No. SO-05152)

St. Marks River, Florida - Port Leon to Newport

Scale 1:5,000

4 December to 9 December 1952

U.S.C. & G.S.S. SOSBEE

Riley J. Sipe, Comdg.

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 St. Marks River from Port Leon to Newport, and the Wakulla River for a distance of 0.7 miles above its confluence with St. Marks River. ✓

Junction was made with survey H-8022 (Field No. SO-05252) on the south. There are no contemporary surveys upstream. ✓

Field work was begun on 4 December and completed 9 December 1952. ✓

C. VESSELS AND EQUIPMENT:

Skiff No. 735, a 25-foot wooden skiff driven by two ten-horsepower outboard motors, was used for all the hydrography. This boat has a mainum speed of about 5 knots and a turning radius of about 20 meters. ✓

Portable depth recorder, model 808J, serial 140-SP, calibrated for a velocity of sound in sea water of 820 fathoms per second, was used in measuring the depth of water where possible. In depths of 3 feet or less, a wooden sounding pole, graduated in feet, was used. ✓

D. TIDE AND CURRENT STATIONS:

A portable automatic tide gage was in operation at St. Marks during this survey. ✓

Data from this gage, with a correction of - 10 minutes, were used in reducing the soundings from the downstream limit to the confluence of the river, and for all of the Wakulla River. ✓

D. TIDE AND CURRENT STATIONS: CON'T.

These St. Marks tide data were used uncorrected for all soundings in the St. Marks River above its confluence with the Wakulla. ✓

A current station was observed in the river at the town of St. Marks, at Lat. $30^{\circ} 09.26'$, Long. $84^{\circ} 12.10'$. Observations were made with a Price meter and current 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:

1. Third Order, described stations:

LEON TOWER 1935 - re-located 1952. ✓

WAK 1935 ✓

BUZZ 1935 ✓

TOWER, TRANS. 1952 (G JIM) ✓

2. Undescribed stations, located by triangulation methods for hydrographic signals only:

COO (not used)

EVA ✓

BAG ✓

RAM ✓

ACE ✓

BOB ✓

SIS ✓

MUG ✓

The stations listed below were located by radial plot methods on photogrammetric sheets R.S. 447 and R.S. 448 of Ph 97(52):

PIE (No. 825) ✓

NEW (No. 712) ✓

DOG (No. 702) ✓

OIL (No. 713) ✓

EGG (No. 703) ✓

POT (No. 715) ✓

CAR (No. 704) ✓

RIG (No. 716) ✓

IVY (No. 705) ✓

GET (No. 717) ✓

ARM (No. 706) ✓

PEP (No. 719) (not used)

LAD (No. 708) ✓

SAX (No. 720) (not used)

NAY (No. 710) ✓

TOM (No. 721) (not used)

MAX (No. 711) ✓

VAL (No. 722) (not used) ✓

G. SHORELINE AND TOPOGRAPHY:

From shoreline manuscripts R.S. 447 and R.S. 448 of Ph 97(52), by Baltimore Photogrammetric Office from nine-lens photographs taken in February 1952. ✓

H. SOUNDINGS:

In depths of more than three feet, soundings were obtained by a portable fathometer of the 808 type. In shoaler areas a wooden sounding pole graduated in feet was used. ✓

I. CONTROL OF HYDROGRAPHY:

In all of the Wakulla River covered, and in that part of the St. Marks River below the confluence, the hydrography was controlled in position by three-point sextant fixes on objects located as listed under Item F. ✓

Soundings in the St. Marks River, above its confluence with the Wakulla, were spotted on the boat sheet from features along the shoreline. The nine-lens photographs were used to identify prominent objects such as leaning trees, mouths of small streams, small islands, etc. for that part of the river between the power plant and Newport where the thick woods overhang the banks. Then positions were marked on the boat sheet with reference to these objects and the path of the sounding skiff delineated as well as it could be judged. One line was run in mid-stream and one on each side, along the line of grass that marks the channel. ✓

