

H10799

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey Hydrographic/Side Scan Sonar

Field No. WH-10-03-98

Registry No. H10799

LOCALITY

State Florida

General Locality North Atlantic Ocean

Locality Approaches to ST. Johns River

1998

CHIEF OF PARTY
LCDR J.W. Humphery

LIBRARY & ARCHIVES

DATE JAN 26 1999

REGISTRY NUMBER:

H-10799

HYDROGRAPHIC TITLE SHEET

FIELD NUMBER:

WH-10-3-98

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

State: Florida

General locality: North Atlantic Ocean

Locality: Approaches to Jacksonville *ST JOHNS RIVER*

Scale: 1: 10,000 Date of survey: April 8 - *JUNE 5* May 19, 1998

Instructions dated: March 20, 1998 Project Number: OPR-G354-WH

Vessel: NOAA Ship WHITING

Chief of Party: LCDR John W. Humphery

Surveyed by: LCDR John W. Humphery, LT J.S. Verlaque, LT(jg) T.A. Haupt, M.J. Annis, R. Corson, F.R. Cruz, U.L. Gardner, P.G. Lewit, K.B. Shaver

Soundings taken by echo sounder, hand lead-line, or pole: DSF 6000N fathometer

Graphic record scaled by: WHITING Personnel

Graphic record checked by: WHITING Personnel

Protracted by: N/A Automated plot by: HP 750 *HP DESIGN/LET 3300 (A/B)*

Verification by: Hydrographic Surveys Branch *PERSONNEL*

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

Remarks: Time Zone Used, 0 (UTC)

Basic Hydrographic and 200% Side Scan Sonar

*NOTES IN THE ORIGINAL DESCRIPTIVE REPORT WERE
MADE IN RED DURING OFFICE PROCESSING.*

AWO'S/SURE ✓ 12/10/98 SJV

OPR-G354-WH NOAA Ship Whiting

Approaches to Jacksonville

All Sheets are 1:10,000 Scale

76cm X 122cm

Sheet Layout: H-10799 "Sheet B"

