

F00452

NOAA FORM 76-35A

U.S. DEPARTMENT OF COMMERCE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL OCEAN SERVICE

## DESCRIPTIVE REPORT

Field Examination/  
*Type of Survey* Side Scan Sonar  
*Field No.* WH-10-7-99  
*Registry No.* F00452

### LOCALITY

*State* Florida  
*General Locality* North Atlantic Ocean  
*Locality* Approaches to Jacksonville

1999

CHIEF OF PARTY  
LCDR J. W. Humphrey

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REGISTRY NUMBER:

F00452

**HYDROGRAPHIC TITLE SHEET**

**INSTRUCTIONS:** The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

FIELD NUMBER:

WH-10-7-99

State: Florida

General locality: North Atlantic Ocean

Locality: Approaches to Jacksonville

Scale: 1: 10,000 Date of survey: June 15 - June 24, 1999

Instructions dated: April 29, 1999 Project Number: OPR-G354-WH-99

Vessel: NOAA Ship WHITING

Chief of Party: LCDR John W. Humphrey

Surveyed by: LCDR J.W. Humphrey, LT T.A. Haupt, LT L.T. Krepp, ENS G. Imahori, ENS M. Moser, M.J. Annis, S. Baum, C. Clemens, C.D. Kemp, U.L. Gardner, P.G. Lewit

Soundings taken by echo sounder, hand lead-line, or pole: Echotrac DF3200 MkII Precision Survey Echosounder

Graphic record scaled by: WHITING Personnel

Graphic record checked by: WHITING Personnel

Protracted by: N/A Automated plot by: HP 750C (Field) HP DesignJet 2500CP (office)

Verification by: Hydrographic Surveys Branch Personnel

Soundings in: Feet:  Fathoms:  Meters:  at MLW:  MLLW:

Remarks: Time Zone Used, 17 (UTC)

**Field Examination**

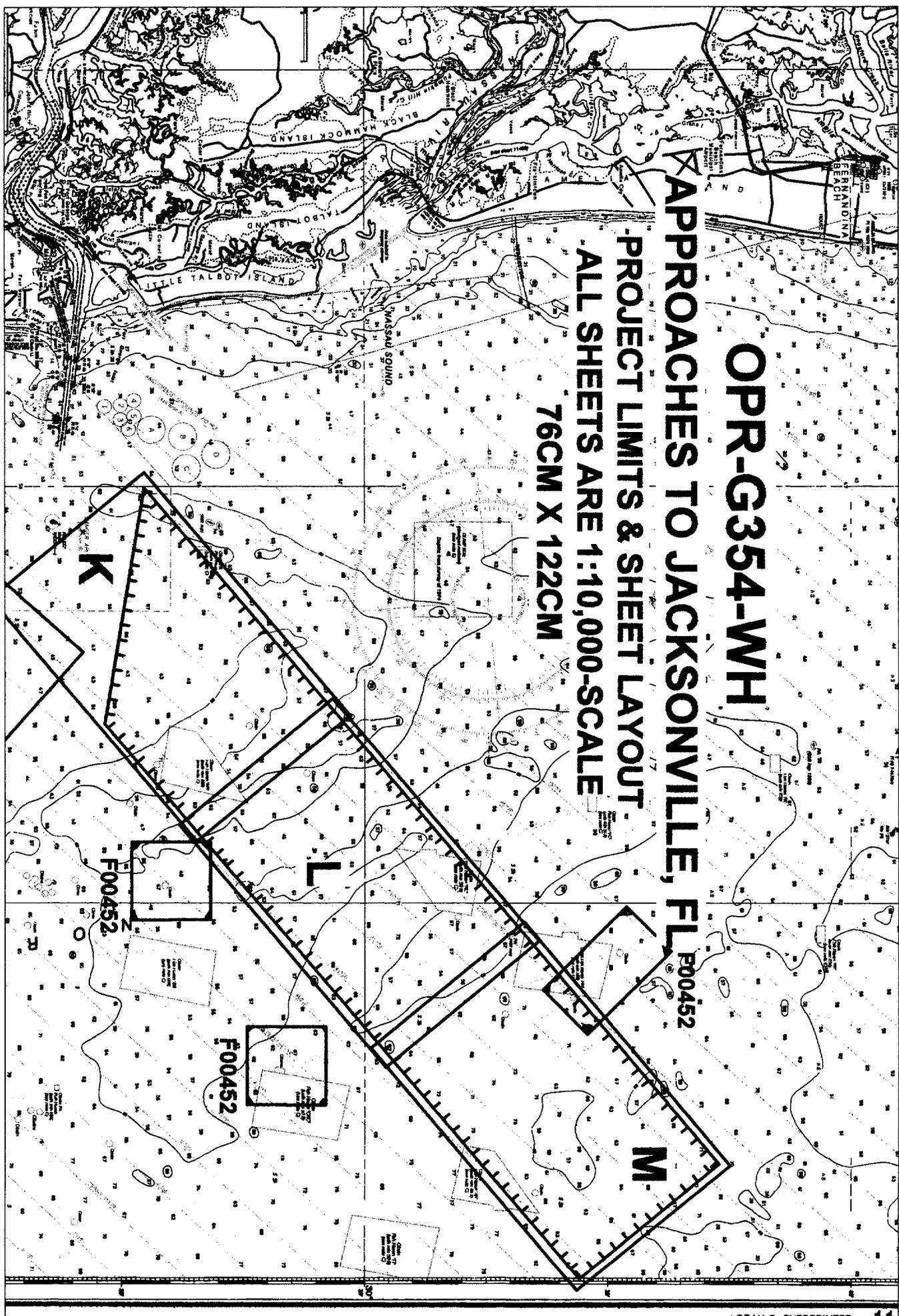
Handwritten notes in the Descriptive Report were made during office processing.

