

8179

Diag. Cht. No. 1243-2.

Form 504	
U. S. COAST AND GEODETIC SURVEY	
DEPARTMENT OF COMMERCE	
DESCRIPTIVE REPORT	
Type of Survey	Hydrographic
Field No. ECFP-1754	Office No. H-8179
LOCALITY	
State	Florida
General locality	Atlantic Ocean
Locality	Fernandina Beach
19A/55	
CHIEF OF PARTY	
C. R. Reed	
LIBRARY & ARCHIVES	
DATE	August 27, 1957

B-1870-1 (1)

8179

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-8179.

Field No. ECFP-1754.

State FLORIDA - ~~GEORGIA~~

General locality ATLANTIC OCEAN

Locality FERNANDINA BEACH

Scale 1:10,000 Date of survey 1 Feb. to 17 Feb. 1955

Instructions dated 30 Sept. 1953 & 4 Oct. 1954

Vessel EAST COAST FIELD PARTY

Chief of party CLARENCE R. REED

Surveyed by E.K. McCAFFREY

Soundings taken by ~~XXXXXXXX~~, graphic recorder, ~~XXXXXXXXXX~~

Fathograms scaled by PARTY PERSONNEL

Fathograms checked by E.K. McCAFFREY

Protracted by P.J. GEORGIA

Soundings penciled by P.J. GEORGIA

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

REMARKS:

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NOTES FOR DESCRIPTIVE REPORT TO ACCOMPANY

Hydrographic Sheets H-8106(Field No. ECFP 1-10-53)
H-8179(Field No. ECFP 1754)

St. Marys Entrance, Cumberland Sound and Fernandina Beach
Florida and Georgia

EAST COAST FIELD PARTY

C. R. REED - CHIEF OF PARTY

PROJECT CS-364

1955

SCALE 1:10,000

• • • • •
REPORT OF PRIOR WORK Part of the field work on survey H-8106 (ECFP 1-10-53) was accomplished in the winter of 1953-54. A separate Descriptive Report was submitted for that portion of the work at that time.

PROJECT This survey was accomplished under instructions dated 30 September 1953 and supplemental instructions dated 4 October 1954.

SURVEY LIMITS AND DATES The survey on sheet H-8106(Field No. ECFP-1-10-53) includes that portion of Cumberland Sound covered by Chart 453. (except the area covered by U.S. Engineers surveys). The limits of the area surveyed on the outside coast include all the area on Chart 453 (exclusive of USE Survey at jetty entrance) except that part which lies south of latitude $30^{\circ}-40.5'$.

The survey on sheet H-8179(Field No. ECFP 1754) includes that area bounded on the north by latitude $30^{\circ} 40.5'$, on the east by the $30'$ foot curve, on the south by latitude $30^{\circ} 36.3'$, and on the west by the coast of Florida.

The present survey on sheet H-8106(Field No. ECFP 1-10-53) was begun 9 December 1954. The survey on sheet H-8179(Field No. ECFP 1754) was begun 1 February 1955. The work on these sheets was done concurrently and terminated 17 February 1955.

VESSELS AND EQUIPMENT Aluminum launch CS-168 and plywood launch CS-175 were used consecutively in these surveys. Both operated from Fernandina Public Wharf. Launch CS-168 was used prior to 26 January 1955. Launch CS-175 was used after this date, and for the remainder of the surveys.

Launch CS-168 was operated at a sounding speed of 5.5 knots. Launch CS-175 was operated at a sounding speed of 9.0 knots.

Echo soundings were obtained with Graphic Recorders 121S and 77, with transducers mounted inboard in both launches. Fathometer 121S was used 9 December 1954 in launch #168. Fathometer 77 was then used for the remainder of both surveys.

Tides and Currents Tide reducers for this project were obtained from hourly heights furnished this party by the Washington Office. These heights were inferred from the Fernandina Standard Gage. This gage was inspected and serviced 1-3 February by the tide party of ENS. Paul Hertelendy.