WH-10799

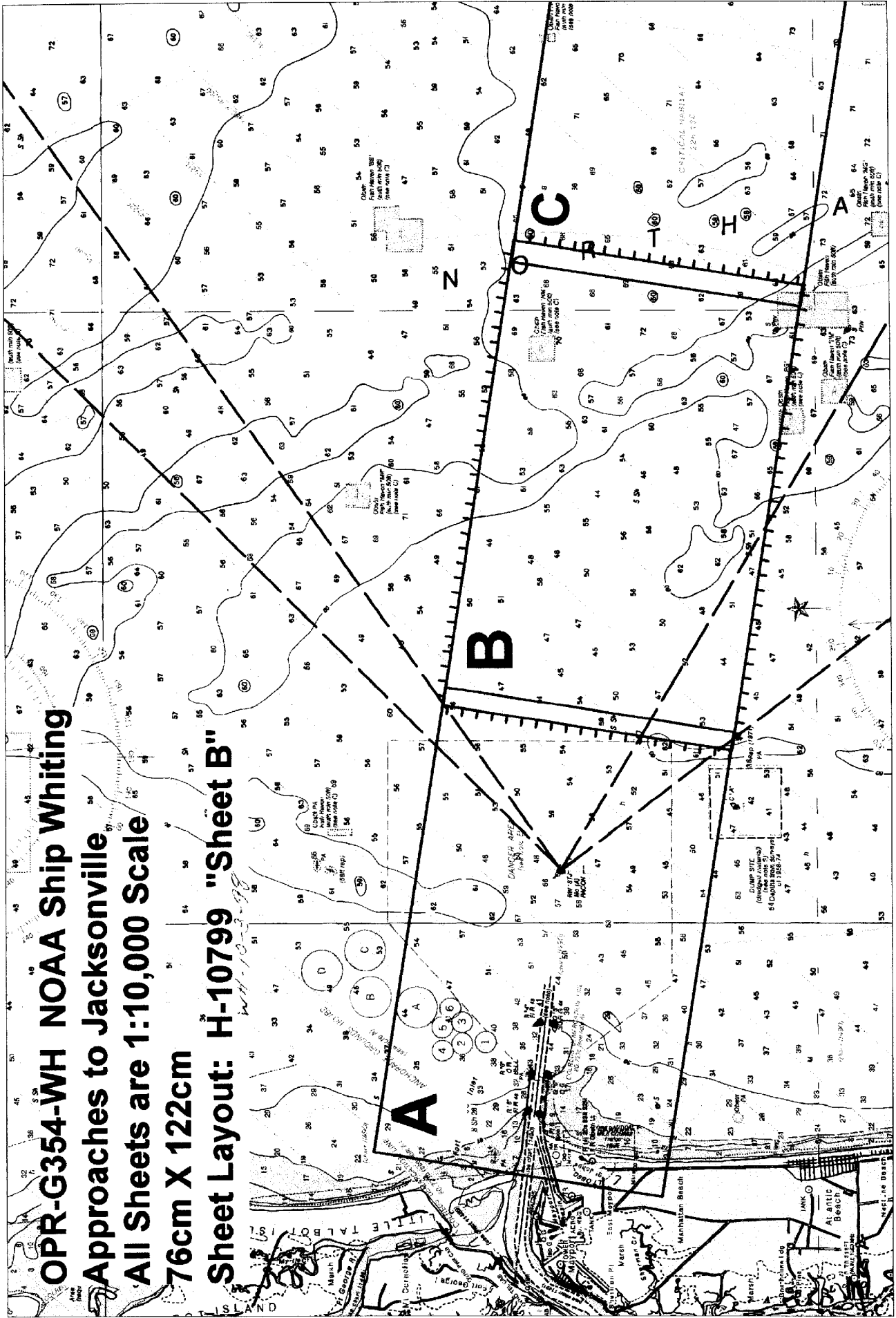


TABLE OF CONTENTS

	<u>Page</u>
A. PROJECT	2
B. AREA SURVEYED	2
C. SURVEY VESSELS.	3
D. AUTOMATED DATA ACQUISITION AND PROCESSING	3
E. SONAR EQUIPMENT	3
F. SOUNDING EQUIPMENT.	5
G. CORRECTIONS TO SOUNDINGS.	5
H. CONTROL STATIONS.	8
I. HYDROGRAPHIC POSITION CONTROL	8
J. SHORELINE	10
K. CROSSLINES.	10
L. JUNCTIONS	11
M. COMPARISON WITH PRIOR SURVEYS	11
N. ITEM INVESTIGATION REPORTS.	12
O. COMPARISON WITH THE CHART	22
P. ADEQUACY OF SURVEY.	24
Q. AIDS TO NAVIGATION.	24
R. STATISTICS.	24
S. MISCELLANEOUS	25
T. RECOMMENDATIONS	25
U. REFERRAL TO REPORTS	25

APPENDICES

SEPARATES *FIXED WITH THE ORIGINAL FIELD DATA*

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 March ¹⁸20, 1998.

A.3 There ^{HAS} ~~have~~ been ^{ONE} ~~no~~ changes to the original instructions.
CHANGE 1, DATED APRIL 30, 1998

A.4 This Descriptive Report covers H-10799 (sheet "B") of OPR-G354-WH. H-10799 lies 9.0 nautical miles east-southeast of St. Johns Point, 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 ^{St. Johns River} This survey covers the navigable area of the Approaches to Jacksonville, Florida. It is bounded on the west by approximate longitude 81°10'W, and on the east by approximate longitude 81°02'W. The northern and southern approximate limits are latitudes 30°25'N and 30°19'N, respectfully.

B.2 The survey comprises one sheet with the following boundaries, starting at the SE corner and proceeding clockwise:

- Sheet "B":
- 1. 30°20'⁷⁷10"²²N 081°09'²⁹26"W
 - 2. 30°21'⁰12"⁷N 081°17'⁶11"W
 - 3. 30°22'⁷14"³⁰N 081°16'³⁴27"W
 - 4. 30°24'³13"⁴⁰N 081°08'⁴⁷51"W

B.3 Data collection for this survey began on April 8, 1998 (DN 098). Data collection ended on ~~May 19~~, 1998 (DN ~~139~~).

JUNE 5 156

C. SURVEY VESSELS

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

Vessel	EDP Number	Primary Function
NOAA Ship Whiting	2930 (WTEW)	Hydrography and Side Scan Operations
NOAA Launch WH-2	2932 (1014)	Hydrography and Side Scan Operations
NOAA Launch WH-1	2931 (1015)	Hydrography and Side Scan Operations

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

D. AUTOMATED DATA ACQUISITION AND PROCESSING *SEE ALSO THE EVALUATION REPORTS.*

D.1 All software used for data acquisition and processing are contained on the **HYDROSOFT 8.2 (plus updates as of 4/22/98)** compact disc provided by Atlantic Hydrographic Branch (N/CS33). The following is a list of software used from this disc:

- HYPACK for Windows version 7.1a**
- HSD Utilities**
- Hydrographic Processing System**
- HPTools**

D.2 The SEABIRD SBE-19 sound velocity profile unit was utilized with **SEASOFT 3.3M** and **SEACAT 2.0** software. The program **VELOCITY** (Version 3.1, February 1998) was used to process the collected data and calculate velocity corrections.