J. ADEQUACY OF SURVEY:

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

The junction with H-8022 is satisfactory. Depth curves are continuous at this junction. ✓

K. CROSSLINES:

Crosslines comprise about 8 per cent of the total mileage. All of them are in the wider part of the St. Marks and Wakulla Rivers, since the narrowness and lack of good control render a system of crosslines unfeasible above the town of St. Marks. ✓

L. COMPARISON WITH PRIOR SURVEYS:

Survey No. H-1330a, surveyed in 1875 at a scale of 1:10,000 covers the river as far up as the village of St. Marks. The present survey is in agreement with this prior one. Apparently the river had not been surveyed above St. Marks. ✓

M. COMPARISON WITH CHART 1261: *New ch't 484 see review 86*

This chart is of such a small scale that only six soundings are shown in this part of the river. Thus no real comparison can be made. ✓

N. DANGERS AND SHOALS:

None found. ✓

O. COAST PILOT INFORMATION:

The channel is marked by buoys up as far as the confluence of the St. Marks and Wakulla Rivers. From there up to Newport the St. Marks River is narrow but deep. The best water is in mid-stream, with a dense fringe of grass along the edges of the channel. A turning basin has been dredged about 350 yards upstream from the power line crossing in St. Marks.

P. AIDS TO NAVIGATION: (from 1953 Light List)

There are no fixed aids to navigation in this survey.

Floating aids to navigation were located as follows:

St. Marks River Buoy 41:

Lat. $30^{\circ} 08.02'$, Long. $84^{\circ} 12.35'$; in ⁹10 feet; located on 4 December 1952, position 7a.

St. Marks River Buoy 42:

Lat. $30^{\circ} 08.13'$, Long. $84^{\circ} 12.40'$; in 15 feet; located on 4 December 1952, position 6a.

St. Marks River Buoy 43:

Lat. $30^{\circ} 08.34'$, Long. $84^{\circ} 12.44'$; in 9 feet; located on 4 December 1952, position 5a.

St. Marks River Buoy 44:

Lat. $30^{\circ} 08.48'$, Long. $84^{\circ} 12.49'$; in 11 feet; located on 4 December 1952, position 4a.

St. Marks River Buoy 45:

Lat. $30^{\circ} 08.68'$, Long. $84^{\circ} 12.56'$; in 11 feet; located on 4 December 1952, position 3a.

St. Marks River Buoy 46:

Lat. $30^{\circ} 08.86'$, Long. $84^{\circ} 12.66'$; in 13 feet; located on 4 December 1952, position 2a.

St. Marks River Buoy 48:

Lat. $30^{\circ} 08.93'$, Long. $84^{\circ} 12.65'$; in 8 feet; located on 4 December 1952, position 1a.

Q. LANDMARKS FOR CHARTS:

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

St. Marks River Buoy 40: 31

Lat. $30^{\circ} 07.92'$, Long. $84^{\circ} 12.26'$; in 10 feet, located on 25 November, 1952, position 8'a.

Q. LANDMARKS FOR CHARTS: CON'T.

Prominent landmarks found within the limits of this survey are:

Leon Tower.
Transmission Towers.
Newport Tower.

R. GEOGRAPHIC NAMES:

Charted geographic names were verified by consultation with local residents.

S. SILTED AREAS:

None found.

T. BY-PRODUCT INFORMATION:

None.

N. BOAT SHEET:

The boat sheet was furnished by the Washington Office. It was received with a projection ruled in ink, the triangulation stations plotted in pencil, and bearing only the note "30-05152 1:5,000 ployconic ruled 3/25/52 J.A." When preliminary work (plotting of signals and checking plotting of triangulation stations) was begun in September, it was found that the paper had expanded in an east and west direction, the amount of 16 meters in one minute of longitude. At the time, the discrepancy was thought to be an error in laying out the projection, so corrected projection lines were drawn in red ink. About a month later, it was found that the original black projection lines were correctly spaced, the sheet having reverted to its original size. The shoreline and signals were re-plotted according to the original projection.