No current observations were made on this project.

SMOOTH SHEET The smooth sheet is ^{W73} to be plotted by the Norfolk Processing Office.

Sec 85 8106

CONTROL STATIONS Control consisted of triangulation and Photo-hydro stations. These latter were transferred to the boat sheets from Air-photo Compilation sheets T-9801N and T-9801S. All necessary hydrographic stations were located by sextant fixes taken at the signal position.

SHORELINE AND TOPOGRAPHY The shoreline and topographic details were transferred from Air-photo Compilation Sheets T-9801N & T-9801S. of 1954
Measurements from photo-hydro signals to the high water line were made in accordance with Paragraph 5 of Supplemental Instructions dated 10/4/54. Unfavorable tides and winds prevented location of the low water line on survey H-8179 (EGFP 1754) during hydrography. It was located at low water by a series of detached positions.

SOUNDINGS Soundings were taken by Graphic Recorder, sounding pole and hand lead. Bottom samples were obtained using an armed hand lead.

CONTROL OF HYDROGRAPHY The sounding lines on these sheets were controlled by means of three point sextant fixes. No unusual jumps were observed in changing control stations.

ADEQUACY OF SURVEY This survey is considered complete and adequate to supersede prior surveys. A satisfactory junction was made between surveys H-8106 (Field No. EGFP 1-10-53) and H-8179 (Field No. EGFP 1754). A juncture was also made with the U.S. Engineers survey at St. Marys Jetty Entrance.

CROSSLINES Crosslines were run as specified in the original instructions of 30 September 1953. Discrepancies should be resolved by application of final tides on the smooth sheet.

COMPARISON WITH PRIOR SURVEYS A comparison with prior surveys Nos. H-5690 and H-4376 showed few discrepancies. In general the present survey listed depths approximately 2-3 feet deeper than prior surveys in depths of 15-30 feet immediately east of Amelia Island. 175
Re-view

COMPARISON WITH CHART A comparison with Chart 453 (Rev. 1954) showed few discrepancies. Major variations include those covered in the preliminary review by Chart Division and are discussed in the following section. 176
Review
The St. Marys Entrance Jetties, have sunk to such an extent that approx. 400 yds. on the east end of the south jetty and the outer 600 yds. of the north jetty are awash at high water.
It is suggested that their charted character be altered and/or a note be added to the chart to indicate this fact.

PRELIMINARY REVIEW BY CHART DIVISION - CHART 453

Item 5 The 6 foot charted sounding in latitude $30^{\circ} 41.54'$, longitude $81^{\circ} 24.56'$ was not found. The present survey reveals depths of 10-12 in this area. It is probable that the bottom has changed in this sandy area and it is recommended that the 6 foot sounding be deleted. H-8106

Item 6 The 37 foot sounding charted in latitude $30^{\circ} 41.94'$, longitude $81^{\circ} 21.54'$ was not found. Although not extensively developed, a sounding line run 20m south of its charted position showed depths of 41 feet in regular bottom. The bottom in this area is soft, black mud. It is recommended that this sounding be deleted.

Item 7 The wreck charted in latitude $30^{\circ} 43.56'$, longitude $81^{\circ} 21.48'$ was not found. Sounding lines were run 30m south and 50m north of its

charted position, showing depths of 41-43 feet in regular bottom. Mr. David Tapper, local shrimp boat captain reports local shrimpers have snagged this wreck on several occasions with resultant loss of net. This is the shrimp trawler "Gipsy Girl" which burned and sank. He could not give exact information as to what depth such snagging occurred, but estimated it at approximately 40 feet, as charted. However, he reported that such snagging occurred while crossing the range formed by St. Marys Entrance bell buoy "3F" and the smoke visible from St. Marys Kraft Corporation. This would place the wreck approx. 300-400 meters north of its present location. It is recommended that the present symbol and notation be retained in its present position, until such time as more definite information justifies changing it. H-8106

Item not numbered The 14 foot sounding in latitude 30° 42.75', longitude 81° 23.85' was investigated by a system of parallel sounding lines whose spacing did not exceed 60 meters. The least depths obtained were 20-21 feet which verified soundings in the same area from the U.S. Engineers survey. The bottom in the vicinity has probably changed and the 14 foot sounding should be deleted. H-8106

Item 1 The latest controlling depth in the marked channel is 29 feet. This is a dredged channel and subject to shoaling at its edges.