E. SONAR EQUIPMENT

E.1 The WHITING and its launches 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 only one range scale to cover the entire sheet. A range scale 100 meters was used with a line spacing of 80 meters. This range scale was used to obtain complete (200%) area coverage and provide optimal contact resolution. The line spacing is in accordance with the value specified in section 7.3.2.4 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 sand waves, scours and substrate density changes. These features were annotated on the sonargram.

E.4 c. Any holidays with a length of 200 meters or less not covered with 200% side scan sonar were covered with 100% side scan sonar. In all other areas, two hundred percent side scan coverage was completed. 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).

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 launches 1014 and 1015 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 N.

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** software **version 4.5**.

F. SOUNDING EQUIPMENT

F.1 All hydrographic soundings were acquired using a Raytheon Model 6000N Digital Survey Echosounder.

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

The velocity of sound through water was measured using a Sea-Bird SBE 19 Seacat Profiler (s/n 196093-1060). 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 **VELOCITY**. Computed velocity correctors were entered into the HPS sound velocity table and re-applied during post-processing to both high and low frequency soundings.

The following is a list of sound velocity casts performed for H-10799:

Cast Number	Day No.	Vessel Covered	Position of Cast		Days Covered
			Latitude	Longitude	
11	100	WHITING	30°22'19"N	081°10'00"W	098-110
12		Launches			
17	112	WHITING	30°22'36"N	081°10'12"W	112-118
18		Launches			
27	120	WHITING	30°22'28"N	081°10'02"W	121-128
28		Launches			
45	136	WHITING	30°23'30"N	081°09'36"W	136-139
46		Launches			
DIVE	117	Launches	30°23'41"N	081°10'19"W	117
DIVE	117	Launches	30°24'44"N	081°15'35"W	117

67 155 WHITING 30-22-06N 81-06-03W 155-156
d. Leadline Comparison

Dual leadline comparisons with the DSF-6000N were conducted for WHITING during OPR-G354-WH (H-10799) on:

DN 089 at 30°23'07"N and 081°16'41"W (⁴⁸60 ft depths)
DN 148 AT 30-23-06N AND 81-06-36W (60 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 ¹³February 11, 1998, and the calibration confirmed that the leadline error was negligible. See the echosounder record on the above listed days for actual DSF 6000N readings.*

A leadline comparison was performed for the launches on:

DN 107 at 30°23'48"N and 081°24'27"W (15-30 ft depths)
DN 133 at 30°23'48"N and 081°24'27"W (15-30 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.*

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 (v3.1) to calculate least depth measurements.

** FILED WITH THE ORIGINAL FIELD RECORDS*

f. Static Draft

The static draft correction for launches 1014 and 1015 is 0.55 meters, and was measured on July 28, 1993. The corrector was entered into HPS Offset Tables 2 and 1, respectively. The correction for static draft for WHITING is 3.2 meters, a historical value which WHITING divers confirmed with a MOD III Diver Least Depth Gauge on May 11, 1995. The corrector was entered into Offset Table 9. Static draft correctors were applied during data processing for each survey platform.

g. Dynamic Draft (Settlement and Squat Correctors)

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 launch 1015 were determined on March 16, 1998, and were entered into HPS Offset Table 1. Settlement and squat values for WHITING were determined on March 26, 1996, 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 Separate IV for data records. *FILED WITH THE ORIGINAL FIELD RECORDS*

h. Heave, Roll, and Pitch Correctors

Heave correctors for data acquired by WHITING, launch 1014, and launch 1015 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:

Vessel	Serial Number
2930	2066
2931	2062
2932	2068

G.6 Tide Correctors

a. The tidal datums for this project are Mean Lower Low Water (MLLW) and Mean High Water (MHW). Soundings are referenced to MLLW. Heights of bridges and cables are referenced to MHW. The operating tide station at Fernandina Beach, Florida (872-0030) served as control for datum determination.

b. Tidal zones are controlled by one primary gauge, Fernandina Beach, Florida (872-0030). Due to the limitations of HPS and for ease of data processing, zone SEC185 correctors were applied to all H-10799 data using the predicted tides utility in HPS. All proper zones will be applied through HPS upon receipt of smooth tides from N/OES234. See following page for location of zone SEC185.