V. OVERLAYS:

The transparent overlays made from the map manuscript on a scale of 1:5,000 for the purpose of transferring photo-hydro stations to the boat sheet could not be used. The projection lines were not straight and could not be matched, even in one quadrangle, to get satisfactory accuracy. As a result, the photo-hydro stations were plotted on the boat sheet by scaling dm's and dp's directly from the map manuscript. A Sylar-Lockerbie scale was used for this scaling and plotting. Many of these photo-hydro stations were later located by triangulation. A comparison of the results is given in the special report on this subject.

Z. TABULATION OF APPLICABLE DATA:

Accompanying this report are:

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

Submitted by,

Arthur L. Wardwell
Arthur L. Wardwell
Commander, USC&GS

STATISTICS SHEET

For Hydrographic Survey H-8021 (Field No. SO-05152)

St. Marks River, Florida - Port Leon to Newport ✓

Scale 1:5,000 4 December to 9 December 1952 ✓

U.S.C. & G.S.S. SOSBEE ✓ Riley J. Sipe, Comdg. ✓

Day Letter	Volume Number	Date 1952	No. of Positions	Statute Miles	No. of Pole Soundings
a	1 ✓	4 Dec. ✓	335 ✓	22.8 ✓	336 ✓
b	2 ✓	5 Dec. ✓	143 ✓	9.4 ✓	36 ✓
c	2 ✓	6 Dec. ✓	115 ✓	5.7 ✓	39 ✓
d	2 ✓	8 Dec. ✓	28 ✓	1.7 ✓	56 ✓
e	2 & 3 ✓	9 Dec. ✓	63 ✓	3.7 ✓	97 ✓
Totals			684 ✓	43.3 ✓	564 ✓

Area = 0.4 Square Statute Miles.

TIDE NOTE

A portable automatic tide gage was in operation at St. Marks during the period of this survey.

For the part of the St. Marks River above its confluence with the Wakulla, the St. Marks tide data were used with no time correction.

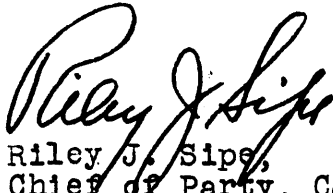
For the rest of the sheet, a correction of - 10 minutes was applied.

✓

APPROVAL SHEET

The survey of the area covered by SO-05152(H-8021) is adequate for charting purposes. The sounding records and boat sheet have been inspected and are approved this date. Additional work is not necessary.

26 Jan. 1953


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

LIST OF SIGNALS

Survey No. H-8021 (Field No. 80-05152)

Name used in Hydrographic Survey	Origin of Station
ACE - - - - -	-ACE 1952
ARM - - - - -	-Photo-hydro, from R.S. 447.
BAG - - - - -	-BAG 1952
BOB - - - - -	-BOB 1952
BUZZ- - - - -	-BUZZ 1935
CAR - - - - -	-Photo-hydro, from R.S. 447.
DOG - - - - -	-Photo-hydro, from R.S. 447.
EGG - - - - -	-Photo-hydro, from R.S. 447.
EVA - - - - -	-EVA 1952
GET - - - - -	-Photo-hydro, from R.S. 447.
IVY - - - - -	-Photo-hydro, from R.S. 447.
JIM - - - - -	-TOWER, TRANSMISSION 1952.
LAD - - - - -	-Photo-hydro, from R.S. 447.
LEO - - - - -	-LEON TOWER 1952.
MAX - - - - -	-Photo-hydro, from R.S. 447.
MUG - - - - -	-MUG 1952.
NAY - - - - -	-Photo-hydro, from R.S. 447.
NEW - - - - -	-Photo-hydro, from R.S. 447.
OIL - - - - -	-Photo-hydro, from R.S. 447.
PIE - - - - -	-Photo-hydro, from R.S. 447.
POT - - - - -	-Photo-hydro, from R.S. 447.
RAM - - - - -	-RAM 1952.
RIG - - - - -	-Photo-hydro, from R.S. 447.
SIS - - - - -	-SIS 1952
WAK - - - - -	-WAK 1935