COAST PILOT These are no corrections or additions to Coast Pilot recommended.

AIDS TO NAVIGATION No fixed aids to navigation were located this field season. Floating aids to navigation were located as follows: H-8106

<u>NAME (1953 Light List)</u>	<u>LOCATION</u>	<u>DEPTH</u>	<u>VOL.</u>	<u>PAGE</u>	<u>DATE</u>
Fernandina Entrance Lighted Bell Buoy "3F"	30° 43.55' 81° 23.23'	30	8	3	17 Feb. 1955
Fernandina Entrance Lighted Whistle Buoy "4"	30° 43.07' 81° 24.23'	46	4	13	21 Jan. 1955
Fernandina Entrance Buoy "5"	30° 42.93' 81° 24.20'	40	4	13	21 Jan. 1955
Fernandina Entrance Buoy "6"	30° 42.93' 81° 24.76'	32	4	13	21 Jan. 1955
Fernandina Entrance Lighted Bell Buoy "7"	30° 42.85' 81° 24.70'	38	4	13	21 Jan. 1955
Fernandina Entrance Buoy "8"	30° 42.86' 81° 25.03'	32	4	14	21 Jan. 1955
Fernandina Entrance Lighted Buoy "10"	30° 42.76' 81° 25.40'	29	4	14	21 Jan. 1955

LANDMARKS FOR CHARTS There are no new landmarks to report.

GEOGRAPHIC NAMES There are no changes or additions to Geographic Names to report.

MISCELLANEOUS The Rayonier Corporation discharges its waste industrial liquor in the ocean off Fernandina Beach by means of a submerged discharge pipe. The inshore end is shown on Air-Photo Manuscript T-9801-S. The offshore end was located by means of a sextant fix taken on the observed fluid discharge. This is recorded as position 8 e, page 53, Vol. 2 -

Sheet H-8179 (ECFP 1754). A bar check was taken in the immediate vicinity and showed that this discharge apparently did not change the water density enough to materially affect the velocity of sound.

Respectfully submitted

Edwin K. McCaffrey
ENS. USC&GS

Approved and forwarded

Clarence R. Reed
CDR., USC&GS
Chief of Party

TIDE NOTE TO ACCOMPANY

Hydrographic Survey Sheet H-8106(FIELD NO. ECFP 1-10-53)
H-8179(FIELD NO. ECFP 1754)

Tide reducers for this project were obtained from hourly heights furnished this party by the Washington Office. These heights were inferred from the Fernandina Standard Gage.

FATHOMETER CORRECTIONS

Hydrographic Survey Sheets H-8106(Field No. ECFP 1-10-53)
H-8179(Field No. ECFP 1754)

The corrections tabulated below are based on an initial set at zero feet on the fathogram. Index corrections have been entered in the sounding volumes where the initial varied from zero feet. All soundings were taken in feet.

LAUNCH 168

Fathometer 121-S
9 December 1954

Correction (Feet)	Depth (Feet)	
	From	To
A Range		
+0.2'	0.0	14.6
0.0	14.8	55.0

B Range not used

LAUNCH 168

Fathometer 77
10 December 1954- 21 January 1955

Correction (Feet)	Depth (Feet)	
	From	To
A Range		
+0.2	0.0	25.0
0.0	25.2	32.0
-0.2	32.2	55.0
B Range		
+1.2	35.0	42.4
+1.0	42.6	45.8
+0.8	46.0	48.2
+0.6	48.4	50.2
+0.4	50.4	52.0
+0.2	52.2	54.4
0.0	54.6	Limit of sounding