Smooth tides for H-10799 were requested from N/OES234 in a letter mailed and dated May 27, 1998.

The WHITING and its launches employed no unusual or unique methods or instruments to correct echo soundings.

All sounding correctors were applied to both the narrow (100 kHz) and wide (24 kHz) DSF-6000N beams. Zoning for this project is consistent with the project instructions.

APPROVED TIDES AND ZONING WERE APPLIED DURING OFFICE PROCESSING

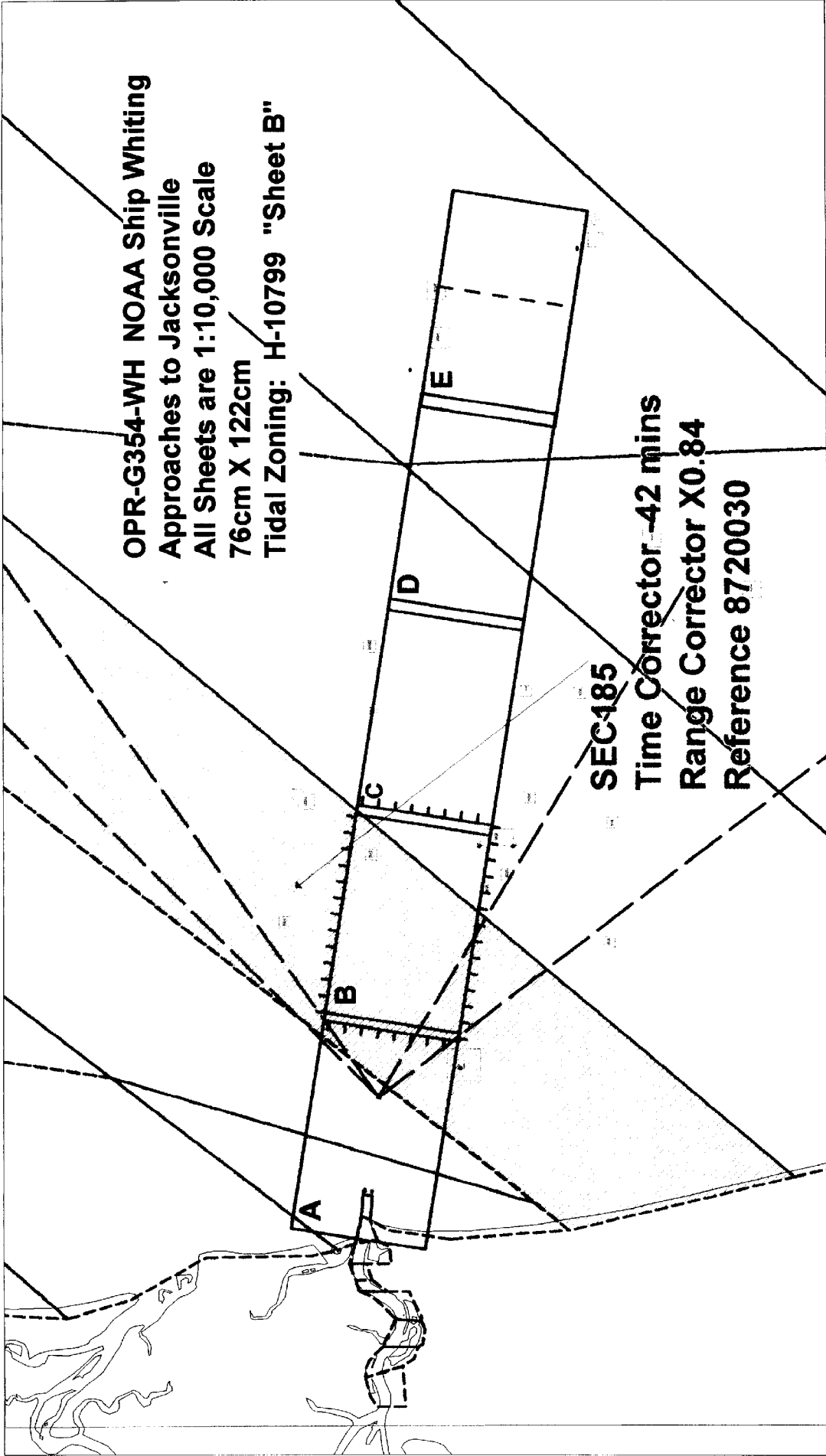
H. CONTROL STATIONS *SEE ALSO THE EVALUATION REPORT.*