ACW OVS/SURF ✓ 12/10/99 SJV

# OPR-G354-WH

## APPROACHES TO JACKSONVILLE, FL F00452

PROJECT LIMITS & SHEET LAYOUT  
ALL SHEETS ARE 1:10,000-SCALE  
76CM X 122CM



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\* APPENDICES

\* SEPARATES

\* Data filed with field records

**A. PROJECT**

A.1 This survey was conducted in accordance with Hydrographic Project Instructions OPR-G354-WH, basic hydrographic survey, Atlantic Ocean, Approaches to Jacksonville, Florida.

A.2 The original instructions are dated April 29, 1999.

A.3 There have been no changes to the project instructions.

A.4 This Descriptive Report covers F00452 (Field Examinations) of OPR-G354-WH. F00452 lies 14.3 nautical miles northeast of St. Johns River entrance, Florida. See section B.2 for exact survey boundaries.

A.5 Project OPR-G354-WH responds to requests from the Jacksonville Waterway Management Council. The council is concerned that enhancement and construction of artificial reefs in the approaches to St. Johns River will reduce detail on NOS charts covering the area. This area is host to U.S. Naval vessels, commercial deep-draft vessels and tugs engaged in towing operations.

**B. AREA SURVEYED**

B.1 This survey covers the navigable area of the Approaches to Jacksonville, Florida. It is bounded on the west by approximate longitude 81°13'W, and on the east by approximate longitude 80°04'W. The northern and southern approximate limits are latitudes 30°37'N and 30°25'N, respectively.

B.2 The survey comprises three investigation areas with the following boundaries, starting at the SE corner and proceeding clockwise:

F00452 (AWOIS 10182, 10183)

1. 30°34' 35"N 081°06' 52"W
2. 30°33' 39"N 081°07' 56"W
3. 30°35' 23"N 081°09' 55"W
4. 30°36' 18"N 081°08' 51"W

F00452 (AWOIS 10185)

1. 30°22' 41"N 081°25' 59"W
2. 30°22' 41"N 081°27' 07"W
3. 30°23' 36"N 081°27' 07"W
4. 30°23' 36"N 080°25' 59"W

F00452 (AWOIS 10258)

1. 30°22' 41"N 081°25' 59"W
2. 30°22' 41"N 081°27' 07"W
3. 30°23' 36"N 081°27' 07"W
4. 30°23' 36"N 080°25' 59"W

B.3 Data collection for this survey began on June 15, 1999 (DN 166). Data collection ended on June 24, 1999 (DN 175).

### **C. SURVEY VESSELS**

C.1 The following vessels were used during this survey:

<b>Vessel</b>	<b>EDP Number</b>	<b>Primary Function</b>
NOAA Ship Whiting	2930 (WTEW)	Hydrography and Side Scan Operations
NOAA Launch WH-2	2932 (1014)	Hydrography and Side Scan Operations

C.2 No unusual vessel configurations were used during this survey.

### **D. AUTOMATED DATA ACQUISITION AND PROCESSING** - See also Evaluation Report

D.1 All software used for data acquisition and processing are contained on the **HYDROSOFT 8.9** and **HYDROSOFT 9.4** compact discs provided by Pacific Hydrographic Branch (N/CS34).

D.2 The SEABIRD SBE-19 sound velocity profile unit was utilized with **SEASOFT 3.3M** and **SEACAT 2.0** software. The program **VELOCWIN** was used to process the collected data and calculate velocity corrections.

### **E. SONAR EQUIPMENT**

E.1 The WHITING and launch 1014 conducted all side scan sonar operations using an EG&G Model 260 image-corrected side scan sonar recorder and a 100 kHz Model 272-T towfish.

E.2 The towfish was configured with a 20° beam depression, which is the normal setting and yields the optimum beam correction.

E.3 The 100 kHz frequency was used throughout the survey.

E.4 a. During survey preparation, it was determined that the depth of water in the survey area would require the 100-meter range scale to cover individual investigations. Proper range scales were used to obtain complete (200%) area coverage and provide optimal contact resolution. The line spacing is in accordance with the value specified in section 7.3.2.1 of the Field Procedures Manual (FPM). Data collected with an EPE of 30 or greater was rejected or smoothed during post-processing, so the maximum line spacing was never exceeded.

E.4 b. Confidence checks were obtained during passes by bottom features such as contacts, sand waves, scours and substrate density changes. These features were annotated on the sonargram.

E.4 c. Two hundred percent side scan coverage was completed for items to be disproved. Sonar operations were ended if an item was found. All side scan coverage was checked with swath plots to ensure proper overlap between adjoining lines. All relevant and questionable contacts were investigated using a reduced side scan range scale (either 50 or 75-meter range scale, dependent on depth) as well as diver investigations.

E.4 d. There were no degraded data returns collected during this survey.

E.4 e. On NOAA Ship WHITING, the SSS towfish was deployed from a Reuland winch using one of two armored cables in conjunction with an A-frame on the stern. A slip-ring assembly connected the armored cable to the SSS recorder. On launch 1014 the SSS towfish was deployed using a Superwinch in conjunction with an adjustable davit arm on the stern. The SSS towfish was towed with a vinyl-coated Kevlar cable and was connected to the recorder by a slip-ring assembly.

E.5 Significant side scan sonar contacts were investigated using side scan sonar at a reduced range scale. Singlebeam echosounder was also utilized for contact investigation. Development survey lines were routinely run with side scan sonar at 50 and 75-meter range scale. Detailed descriptions of all AWOIS items and investigated contacts falling within the Navigable Area are addressed in the ITEM INVESTIGATION REPORTS found in section M.