LAUNCH 175

Fathometer 77
22 January 1955 - 17 February 1955

A Range	From		To
	-0.6	0.0	6.6
-0.4	6.8	48.0	
-0.2	48.2	55.0	
B Range			
0.0	35.0	42.0	
+0.2	42.2	52.0	
+0.4	52.2	limit of sounding	

STATISTICS TO ACCOMPANY

Hydrographic Sheet H-8179(Field No. ECFP 1754)

LAUNCH NO. 175

DATE 1955	DAY LTR.	VOL. NO.	LEAD LINES	NO. OF POSITIONS	STAT. MI. SDG. LINES
1 Feb.	a	1	0	50	8.4
2 "	b	1	0	132	20.8
8 "	c	1&2	0	170	36.3
10 "	d	(Cuts to locate LWL)			
15 "	e		8	25	3.2
TOTALS			8	377	68.7

Area Surveyed 7.3 sq. stat. mi.

APPROVAL SHEET FOR

Hydrographic Surveys H-8106(Field No. ECFP 1-10-53)
H-8179(Field No. ECFP 1754)

The records and boat sheets for Hydrographic Survey H-8106 (ECFP 1-10-53) and H-8179(ECFP 1754) have been inspected by me and are approved.

It should be noted that navigational buoys in St. Marys Entrance have been moved since the original field work was done on Survey H-8106. Their new positions have been determined during the present field season. They mark a channel which falls north of the entrance range.

It should also be noted that the boat sheet for Survey ECFP-1754 has been re-oriented in order to get signals at the north end of the survey on the sheet. The smooth sheet for Survey H-8106 will require a slight shift northward to eliminate the dog ear.

It is not practical to search for the wreck (Review Item No. 7) off the entrance except by wire drag.

The tides used for boat sheet reduction of soundings are from predicted curves and do not give perfect agreement on crosslines. It is expected that smooth sheet plotting will improve these crossings.

The present survey fails to overlap the U.S. Engineers survey just south of the end of the south jetty. However, depth curves are in essential agreement and no further work seems indicated. A rather swift current near the ends of the jetties can be expected to cause great variations in submarine topography.

The high and low water lines in the vicinity are quite changeable, as each new storm builds up or tears down some of the sandy beach. Groins, which were erected in early 1954 north of latitude $30^{\circ} 40'$, have had some effect on this changing shoreline. The low water line on Survey H-8179(ECFP-1754) was determined by sextant fixes at the time of low water on "d" day. The high water and storm high water lines were determined at high water the morning of 23 February 1955. Measurements were made from the various photo-hydro signals and these measurements have been inked on the boat sheet and on the field photographs. The new high water line has been inked in red. It is recommended that this line be transferred to the smooth sheet directly from the boat sheet as the changeable nature of the shore here does not warrant correction of the Air Photo Compilation.

Clarence E. Reed
CDR., USCGS
OinC, East Coast Field Party

PROCESSING OFFICE
LIST OF SIGNALS

H-8179

TRIANGULATION STATIONS

AMEL AMELIA ISLAND L.H., 1905-32

FERN FERNA, 1954

TOPOGRAPHIC STATIONS

SOURCE T-9801N

Tow

SOURCE T-9801S

Gab	Jug	Kim	Mac	Nut	Out	Pot	Quo	Rat	Sit
Ump	Vet	Wee	Yak	Zoo					

HYDROGRAPHIC STATIONS

Ear From survey H-8106

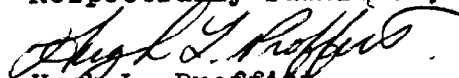
ADDENDUM
To Accompany

HYDROGRAPHIC SURVEY H-8179 (Field No. ECFP-1754)

GENERAL

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

Respectfully submitted,


Hugh L. Proffitt
Cartographer

Norfolk, Va.
20 August 1957

GEOGRAPHIC NAMES

Survey No. H-8179

Name on Survey	A	B	C	D	E	F	G	H	K	
	On Chart No.	On Previous survey No.	On U. S. Quadrangle Maps	From local information	On local Maps	P. O. Guide or Map	Rand McNally Atlas	U. S. Light List		
Florida			(title)						DN	1
Fernandina Beach									"	2
St. Marys Entrance									"	3
Amelia Island										4
										5
										6
										7
										8
										9
Fernandina			(tide station)							10
										11
										12
										13
										14
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										24
										25
										26
										27

Names approved
9-10-57. L. Heck

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. 8179....