The horizontal datum for this survey is the North American Datum of 1983 (NAD 83). A horizontal control station was established at St. Johns Lighthouse for the use of a NOAA VHF "Fly-Away" station. Ashtech software **GPS**, along with NGS software **FORWARD3D** and **INVERSE3D** were used to compute the station position. NGS program **MONITOR** was used as a quality check for the computed position. Geographic position and DQA results of **MONITOR** for this station can be found in appendix III of this report. *FILED WITH THE ORIGINAL FIELD RECORDS*

I. HYDROGRAPHIC POSITION CONTROL

I.1 This survey was conducted using the Global Positioning System (GPS) corrected by the U.S. Coast Guard (USCG) Differential GPS reference station network and NOAA-established VHF "Portable DGPS" station. The launches and the ship used an Ashtech Sensor GPS receiver with a CSI MBX1 beacon receiver supplying USCG correctors for DGPS navigation. When the NOAA VHF station was used, DGPS correctors were received with Maxon or TAD VHF radios on all platforms. HSDutils automatically initialized Ashtech receivers and the CSI MBX1 units were preset to the appropriate station and frequency.

**OPR-G354-WH NOAA Ship Whiting
Approaches to Jacksonville
All Sheets are 1:10,000 Scale
76cm X 122cm
Tidal Zoning: H-10799 "Sheet B"**



**SEC185
Time Corrector -42 mins
Range Corrector X0.84
Reference 8720030**

I.2 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.

I.3 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)
2931 (1015)	Ashtech Sensor	700417B1194
	CSI MBX1	X-1088
2932 (1014)	Ashtech Sensor	700417B1055
	CSI MBX1	X-1079

I.4 Correctors were received from the Cape Canaveral, FL, Charleston, SC and NOAA VHF radiobeacons.

I.5 a. DGPS performance checks on NOAA Ship WHITING were determined by using Shipboard Data Integrity Monitor program ("SHIPDIM", Version 2.1), according to section 3.4.5 of the FPM. The position determined using correctors from the Cape Canaveral, FL DGPS beacon were compared to the position determined using correctors from the Charleston, SC or the NOAA VHF DGPS beacon using two independent DGPS systems. SHIPDIM routinely showed the positions given by the two systems to be within 2-4 meters of each other.

I.5 b. DGPS performance checks for launch 1014 and launch 1015 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 with WHITING. 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 the Separates, section III.* All DGPS performance checks confirmed that the equipment was working properly.* *FILED WITH ORIGINAL FIELD RECORD*

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

I.7 b. There were no equipment malfunctions.

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

I.7 d. No systematic errors were detected which required adjustments.

I.7 e. The maximum allowed HDOP value of 4.0 was never exceeded.

I.8 f. DGPS antenna offsets were measured on March 19, 1993, 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 antennae were installed on launches 1014 and 1015 on 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 Offset Table 1 for launch 1015 and Table 2 for launch 1014. A minimum of four satellites were used during survey H-10799 providing altitude unconstrained positioning.

I.9.g. Offset, layback and height corrections for the launches aft towing boom were measured on July 28, 1993, verified on April 5, 1994, and applied by HPS during post processing. Correctors were entered into Offset Table 1 for launch 1015 and 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. Copies of HPS Offset Tables 1, 2 and 9 are contained in Separate III. *Typed with the original field records*

J. SHORELINE

No shoreline is contained within the boundaries of this survey.

K. CROSSLINES

A combined total of 75.68 linear nautical miles of crosslines were acquired for this survey representing 10.6% of the 715.29 linear nautical miles of mainscheme hydrography.

A plot of all main scheme soundings in feet, superimposed with cross lines, was used to conduct main scheme-to-cross line comparisons. Soundings at intersections were compared to all other soundings within a 5-m (50-meter) radius. Based on this procedure, agreement between main scheme and cross line soundings was found to be excellent. The majority of compared soundings fell within 1 to 2 feet of each other, with only an occasional difference of 3 feet noted along contour lines.