E.6 All overlap was checked and holidays identified during post processing using **HPS\_MI**, a MapBasic program provided by Hydrographic Surveys Division (N/CS32) to accompany **MapInfo Professional** software.

## **F. SOUNDING EQUIPMENT**

F.1 All hydrographic soundings were acquired using a Odom Echotrac, model DF3200 MKII Precision Survey Echo Sounder.  
Serial number for WHITING : A008303  
Serial number for 1014 : A008304

F.2 No other sounding equipment was used.

F.3 There were no faults in sounding equipment that affected the accuracy or quality of the data.

F.4 Both high (100 kHz) and low (24 kHz) frequency sounding data were recorded during data acquisition. Only high frequency soundings were plotted.

## **G. CORRECTIONS TO SOUNDINGS**

### **G.1 a. Sound Velocity Correctors**

A Sea-Bird SBE 19 Seacat Profiler (s/n 196093-1060) was used for sound velocity data collection. Seacat Data Quality Assurance Tests were conducted after each respective velocity cast to ensure that the unit was operating within tolerance.

All sound velocity data were processed using program **VELOCWIN**. Computed velocity correctors were entered into the HPS sound velocity table (via HPTools) and re-applied during processing to both high and low frequency soundings.

The following is a list of sound velocity casts performed for F00452:

Table Number	Day No.	Vessel Covered	Max Depth	Position of Cast		Days Covered
				Latitude	Longitude	
24	167	WHITING	24.4m	30°33'24"N	081°07'06"W	166-167
29 Dive	175	1014	21.6m	30°33'24"N	081°07'06"W	175
30 Dive	175	1014	27.8m	30°31'18"N	081°07'12"W	175

### **b. Instrument Corrections**

#### Leadline Comparison

Dual leadline comparisons with the Echotrac DF3200 MKII were conducted for WHITING during OPR-G354-WH (F00452) on:

DN 137 at Mayport Naval Station Pier (27 ft depths)

Weather and sea conditions were calm and proved ideal for performing the leadline comparison. No corrections to soundings were needed. Leadlines used were calibrated on February 11, 1999, and the calibration confirmed that the leadline error was negligible. See the echosounder record on the above listed days for actual Echotrac DF3200 MKII readings.

A leadline comparison was performed for launch 1014 on:

DN 147 at 30°19'13"N and 081°37'23"W (20 ft depths)

Weather and sea conditions were fair and proved satisfactory for performing the barcheck and leadline comparisons. No corrections to soundings were needed. \*Copies of the leadline check data are included in the Separates, section IV.

#### Diver's Least Depth Gauge

The **DAILYDQA** program used in conjunction with the ship's barometer was used to assure that the MOD III Diver Least Depth Gauge was working properly. Daily results fell within specified operating ranges. CTD casts were used in the **SMLGAUGE** program to calculate least depth measurements.

#### c. Static Draft

The static draft correction for launch 1014 is 0.55 meters, and was measured on July 28, 1993. The corrector was entered into HPS Offset Table 1. The correction for static draft for WHITING is 3.2 meters, a value measured on May 3, 1999 at Mayport Naval Station. The corrector was entered into Offset Table 9. Static draft correctors were applied during data processing for each survey platform.

#### d. Dynamic Draft

Settlement and squat values for launch 1014 were determined on March 16, 1998, and were entered into HPS Offset Table 2. Settlement and squat values for WHITING were determined on April 19, 1999, and were entered into HPS Offset Table 9. The settlement and squat correctors were applied to the sounding data in real time for each survey platform. \*Refer to Appendix F for data records.

#### e. Heave, Roll, and Pitch Correctors

Heave correctors for data acquired by WHITING and launch 1014 were determined by a TSS Dynamic Motion Sensor DMS-05. Heave correctors were collected during data acquisition and applied to raw data during the **HPTools** conversion process. Serial numbers for these sensors were as follows:

\* Data filed with field records

Vessel	Serial Number
2930	2066
2932	2068

G.4 No corrections to the diver-deployed least depth gauges were used. The instruments were calibrated on February 8-9, 1999.

#### G.6 Tide Correctors

a. The tidal datums for this project are Mean Lower Low Water (MLLW). Soundings are referenced to MLLW. The operating tide station at Mayport, Florida (872-0220) served as control for datum determination.

b. Tidal zones are controlled by one primary gauge, Mayport, Florida (872-0220). Due to the limitations of HPS and for ease of data processing, one tide zone was used for each field examination item, using the tide application utility in HPTools. All proper zones will be applied through HPS upon receipt of smooth tides from N/OES234. The following table shows all tide zones used for F00452:

Zone Name	Time Corr. (min)	Ratio Corr.	Reference
Temp 2	-18	1.23	8720220

Smooth tides for F00452 were requested from N/OES234 in a letter dated June 28, 1999. *Approved tides and zoning were applied during office processing.*

Zoning for this project is consistent with the project instructions.

#### H. HYDROGRAPHIC POSITION CONTROL - *See also Evaluation Report*

H.1 The horizontal datum for this survey is the North American Datum of 1983 (NAD 83). No horizontal control stations were established for this survey.

H.2 This survey was conducted using the Global Positioning System (GPS) corrected by the U.S. Coast Guard (USCG) Differential GPS reference stations. Accuracy requirements were met as specified by the Hydrographic Manual and Field Procedures Manual (FPM). The Horizontal Dilution of Precision (HDOP) and Expected Position Error (EPE) specified by the FPM were monitored during on-line data collection. If the positioning degraded beyond the acceptable limits while on-line, the data were either smoothed or rejected.