LIST OF SIGNALS
H-8021

TRIANGULATION STATIONS

BUZZ	BUZZ, 1935-52
JIM	TOWER TRANS., 1952
LEO	LEON TOWER, 1935-52
WAK	WAK, 1935-52

TOPOGRAPHIC STATIONS

(Located by fourth order triangulation)

Ace	Bag	Bob	Eva	Mug	Ram	Sis
-----	-----	-----	-----	-----	-----	-----

(Source-Air-photo compilation RS-447)

Arm	Car	Dog	Egg	Get	Ivy	Lad	May	Nay	New	Oil
Pot	Rig									

(Source- Air-photo compilation RS-448)

Pie

ADDENDUM
To Accompany

HYDROGRAPHIC SURVEY H-8021 (Field No. So-05152)

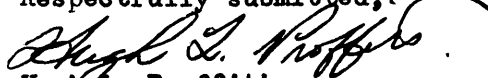
GENERAL

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

BOTTOM CHARACTERISTICS

Numerous bottom characteristics, recorded as Rk in the sounding volumes, were entered as "rky" on the smooth sheet. It is believed probable that many of these rocky indications were obtained on oyster shells. ✓

Respectfully submitted,


Hugh L. Proffitt
Cartographer.

Norfolk, Va.
16 April 1954 ✓

GEOGRAPHIC NAMES

Survey No. H-8021

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>Florida</u>									B.H.	1
<u>St. Marks River</u>										2
<u>Port Leon</u>										3
<u>Salt Pan Creek</u>										4
<u>Wakulla River</u>										5
<u>St. Marks</u>				(tide station)					B.G.N.	6
<u>Newport</u>										7
										8
										9
										10
										11
										12
										13
										14
										15
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										23
										24
										25
										26
										27

Names approved

4-27-64

L. Heck

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H-8021...

Records accompanying survey:

Boat sheets .1...; sounding vols. .3...; wire drag vols.;
 bomb vols.; graphic recorder rolls .2 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	.....	684
Number of positions checked	.....	23
Number of positions revised	.....	5
Number of soundings revised (refers to depth only)	.....	0
Number of soundings erroneously spaced	.....	6
Number of signals erroneously plotted or transferred	.....	0
Topographic details	Time	1 hr
Junctions	Time	1/2 hr
Verification of soundings from graphic record	Time	1/2 hr

Verification by.....O. Svendsen.....Total time 18 hrs. Date 6/28/55

Reviewed by.....A. R. Stirni.....Time 26 hrs. Date 7/24/55

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Coastal Survey~~

11 May 1954

Division of Charts: R. H. Carstens

Plane of reference approved in
3 volumes of sounding records for

HYDROGRAPHIC SHEET

8021

Locality St. Marks River, Florida

Chief of Party: R. J. Sipe in 1952
Plane of reference is mean low water reading
2.0 ft. on tide staff at St. Marks
5.2 ft. below B. M. 3 (1935)

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.

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8021

FIELD NO. SO-05152

Florida, St. Marks River, Port Leon to Newport

Project No. CS-351

Surveyed - Dec., 1952

Scale 1:5,000

Soundings:

Control:

808 Fathometer

Sounding pole

Sextant fixes on

shore signals

References to prominent
features

Chief of Party - Riley J. Sipe

Surveyed by - R. J. Sipe, A. L. Wardwell

Protracted by - G. L. Fernandes

Soundings plotted by - G. L. Fernandes

Verified and inked by - O. Svendsen

Reviewed by - A. R. Stirni 7/24/55

Inspected by - R. H. Carstens

1. Shoreline and Control

The shoreline originates with the unreviewed manuscripts of RS-447 (1952) and RS-448 (1952).