L. JUNCTIONS *SEE ALSO THE EVALUATION REPORT*

L.1 On its western edge, survey H-10799 junctions with survey H-10793. H-10793 is a survey, sheet "A", of OPR-G354-WH, with a scale of 1:10,000. A comparison of data collected on H-10799 to that on H-10793 proved no significant differences between soundings exist. Agreement was excellent, with an occasional 1 to 2-foot difference. On its eastern edge, survey H-10799 junctions with survey H-10794. H-10794 is a survey, sheet "C" of OPR-G354-WH, with a scale of 1:10,000. A comparison of data collected on H-10799 to that on H-10794 proved no significant differences between soundings exist. Agreement was excellent, with an occasional 1 to 2-foot difference.

M. COMPARISON WITH PRIOR SURVEYS *SEE ALSO THE EVALUATION REPORT.*

A comparison with prior surveys is not required for this survey, as stated in the Hydrographic Project Instructions for OPR-G354-WH.

N. ITEM INVESTIGATION REPORTS

CONTACT NO: 3363.0

Item Description: Barge

Source:

AWOIS Position:

Required Investigation: S2, DI Radius: None

Charts Affected: 11488, 11490

INVESTIGATION

Date(s): 27 April 1998 (DN 117)

Position Numbers: 3609

Investigation Used: S2, DI

Surveyed Position: Lat. 30°⁴~~2~~'25.984"N Lon. 081°15'41.640"W

Position Determined By: Differential GPS

Investigation Summary: During mainscheme hydrography, contact 3363.0 was found. During an investigation of 3363.0, divers found a barge, with a split near the bow, sitting upright on the sandy bottom. A least depth, corrected with ~~predicted~~ ^{APPROVED} tides, of ~~39.2~~ ^{41.0} feet (~~11.96~~ meters) was taken on a small structure on the deck of the barge.

CHARTING RECOMMENDATION

Recommendation: Based on the results of this survey, the hydrographer recommends charting a wreck and danger curve ^{APPROVED} with a least depth (corrected with ~~predicted~~ tides) of ~~39.2~~ ^{41.0} feet at the surveyed position. *CONCOR*

CHART 411: WS.

CONTACT NO: 3602.9

Item Description: Wreck

Source:

AWOIS Position:

Required Investigation: S2, DI

Radius: None

Charts Affected: 11488, 11490

INVESTIGATION

Date(s): 27 April 1998 (DN 117)

Position Numbers: 3606

Investigation Used: S2, DI

Surveyed Position: Lat. 30°23'40.210"N Lon. 081°10'18.372"W

Position Determined By: Differential GPS

Investigation Summary: During mainscheme hydrography, contact 3602.9 was found. During an investigation of 3602.9, divers found a deteriorated wreck, sitting upright on the sandy bottom. A least depth, corrected with ^{APPROVED} predicted tides, of 62.0⁶ feet (^{18.90} meters) was taken on the remaining superstructure.

CHARTING RECOMMENDATION

Recommendation: Based on the results of this survey, the hydrographer recommends charting a wreck and danger curve ^{APPROVED} with a least depth (corrected with predicted tides) of 62.0⁶ feet at the surveyed position. ^{CONCOR}

CHART (GR) WK.

CONTACT NO: 4083.0

Item Description: Barge

Source:

AWOIS Position:

Required Investigation: S2, DI

Radius: None

Charts Affected: 11488, 11490

INVESTIGATION

Date(s): ¹ May 1998 (DN ¹ 127)

Position Numbers: ⁴⁰⁸³ 8713

Investigation Used: S2, DI

Surveyed Position: Lat. 30°23'31.⁴⁹⁹~~864~~"N Lon. 081°10'16.^{5.950}~~064~~"W

Position Determined By: Differential GPS

Investigation Summary: During mainscheme hydrography, contact 4083.0 was found. During an investigation of 4083.0, divers found a deteriorated barge, with the bow intact. A least depth, corrected with ^{APPROVED} predicted tides, of ~~63.6~~^{62.6} feet (19.4 meters) was taken on a bit rising off the top deck.