H.3 The geographic positions for the differential GPS stations used during this survey are as follows:

Charleston, SC	Lat. 32° 45.5 N
298 KHz	Long. 079° 50.6 W
Cape Canaveral, FL	Lat. 28° 27.6 N
289 KHz	Long. 080° 32.6 W

H.5 DGPS performance checks for WHITING and launch 1014 were conducted while secured in the WHITING davits using correctors from the Cape Canaveral, FL or Charleston, SC DGPS towers. Simultaneous HYPACK positions were compared between vessels. An offset in distance and azimuth was then calculated between the ship and launch system. A summary of the DGPS performance checks is included in appendix G. All DGPS performance checks confirmed that the equipment was working properly.

H.6 Differential GPS Equipment:

The serial numbers of the Ashtech Sensor and CSI MBX1 receivers on the data acquisition platforms are as follows:

<u>Vessel</u>	<u>Device</u>	<u>Serial Number</u>
2930 (WTEW)	Ashtech Sensors	700417B1203 (system A) 700417B1191 (system B)
	CSI MBX1	X-1318 (system A) X-1081 (system B)
2932 (1014)	Ashtech Sensor	700417B1194
	CSI MBX1	X-1088

H.7 a. There were no unusual methods used to operate or calibrate electronic positioning equipment.

H.7 b. There were no equipment malfunctions.

H.7 c. No unusual atmospheric conditions affected data quality.

H.7 d. The maximum allowed HDOP value of 4.0 was never exceeded.

H.7 e. No systematic errors were detected which required adjustments.

H.7 f. DGPS antenna offsets were measured on April 15, 1999, for WHITING. Offsets and laybacks were measured using the high frequency echosounder transducer as the reference. Correctors were entered into Offset Table 9. The DGPS antenna was installed on launch 1014 April 2, 1996, directly over the echosounder transducer. Antenna height was also measured on the same respective dates shown above, using the water line as the reference. Correctors were entered into Table 2 for launch 1014. A minimum of four satellites were used during survey F00452 providing altitude unconstrained positioning. H.7 g. Offset, layback and height corrections for launch 1014's aft towing boom were measured on July 28, 1993, verified on April 5, 1994, and applied by HPS during processing. Correctors were entered into Table 2 for launch 1014. Offset, layback and height for WHITING's A-frame was measured on March 18, 1998, using the forward high frequency transducer as the reference. Correctors were entered into Offset Table 9.

These offsets, along with the cable length, towfish height, and depth of water, were used by the HPS system to compute the position of the towfish. \*See appendix F for copies of HPS Offset Tables 2 and 9.

#### **I. SHORELINE**

No shoreline is contained within the boundaries of this survey.

#### **J. CROSSLINES**

J.1 Not applicable.

#### **K. JUNCTIONS** - See also Evaluation Report

K.1 F00452 does not junction with any other surveys.

#### **L. COMPARISON WITH PRIOR SURVEYS** - See also Evaluation Report

L.1 Not applicable.

**M. ITEM INVESTIGATION REPORTS**

**AWOIS NO: 10182**

**Item Description:** "Shark Barge" - Barge

**Source:** CL528/98

**AWOIS Position:** Lat. 30° 35' 21.60"N Lon. 081° 08' 52.20"W

**Required Investigation:** SD, S2, DI **Radius:** 750

**Charts Affected:** 11009, 11480, 11488, 11502

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**INVESTIGATION**

**Date(s):** 16 & 24 June 1999 (DN 167 & 175)

**Position Numbers:** 20001

**Investigation Used:** S2, DI

**Surveyed Position:** Lat. 30° <sup>35</sup>~~25~~' 21.81"N Lon. 081° 08' 50.67"W

**Position Determined By:** Differential GPS

**Investigation Summary:** During the field examination contact 41060.0s was found, and was determined to be AWOIS 10182. During a diver investigation, a barge was found sitting upright on the sandy bottom. A least depth of 17.31 meters (56.8<sub>1</sub> feet), corrected with ~~predicted~~ <sup>approved</sup> tides, was taken on a cleat.

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**CHARTING RECOMMENDATION**

**Recommendation:** Based on the results of this survey, the hydrographer recommends removal of charted "obstruction, depth unknown" at lat. 30°35' <sup>16.5</sup>~~14.24~~"N, lon. 081°08'48.26"W. Also recommend charting a "wreck, least depth known" with a least depth (corrected with ~~predicted~~ <sup>approved</sup> tides) of 56.8<sup>7</sup> feet at surveyed position.

Concur

Chart (S6) wk at present survey location  
Delete ( ) Obstrn at charted location.

AWOIS NO: 10183

Item Description: "Haddock's Hideaway" - Barge and Pilings

Source: CL528/98

AWOIS Position: Lat. 30° 34' 31.08"N Lon. 081° 07' 54.96"W

Required Investigation: SD, S2, DI Radius: 750

Charts Affected: 11009, 11480, 11488, 11502

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INVESTIGATION

Date(s): 16 & 24 June 1999 (DN 167 & 175)

Position Numbers: 20004

Investigation Used: S2, DI

Surveyed Position: Lat. 30°34'29.13"N Lon. 081°07'53.46"W

Position Determined By: Differential GPS

**Investigation Summary:** During the field examination contacts 40983.9p and 41017.4 were found, and were determined to be AWOIS 10183. Two diver investigations were performed, one for the barge and one for the associated debris field. On the second diver investigation, a barge was found sitting upright on the sandy bottom. A least depth of 14.76 meters (48.42 feet), corrected with predicted tides, was taken on a cleat. This least depth exceeds the authorized minimum depth for the fish haven "HH", in which it is located. <sup>approved</sup> <sub>is shallower than</sub> Limits

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CHARTING RECOMMENDATION

**Recommendation:** Based on the results of this survey, the hydrographer recommends charting a "wreck, least depth known" with a least depth (corrected with predicted tides) of 48.42 feet at the surveyed position. Concur with conditions.