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

2. Sounding Line Crossings

Sounding-line crossings in the wider parts of the St. Marks and Wakulla Rivers are in good agreement. Cross lines were not attempted in the narrow channel of the St. Marks River north of lat. $30^{\circ}09.0'$.

3. Depth Curves and Bottom Configuration

The usual depth curves have been adequately delineated. In the broad part of the St. Marks River below the confluence with the Wakulla River the channel winds back and forth across the river and is marked with buoys. Above the junction with the Wakulla River, where the St. Marks River narrows considerably, the channel holds to a midstream course and is easily followed.

4. Junctions with Contemporary Surveys

The present survey is in harmony with unverified survey H-8022 (1952) on the south. The junction with H-8022 will be discussed in the review of that survey. There are no contemporary surveys on the north.

5. Comparison with Prior Surveys

H-541 (1856), 1:10,000

H-305 (1852), 1:20,000

H-1330a (1875), 1:10,000

None of the prior surveys extend north of St. Marks. The soundings on the reconnaissance survey H-305 (1852) are as much as 200 meters apart but differ little with the present depths.

In comparing the present survey with H-541 (1856) and H-1330a (1875), there appears to be considerable difference in shoreline; however, no detailed references are made because of the generalization on the prior surveys and the different delineation of marshy shoreline. Channel depths have changed little since the time of the earlier surveys but the surveys reveal much lateral shifting in the channel bed. For example at lat. $30^{\circ}08.00'$, long. $84^{\circ}12.30'$ (buoy C-41), where the channel presently lies 50 meters east of its former location, and at lat. $30^{\circ}08.20'$, long. $84^{\circ}12.45'$ and lat. $30^{\circ}08.55'$, long. $84^{\circ}12.52'$, where, in both instances, the channel presently lies 40 meters west of its former location.

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)

A. Hydrography

Charted hydrography originates with the boat sheet (Bp. 50154) of the present survey. Only minor differences are noted between the charted soundings and the present survey. ✓ Areas at lat. $30^{\circ}08.70'$, long. $84^{\circ}12.65'$ and lat. $30^{\circ}09.2'$, long. $84^{\circ}12.8'$ which are charted awash at MLW are covered by depths of 1/2 - 1-ft. on the smooth sheet after verification.

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

B. Aids to Navigation

The aids to navigation located on the present survey are in substantial agreement with the charted aids and adequately mark the features intended, except that buoy N-42 charted in lat. $30^{\circ}08.16'$, long. $84^{\circ}12.42'$ should be moved 100 meters northwesterly to adequately mark the channel.

detected
chart 484
6/2/60

7. Condition of Survey

(a) The sounding records and Descriptive Report are complete and comprehensive.

(b) The smooth plotting was accurately done.

8. Compliance with Project Instructions

The survey adequately complies with the Project Instructions.

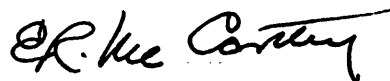
9. Additional Field Work

This is a good basic survey and no additional field work is recommended. ✓

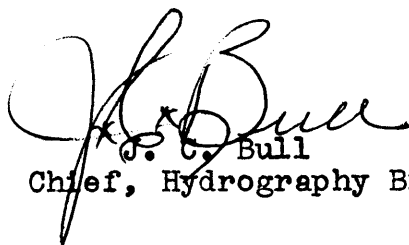
Examined and Approved:



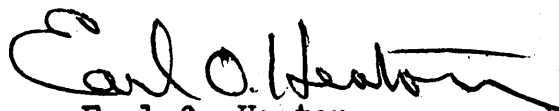
H. R. Edmonston
Chief, Nautical Chart Branch