CHARTING RECOMMENDATION

Recommendation: Based on the results of this survey, the hydrographer recommends charting a wreck and danger curve, with a least depth (corrected with ^{APPROVED} predicted tides) of ~~63.6~~^{62.6} feet at the surveyed position. *Correct.*

CHART (62) WK

CONTACT NO: 5588.5s

Item Description: Barge

Source:

AWOIS Position:

Required Investigation: S2, DI

Radius: None

Charts Affected: 11488, 11490

INVESTIGATION

Date(s): ⁴ 4 May 1998 (DN ⁴ 12⁴)

Position Numbers: ⁵⁵⁸⁸⁺¹ 8718

Investigation Used: S2, DI

Surveyed Position: Lat. 30°23'20.¹¹³206"N Lon. 081°10'3^{6.968}7.039"W

Position Determined By: Differential GPS

Investigation Summary: During mainscheme hydrography, contact 5588.5 was found. During an investigation of 5588.5, divers found a barge, extending 4-6 feet off the bottom. A least depth, corrected with ^{APPROVED} predicted tides, of ~~63.0~~ ^{61.1} feet (~~19.2~~ ^{18.6} meters) was taken on a bit rising off the top deck.

CHARTING RECOMMENDATION

Recommendation: Based on the results of this survey, the hydrographer recommends charting a wreck and danger curve with a least depth (corrected with ^{APPROVED} predicted tides) of ~~63.0~~ ^{61.1} feet at the surveyed position. *CONVDR*

CHART (6) WK

CONTACT NO: 5601.2s

Item Description: Barge

Source:

AWOIS Position:

Required Investigation: S2, DI

Radius: None

Charts Affected: 11488, 11490

INVESTIGATION

Date(s): 7 May 1998 (DN 127)

Position Numbers: 8714

Investigation Used: S2, DI

Surveyed Position: Lat. 30°23'18.029"N Lon. 081°10'12.910"W

Position Determined By: Differential GPS

Investigation Summary: During mainscheme hydrography, contact 5601.2s was found. During an investigation of 5601.2s, divers found the remains of a barge. A least depth, corrected with ^{APPROVED} predicted tides, of 64.6³ feet (19.7⁸ meters) was taken on a pipe rising off the top deck. Note: this is not the same item as contact 5601.4p.

CHARTING RECOMMENDATION

Recommendation: The hydrographer recommends no charting change for this wreck, due to its proximity to contact 5601.4p. *CONCERN. DO NO CHART.*

CONTACT NO: 5601.4p

Item Description: Barge

Source:

AWOIS Position:

Required Investigation: S2, DI Radius: None

Charts Affected: 11488, 11490

INVESTIGATION

Date(s): 7 May 1998 (DN 127)

Position Numbers: 8716

Investigation Used: S2, DI

Surveyed Position: Lat. 30°23'18.306"N Lon. 081°10'12.851"W

Position Determined By: Differential GPS

Investigation Summary: During mainscheme hydrography, contact 5601.4p was found. During an investigation of 5601.4p, divers found a deteriorated barge with the bow intact. A least depth, corrected with ^{APPROVED} predicted tides, of 62.7⁶ feet (19.1 meters) was taken on a bit rising off the top deck. Note: this is not the same item as 5601.2s.

CHARTING RECOMMENDATION

Recommendation: Based on the results of this survey, the hydrographer recommends charting a wreck and danger curve with a least depth (corrected with ^{APPROVED} predicted tides) of 62.7⁶ feet at the surveyed position. Note: this charting recommendation covers items 5601.4p as well as 5601.2s. *CONCUR*

CHART (62) WX

CONTACT NO: 5625.5p

Item Description: Barge

Source:

AWOIS Position:

Required Investigation: S2, DI

Radius: None

Charts Affected: 11488, 11490

INVESTIGATION

Date(s): 7 May 1998 (DN 127)

Position Numbers: 8712

Investigation Used: S2, DI

Surveyed Position: Lat. 30°23'10.481"N Lon. 081°09'30.449"W

Position Determined By: Differential GPS

Investigation Summary: During mainscheme hydrography, contact 5625.5p was found. During an investigation of 5625.5p, divers found a deteriorated barge. A least depth, corrected with ^{APPROVED} predicted tides, of 65.9 feet (20.1 meters) was taken on a pipe rising off the top deck near the bow.

CHARTING RECOMMENDATION

Recommendation: Based on the results of this survey, the hydrographer recommends charting a non-dangerous wreck with a least depth (corrected with ^{APPROVED} predicted tides) of 65.9 feet at the surveyed position. *CONUR*

CHART (56) WK.