Chart a 48 Ft depth within the Fish Haven limits at The present Survey Position.

AWOIS NO: 10185

Item Description: "Amberjack Hole" - Pillboxes

Source: CL528/98

AWOIS Position: Lat. 30° 28' 19.80"N Lon. 081° 06' 03.60"W

Required Investigation: SD, S2, DI Radius: 750

Charts Affected: 11009, 11480, 11488

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INVESTIGATION

Date(s): 15 & 24 June 1999 (DN 166 & 175)

Position Numbers: 20005

Investigation Used: S2, DI

Surveyed Position: Lat. 30° 28' 20.66"N Lon. 081° 06' 01.63"W

Position Determined By: Differential GPS

Investigation Summary: During the field examination contact 40983.9p was found, and was determined to be AWOIS 10185. On a diver investigation, several large steel open-ended boxes were found on the sandy bottom. A least depth of ~~18.54~~<sup>17.0</sup> meters (60.8~~4~~<sup>7</sup> feet), corrected with ~~predicted~~<sup>approved</sup> tides, was taken on the largest box.

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CHARTING RECOMMENDATION

Recommendation: Based on the results of this survey, the hydrographer recommends removal of charted "obstructions, depth unknown" at lat. 30° ~~28' 19.8~~<sup>28' 16.40</sup> N lon. 081° ~~06' 03.6~~<sup>05' 58.92</sup> W. Also recommend charting a "obstruction, least depth known" with a least depth (corrected with ~~predicted~~<sup>approved</sup> tides) of 60.8~~4~~<sup>7</sup> feet at surveyed position.

Concur

Delete ( ) Obstrs at charted position  
Chart (60) Obstrn at present survey location.

AWOIS NO: 10258

**Item Description:** "Busey's Bonanza" - Barge

**Source:** CL528/98

**AWOIS Position:** Lat. 30° 25' 53.53"N Lon. 081° 10' 25.55"W

**Required Investigation:** SD, S2, DI **Radius:** 750

**Charts Affected:** 11009, 11480, ~~11488~~, 11490

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**INVESTIGATION**

**Date(s):** 15 & 24 June 1999 (DN 166 & 175)

**Position Numbers:**

**Investigation Used:** S2

**Surveyed Position:**

**Position Determined By:** Differential GPS

**Investigation Summary:** During the field examination, AWOIS 10258 was covered with 200% side scan sonar. Nothing was found.

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**CHARTING RECOMMENDATION**

**Recommendation:** Based on the results of this survey, the hydrographer recommends removal of charted "obstruction, depth unknown" at lat. 30°25'53.04"N, lon. 081°10'26.40"W. *Concur*

**N. COMPARISON WITH THE CHART** - *See also Evaluation Report*

N.1 Seven charts are affected by this survey (F00452):

Chart 11480  
"Charleston Light to Cape Canaveral"  
35<sup>th</sup> Ed. 9 May 1998  
Scale: 1:449,659

Chart 11488  
"Ameila Island to St. Augustine"  
21<sup>st</sup> Ed. 9 May 1998  
Scale: 1:80,000

Chart 11490  
"Approaches to St. Johns River"  
14<sup>th</sup> Ed. 30 March 1996  
Scale: 1:40,000

Chart 11502  
"Doboy Sound to Fernandina"  
27<sup>th</sup> Ed. 21 November 1998  
Scale: 1:80,000

Chart 11009  
"Cape Hatteras to Straits of Florida"  
34<sup>th</sup> Ed. 23 January 1993  
Scale: 1:1,200,000

N.2 No danger to navigation reports were generated as a result of this survey.

N.3 a. A comparison of soundings is not applicable as the investigations were for point features.

N.3 b. Due to the large geographic area of this survey, no general statement can be made about differences between charted and surveyed depths.

**O. ADEQUACY OF SURVEY** - *See also Evaluation Report*

O.1. This survey is complete and fully adequate to supersede prior survey data within common areas.

**P. AIDS TO NAVIGATION**

P.1 No charted aids to navigation are located within F00452.

**Q. STATISTICS**

- Q.1 a. Number of Non-Rejected Positions . . . . . 11543
- b. Linear Nautical Miles of Sounding Lines:
  - Nautical Miles of Side Scan Sonar . . . . . 28.86
  - Nautical Miles Hydrography . . . . . 0.0
- Q.2 a. Square Nautical Miles of Hydrography . . . . . n/a
- b. Days of Production . . . . . 3
- c. Detached Positions . . . . . 5
- d. Bottom Samples . . . . . 0
- e. Tide Stations. . . . . 1
- g. Velocity Casts . . . . . 3

**R. MISCELLANEOUS - *See also Evaluation Report***

R.1 Not applicable.

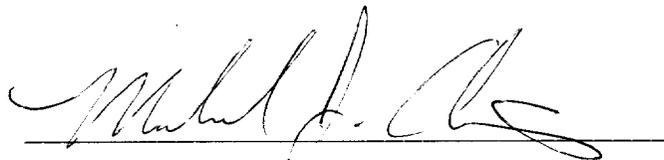
**S. RECOMMENDATIONS**

S.1 No further survey work is recommended.

**T. REFERRAL TO REPORTS**

No reports or data are referred to in this Descriptive Report that are not included with this survey.

This report and the accompanying field sheets are respectfully submitted.

A handwritten signature in cursive script, appearing to read "Michael J. Annis", written over a horizontal line.