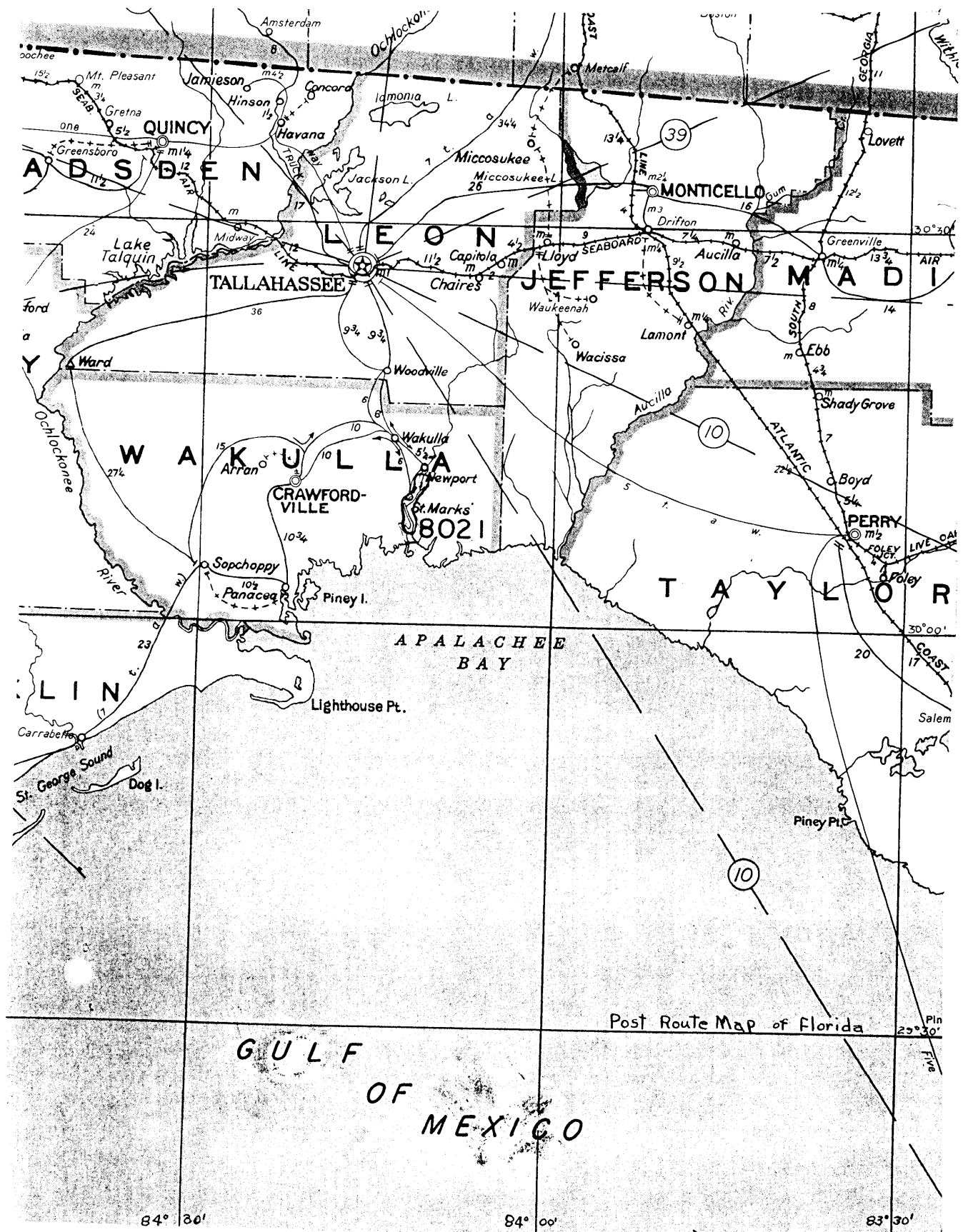
E. R. McCarthy
Acting Chief, Chart Division



J. C. Bull
Chief, Hydrography Branch



Earl O. Heaton
Chief, Division of Coastal Surveys



NAUTICAL CHARTS BRANCH

SURVEY NO. H. 8021

Record of Application to Charts

[illegible]

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.

5

cht 484 -

Before V&R - Exam for actual information (Hydro)

cht 484

After V&R - fully applied. E. Thomas