Records accompanying survey:

Boat sheets ..1...; sounding vols. .2...; wire drag vols.; bomb vols.; graphic recorder rolls 1-Envelope special reports, etc. 1-Descriptive report and 1-Smooth sheet,

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

SPO

Number of positions on sheet	.....	377	377
Number of positions checked	.....	9	1
Number of positions revised	.....	0	1
Number of soundings revised (refers to depth only)	.....	7	20
Number of soundings erroneously spaced	.....	0	17
Number of signals erroneously plotted or transferred	.....	0	
Topographic details	Time	.....
Junctions	Time	.....
Verification of soundings from graphic record	Time	.....
Preliminary Verif. - <i>J. J. G. J. G.</i>		16	8-7-58
Verification by <i>Seattle Processing Office</i>	Total time	.....	Date
Reviewed by <i>J. J. G. J. G.</i>	Time	12	Date 8-7-58
ADDENDUM TO REVIEW <i>H. Radder</i>	Time	23	Date 9-18-63

DIVISION OF CHARTS
REVIEW SECTION - NAUTICAL CHART BRANCH
REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8179

FIELD NO. ECFP-1754

Florida, Atlantic Ocean, Fernandina Beach

Surveyed - February, 1955

Scale 1:10,000

Project No. CS-364

Soundings:

Control:

808 Depth Recorder

Sextant fixes on
shore signals

Chief of Party - C. R. Reed
Surveyed by - E. K. McCaffrey
Protracted by - P. J. Georgia
Soundings plotted by - P. J. Georgia
Preliminary verification by - I. M. Zeskind
Verified and inked by - *H. Radden & Seattle Proc. Office*
Reviewed by - I. M. Zeskind 8-17-58
Inspected by - R. H. Carstens

1. Shoreline and Control

RS-697(4p 58144) and RS-698(0p 58145) Revision
The shoreline originates with unreviewed air-photographic surveys
~~T-9801N and T-9801S~~ of 1954, and the boat sheet of the present survey.
The shoreline transferred from the boat sheet is shown in red color.

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 bottom is generally smooth.

4. Junctions with Contemporary Surveys

The junction with H-8106 (1954-55) on the north will be considered in the review of that survey. No contemporary surveys join the present survey on the east and south. Charted depths at the limits of the present survey are in adequate agreement with present depths.

5. Comparison with Prior Surveys

A. H-1110 (1871), 1:20,000
H-1218b (1874), 1:10,000

These prior surveys cover the area of the present survey. The construction of the jetties at the entrance to Cumberland Sound has caused considerable change in the bottom configuration and the shoreline. The shoreline has both accreted and eroded, as for example in the vicinity of lat. 30°39.6', long. 81°25.93', where it has eroded as much as 250 meters. The present depths are generally deeper, especially close inshore where they have increased as much as 10 ft., as for example, in lat. 30°39.48', long. 81°25.70', where a prior depth of 4 ft. falls in present depths of 14 ft.

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

B. H-3770 (1915), 1:80,000
H-4376 (1924), 1:20,000

A comparison between the prior and present surveys reveals changes of 1 - 4 ft. in depths less than 18 ft. north of lat. 30°39.2'. Here the bottom has generally deepened, and the shoreline has eroded as much as 70 meters. The 12-ft. and 18-ft. depth curves are now located about $\frac{1}{2}$ mile and 300 meters respectively closer inshore than their prior locations. Elsewhere only minor 1 - 2 ft. differences in depths are noted.