Michael J. Annis  
Physical Scientist  
Atlantic Hydrographic Branch

**APPENDIX K**

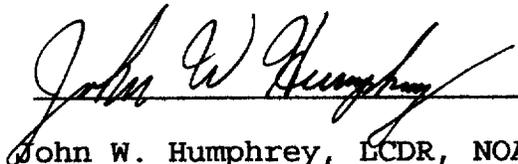
**APPROVAL SHEET**

**LETTER OF APPROVAL**

**REGISTRY NO. F00452**

Field operations contributing to the accomplishment of this basic hydrographic survey were conducted under my direct supervision with frequent personal checks of progress and adequacy. All field sheets and reports were reviewed in their entirety and all supporting records were checked as well.

This survey is more than adequate to supersede ALL prior surveys in common areas. This survey is considered complete and adequate for nautical charting.

A handwritten signature in cursive script, reading "John W. Humphrey", is written over a horizontal line.

John W. Humphrey, LCDR, NOAA  
Commanding Officer  
NOAA Ship WHITING



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL OCEAN SERVICE  
Silver Spring, Maryland 20910

**TIDE NOTE FOR HYDROGRAPHIC SURVEY**

**DATE:** November 3, 1999

**HYDROGRAPHIC BRANCH:** Atlantic  
**HYDROGRAPHIC PROJECT:** OPR-G354-WH-99  
**HYDROGRAPHIC SHEET:** F00452

**LOCALITY:** Approaches to Jacksonville, FL- Atlantic Ocean

**TIME PERIOD:** June 15 - June 24, 1999

**TIDE STATION USED:** 872-0291 Jacksonville Beach, FL  
Lat. 30° 17.0'N Lon. 81° 23.2'W  
**PLANE OF REFERENCE (MEAN LOWER LOW WATER):** 0.000 meters  
**HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE:** 1.619 meters

**REMARKS: RECOMMENDED ZONING**

**Use zone(s) identified as:** ATL852, ATL853 & ATL861.

Refer to attachments for zoning information.

**Note :** Provided time series data are tabulated in metric units (Meters), relative to MLLW and on Greenwich Mean Time.

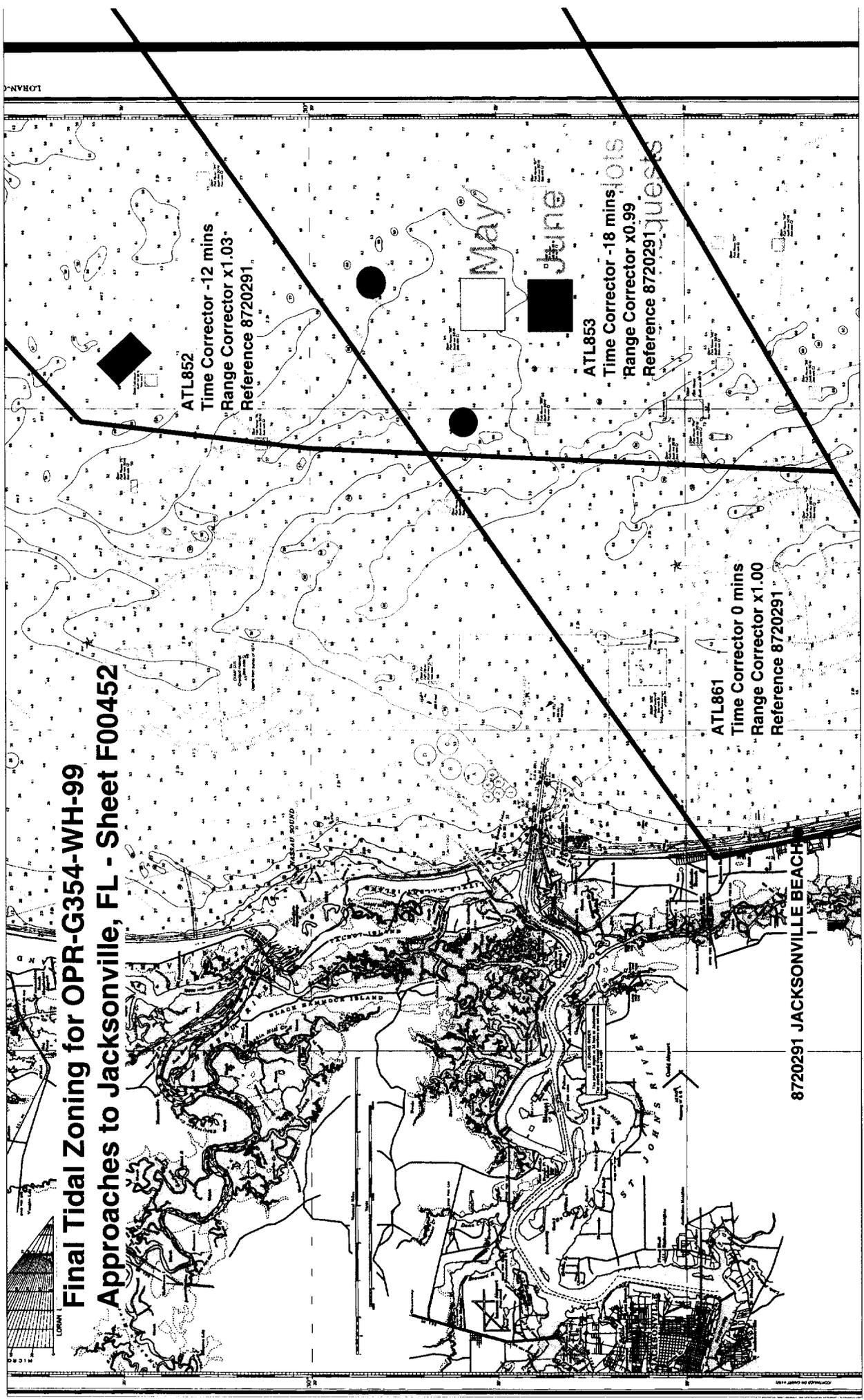
*Thomas V. Yero 11/4/99*  
-----  
**CHIEF, REQUIREMENTS AND DEVELOPMENT DIVISION**

Final tide zone node point locations for OPR-G354-WH-99,  
Sheet F00452.

Format: Longitude in decimal degrees (negative value denotes  
Longitude West),  
Latitude in decimal degrees  
Tide Station (in recommended order of use)  
Average Time Correction (in minutes)  
Range Correction

	Tide Station Order	AVG Time Correction	Range Correction
Zone ATL852			
-81.18733 30.500304	8720291	-12	1.03
-81.190022 30.447133			
-80.814924 30.673684			
-80.71037 30.744654			
-80.707158 30.763549			
-80.664301 30.952132			
-80.634575 31.043575			
-80.85907 30.852384			
-81.173476 30.60148			
-81.18733 30.500304			
Zone ATL853			
-81.190022 30.447133	8720291	-18	0.99
-81.199356 30.266502			
-80.748708 30.49067			
-80.737955 30.583409			
-80.71037 30.744654			
-80.814924 30.673684			
-81.190022 30.447133			
Zone ATL861			
-81.190022 30.447133	8720291	0	1.00
-81.399643 30.320327			
-81.365311 30.18379			
-81.199356 30.266502			
-81.190022 30.447133			

# Final Tidal Zoning for OPR-G354-WH-99 Approaches to Jacksonville, FL - Sheet F00452



ATL852  
 Time Corrector -12 mins  
 Range Corrector x1.03  
 Reference 8720291

ATL853  
 Time Corrector -18 mins  
 Range Corrector x0.99  
 Reference 8720291

ATL861  
 Time Corrector 0 mins  
 Range Corrector x1.00  
 Reference 8720291

8720291 JACKSONVILLE BEACH

May  
 June



GEOGRAPHIC NAMES

F00452

Name on Survey	A ON CHART NO. 11488, 11490 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 (title)	X		X								
JACKSONVILLE (title)	X		X									2
NORTH ATLANTIC OCEAN	X		X									3
												4
												5
												6
												7
												8
												9
												10
												11
												12
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												21
												22
												23
												24
												25

*Dennis J. Tomasko*  
 Chief Cartographer  
 SEP 22 1999

N/CS33-90-99

LETTER TRANSMITTING DATA

DATA AS LISTED BELOW WERE FORWARDED TO YOU BY  
(Check):

TO:

CHIEF, DATA CONTROL GROUP, N/CS3x1  
NOAA/NATIONAL OCEAN SERVICE  
STATION 6815, SSMC3  
1315 EAST-WEST HIGHWAY  
SILVER SPRING, MARYLAND 20910-3282

ORDINARY MAIL  AIR MAIL

REGISTERED MAIL  EXPRESS

GBL (Give number) \_\_\_\_\_

DATE FORWARDED

DEC 8, 1999

NUMBER OF PACKAGES

ONE TUBE

**NOTE:** A separate transmittal letter is to be used for each type of data, as tidal data, seismology, geomagnetism, etc. State the number of packages and include an executed copy of the transmittal letter in each package. In addition the original and one copy of the letter should be sent under separate cover. The copy will be returned as a receipt. This form should not be used for correspondence or transmitting accounting documents.

F00452

FLORIDA, NORTH ATLANTIC OCEAN, APPROACHES TO JACKSONVILLE

(ONE) TUBE CONTAINING THE FOLLOWING:

- 1 ORIGINAL DESCRIPTIVE REPORT WITH ACCOMPANYING PAGE SIZED SMOOTH SHEETS FOR F00452
- 2 DRAWING HISTORY FORMS (NOAA FORM #76-71) FOR NOS CHARTS 11488 AND 11490
- 1 RECORD OF APPLICATION TO CHART FORM (NOAA FORM #75-96) FOR SURVEY F00452
- 2 H-DRAWINGS FOR NOS CHARTS 11488 AND 11490
- 2 COMPOSITE DRAWINGS FOR NOS CHARTS 11488 AND 11490

FROM: (Signature)

DEBORAH A. BLAND

RECEIVED THE ABOVE

(Name, Division, Date)

Return receipted copy to:

ATLANTIC HYDROGRAPHIC BRANCH  
N/CS33  
439 WEST YORK STREET  
NORFOLK, VA 23510-1114

12/08/99

HYDROGRAPHIC SURVEY STATISTICS  
REGISTRY NUMBER: F00452

NUMBER OF CONTROL STATIONS		2
NUMBER OF POSITIONS		11543
NUMBER OF SOUNDINGS		11543
	TIME-HOURS	DATE COMPLETED
PREPROCESSING EXAMINATION	7.0	07/10/99
VERIFICATION OF FIELD DATA	21.0	11/29/99
QUALITY CONTROL CHECKS	0.0	
EVALUATION AND ANALYSIS	2.0	
FINAL INSPECTION	18.0	11/19/99
COMPILATION	22.5	12/01/99
TOTAL TIME	70.5	
ATLANTIC HYDROGRAPHIC BRANCH APPROVAL		11/30/99

**ATLANTIC HYDROGRAPHIC BRANCH  
EVALUATION REPORT FOR F00452 (1999)**

This Evaluation Report has been written to supplement and/or clarify the original Descriptive Report. Sections in this report refer to the corresponding sections of the Descriptive Report.

**D. AUTOMATED DATA ACQUISITION AND PROCESSING**

The following software was used to process data at the Atlantic Hydrographic Branch:

Hydrographic Processing System  
NADCON, version 2.10  
SiteWorks, version 2.01  
MicroStation 95, version 5.05  
I/RAS B, version 5.01

The smooth sheet was plotted using an Hewlett Packard DesignJet 2500CP plotter.