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

6. Comparison with Chart 453 (Latest print date 10-21-57)
Chart 1243 (Latest print date 11-11-57)

A. Hydrography

The charted hydrography originates with the prior surveys previously discussed which needs no further consideration, supplemented by soundings from the boat sheet (Bp. 52266) of the present survey. Only minor differences of 1 - 2 ft. in depths between the charted and present survey depths are noted. The shoreline between lat. 30°39.7' and lat. 30°41.2', is charted about 70 meters east of its present survey location.

The present survey is adequate to supersede the charted hydrography.

B. Aids to Navigation

There are no aids to navigation within the limits of the present survey.

7. Condition of Survey

- a. This survey has been given only a preliminary verification. Statement concerning the condition of the survey is deferred until the present survey has been completely verified.
- b. The Descriptive Report and records are complete and comprehensive.
- c. The smooth plotting of positions and the verification of soundings was accurately done. Additional comments if necessary will be made when the verification has been completed.

8. Project Instructions

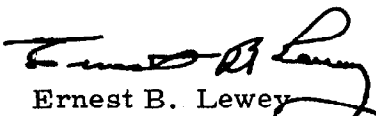
The survey adequately complies with the Project Instructions.

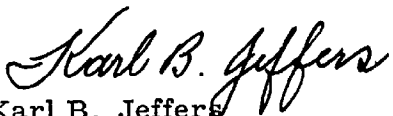
9. Additional Field Work Recommended

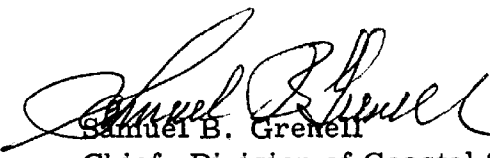
The survey is considered basic and no additional field work is recommended.

Examined and approved:


Max G. Ricketts
Chief, Nautical Chart Branch


Ernest B. Lewey
Chief, Division of Charts


Karl B. Jeffers
Chief, Hydrography Branch


Samuel B. Grenell
Chief, Division of Coastal Surveys

Addendum to Review

H-8179 (1955)

Verification and inking completed by - Seattle Processing Office
H. Radden

Review addendum by - H. Radden
Inspected by - I. M. Zeskind

The verification of this survey which previously had been given only a preliminary verification and review has been completed. Soundings and depth curves have been completely inked.

Junctions with Contemporary Surveys

Survey H-8106 (1954-55) on the north makes an adequate junction with the present survey.

Comparison with Chart 453 (print date 9/17/62)


Comparison with Chart 1243 (print date 3/5/62)

The charted hydrography originates with the present survey after preliminary verification and review. Charted depths are in agreement with present survey depths except for several minor 1-ft. differences.

Condition of Survey

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

Approved:


Lorne G. Taylor
Chief, Nautical Chart
Division

TIDE NOTE FOR HYDROGRAPHIC SHEET

Chart Division: R. H. Carstens

17 September 1957

Plane of reference approved in
2 volumes of sounding records for

HYDROGRAPHIC SHEET 8179

Locality Fernandina Beach, Florida

Chief of Party: C. R. Reed in 1955

Plane of reference is mean low water, reading
1.3 ft. on tide staff ~~at~~ of 1898 at Fernandina
16.6 ft. below B.M. 35 (1923)

Height of mean high water above plane of reference at
working grounds is 5.8 feet.

Condition of records satisfactory except as noted below:

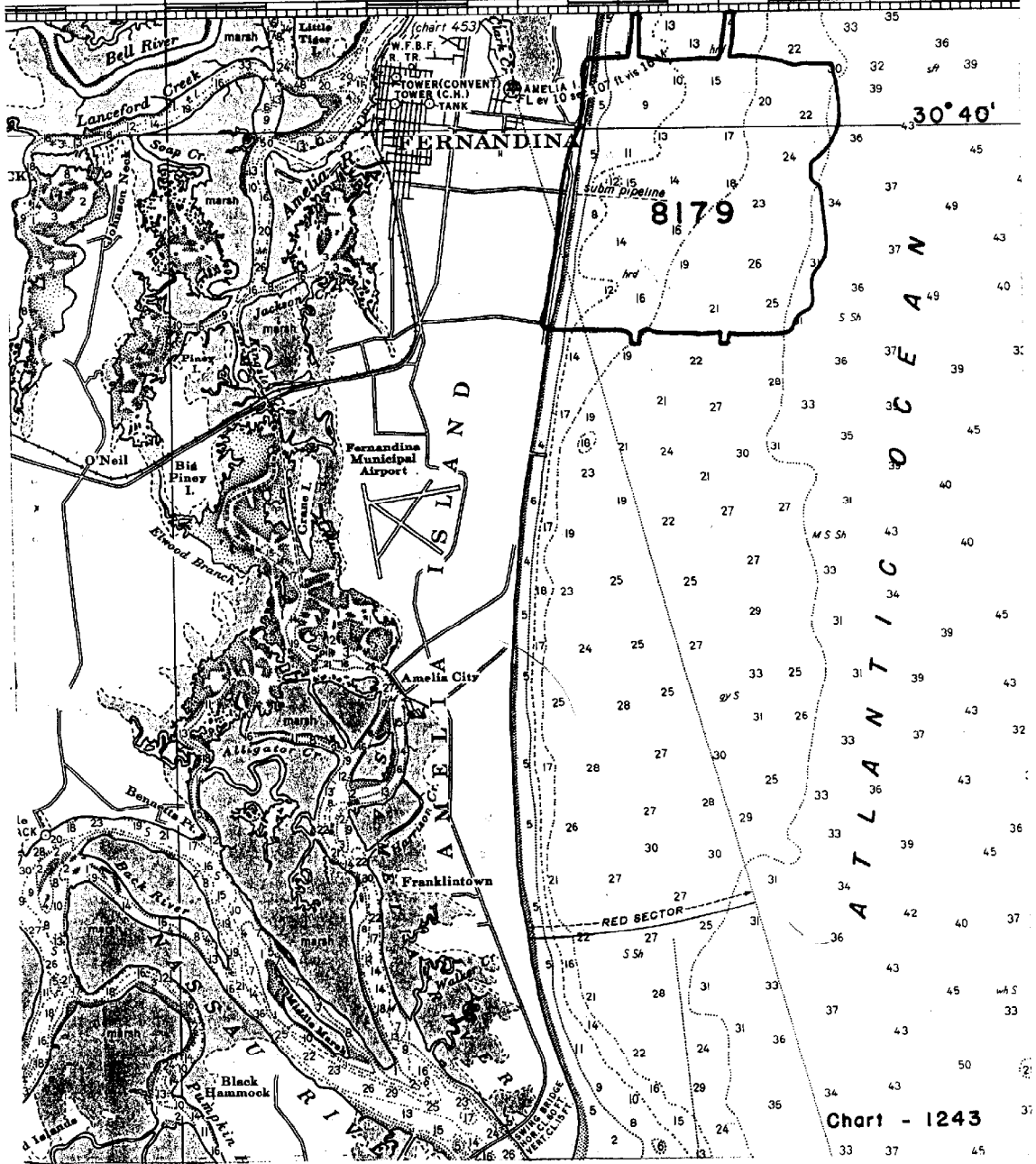

Signature

Chief, Tides Branch

81° 30'

25'

(JOINS CHART 1242)



30° 40'

ATLANTIC OCEAN

Chart - 1243

NAUTICAL CHARTS BRANCH

SURVEY NO. H-8179

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
2/17/59	<i>Discont 453</i>	<i>J. J. Walker</i>	Before After Verification and Review <i>Completely</i>
10/29/59	1243	<i>H. R. Wittman</i>	Before After Verification and Review "
11/10/59	1242	<i>H. R. Wittman</i>	Before After Verification and Review <i>Then chart 453</i>
			Before After Verification and Review
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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.