**H. CONTROL STATIONS**

Horizontal control used for this survey during data acquisition is based upon the North American Datum of 1983 (NAD 83). Office processing of this survey is based on these values. Three page size plots have been annotated with ticks showing the computed mean shift between NAD 83 and the North American Datum of 1927 (NAD 27).

(1) To place plot 1 of 3 on NAD 27, move the projection lines 0.870 seconds (26.783 meters or 2.68 mm at the scale of the survey) north in latitude, and 0.716 seconds (19.116 meters or 1.91 mm at the scale of the survey) east in longitude.

(2) To place plot 2 of 3 on NAD 27, move the projection lines 0.870 seconds (26.783 meters or 2.68 mm at the scale of the survey) north in latitude, and 0.720 seconds (19.199 meters or 1.92 mm at the scale of the survey) east in longitude.

(3) To place plot 3 of 3 on NAD 27, move the projection lines 0.866 seconds (26.657 meters or 2.67 mm at the scale of the survey) north in latitude, and 0.709 seconds (18.892 meters or 1.89 mm at the scale of the survey) east in longitude.

**K. JUNCTIONS**

This survey does not junction with any contemporary

surveys. Present survey depths are in harmony with the charted hydrography to the north, south, east and west.

**L. COMPARISON WITH PRIOR SURVEYS**

A comparison with prior surveys was not done during office processing in accordance with section 4. of the memorandum titled "Changes to Hydrographic Survey Processing", dated May 24, 1995.

**N. COMPARISON WITH CHART 11488 (22<sup>nd</sup> Edition, May 15/99)  
11490 (15<sup>th</sup> Edition, Apr.10/99)**

**Hydrography**

The charted hydrography originates with the prior surveys and requires no further consideration. The hydrographer makes adequate chart comparisons in sections M. and N. of the Descriptive Report. The following should be noted:

1) A charted obstruction with an unknown depth, in Latitude 30°34'17"N, Longitude 81°07'45"W, originates with an unknown source. This item was neither proved nor disproved by the present survey. No changes in charting are recommended.

Except as noted above, the present survey is adequate to supersede the charted hydrography within the common area.

**O. ADEQUACY OF SURVEY**

This is an adequate hydrographic/side scan sonar survey. No additional work is recommended.

**R. MISCELLANEOUS**

Chart compilation was done by Atlantic Hydrographic Branch personnel, in Norfolk, Virginia. Compilation data will be forwarded to Marine Chart Division, Silver Spring, Maryland.

The following NOS Chart was used for compilation of the present survey:

11488 (22<sup>nd</sup> Ed., May, 15/99)  
11490 (15<sup>th</sup> Ed., Apr, 10/99)

*Robert Snow*

Robert Snow

Cartographic Technician  
Verification of Field Data  
Evaluation and Analysis

APPROVAL SHEET  
FOO452

Initial Approvals:

The completed survey has been inspected with regard to survey coverage, delineation of depth curves, development of critical depths, cartographic symbolization, and verification or disproof of charted data. The digital data have been completed and all revisions and additions made to the smooth sheet during survey processing have been entered in the digital data for this survey. The survey records and digital data comply with NOS requirements except where noted in the Evaluation Report.

Deborah A. Bland

Date: 24 NOV 99

Deborah A. Bland  
Cartographer,  
Atlantic Hydrographic Branch

I have reviewed the smooth sheet, accompanying data, and reports. This survey and accompanying digital data meet or exceed NOS requirements and standards for products in support of nautical charting except where noted in the Evaluation Report.

Andrew L. Beaver

Date: 30 NOV 99

Andrew L. Beaver  
Lieutenant Commander, NOAA  
Chief, Atlantic Hydrographic Branch

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Final Approval:

Approved: Samuel P. De Bow

Date: March 13, 2000

Samuel P. De Bow, Jr.  
Captain, NOAA  
Chief, Hydrographic Surveys Division



81° 07' 00"

81° 06' 30"

81° 06' 00"

81° 05' 30"

81° 05' 00"

30° 29' 00"

# NORTH ATLANTIC OCEAN

70  
70  
69  
70  
70  
65  
65  
68  
70  
74

70  
69  
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71  
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73  
75

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74  
75  
75

30° 28' 30"

72 72 71 68 69 71 71 73 72 74 70 71 72 72 73 70 72 74 69 72 73 74 74 74 72 71 67 67 65 67 66  
 72 *ostr (pill boxes)*  
 72 73 74  
 71 72 72 72 73 74 74 74 72 73 74 71 74 72 73 73 70 73 74 74 71 70 70 69 67 70 71 72 73 73  
 71 72 74  
 69 72 74  
 68 74  
 73 70 70 73 73 72 72 69 69 72 72 71 72 73 74 74 71 70 70 71 71 72 73 74 74 75 75 75  
 72 70 73  
 71 73  
 72 66 71 72 74 69 69 71 73 74 75 76 76 76 75  
 66 67 69 69 69 70 70 71 72 72 72 73 73  
 68 72 72  
 71 73 70  
 66 73 72  
 70 74 71  
 71 73 70  
 71 73 70  
 70 73 68  
 70 73 71

F00452  
 FLORIDA  
 NORTH ATLANTIC OCEAN  
 APPROACHES TO JACKSONVILLE  
 JUNE 15-24 1999  
 SCALE: 1:10,000  
 SOUNDINGS IN FEET AT MLLW  
 SHEET 2 OF 3  
 AWOIS NO. 10185

30° 28' 00"

81° 07' 00" W  
 NAD 27 30° 27' 30" N

CHECKED BY: RS  
 9/9/99

81° 07' 00"

81° 06' 30"

81° 06' 00"

81° 05' 30"

81° 05' 00"