CONTACT NO: 5679.4p

Item Description: Barge

Source:

AWOIS Position:

Required Investigation: S2, DI

Radius: None

Charts Affected: 11488, 11490

INVESTIGATION

Date(s): 7 May 1998 (DN 127)

Position Numbers: 8717

Investigation Used: S2, DI

Surveyed Position: Lat. 30°23'15.602"N Lon. 081°10'30.739"W

Position Determined By: Differential GPS

Investigation Summary: During mainscheme hydrography, contact 5679.4p was found. During an investigation of 5679.4p, divers found a deteriorated barge. A least depth, corrected with ^{APPROVED} ~~predicted~~ tides, of ^{23.1} ~~52.8~~ feet (16.1² meters) was taken on a pipe rising off the top deck.

CHARTING RECOMMENDATION

Recommendation: Based on the results of this survey, the hydrographer recommends charting a wreck and danger curve with a least depth (corrected with ^{APPROVED} ~~predicted~~ tides) of ^{23.1} ~~52.8~~ feet at the surveyed position. *(CORRECT)*

(CHART 53) WR.

CONTACT NO: 21111.0p

Item Description: Barge

Source:

AWOIS Position:

Required Investigation: S2, DI

Radius: None

Charts Affected: 11488, 11490

INVESTIGATION

Date(s): 7 May 1998 (DN 127)

Position Numbers: 8719

Investigation Used: S2, DI

Surveyed Position: Lat. 30°20'49.688"N Lon. 81°12'52.355"W

Position Determined By: Differential GPS

Investigation Summary: During mainscheme hydrography, contact 21111.0p was found. During an investigation of 21111.0p, divers found the remains of a barge, with numerous pieces of concrete culvert surrounding it. None of the surrounding debris was more shoal than the barge. A least depth, corrected with ^{APPROVED} ~~predicted~~ tides, of ^{59.0} ~~58.7~~ feet (17.9 meters) was taken on a piece of sheet metal rising off the top deck.

CHARTING RECOMMENDATION

Recommendation: Based on the results of this survey, the hydrographer recommends charting a wreck and danger curve with a least depth (corrected with ~~predicted~~ tides) of ^{59.0} ~~58.7~~ feet at the surveyed position. *CONCUR*

CHART (59) WK

CONTACT NO: 42718.7p

Item Description: Wreck

Source:

AWOIS Position:

Required Investigation: S2, DI

Radius: None

Charts Affected: 11488, 11480

INVESTIGATION

Date(s): 27 April 1998 (DN 117)

Position Numbers: 3608

Investigation Used: S2, DI

Surveyed Position: Lat. 30°24'46.743"N Lon. 081°15'36.496"W

Position Determined By: Differential GPS

Investigation Summary: During mainscheme hydrography, contact 42718.7p was found. During an investigation of 42718.7p, divers found a wreck with no superstructure, sitting upright on the sandy bottom. A least depth, corrected with ~~predicted~~ ^{APPROVED} tides, of ~~44.8~~ ^{46.2} feet (~~13.66~~ ^{14.10} meters) was taken on a chock near the bow.

CHARTING RECOMMENDATION

Recommendation: Based on the results of this survey, the hydrographer recommends charting a wreck and danger curve with a least depth (corrected with ^{APPROVED} ~~predicted~~ tides) of ~~44.8~~ ^{46.2} feet at the surveyed position.

Concur.
CHART (46.2) W.K.

N.5 The following is a list of contacts investigated with nothing found or were considered insignificant:

Contact Number	Easting	Northing
42384.0	474055.9	3357696.1

O. COMPARISON WITH THE CHART *SEE ALSO THE EVALUATION REPORT*

O.1 Three charts are affected by this survey (H-10799):

Chart 11480
 "Charleston Light to Cape Canaveral"
 34th Ed. 3 May 1997
 Scale: 1:449,659

Chart 11488
 "Ameila Island to St. Augustine"
 20th Ed. 9 March 1996
 Scale: 1:80,000

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

O.2 A Danger to Navigation report was submitted for this survey. A description of the items contained in that report is as follows: *SEE ALSO THE EVALUATION REPORT*

Description	Latitude	Longitude	Fix #	Least Depth
Wreck	30°24'25.984"N	81°15'41.640"W	3609	41 39'
Wreck	30°24'46.740 ₃ "N	81°15'36.500 ₇₉₂ "W	3608	46 44'
Wreck	30°23'15.600 ₂ "N	81°10'30.740 ₃₈ "W	8717	53'

3609: Divers found a semi-intact barge, with a large split near the bow.

3608: Divers found a wreck with no superstructure, sitting upright on the sand and shell bottom.

8717: Divers found a deteriorated barge, with the bow intact.

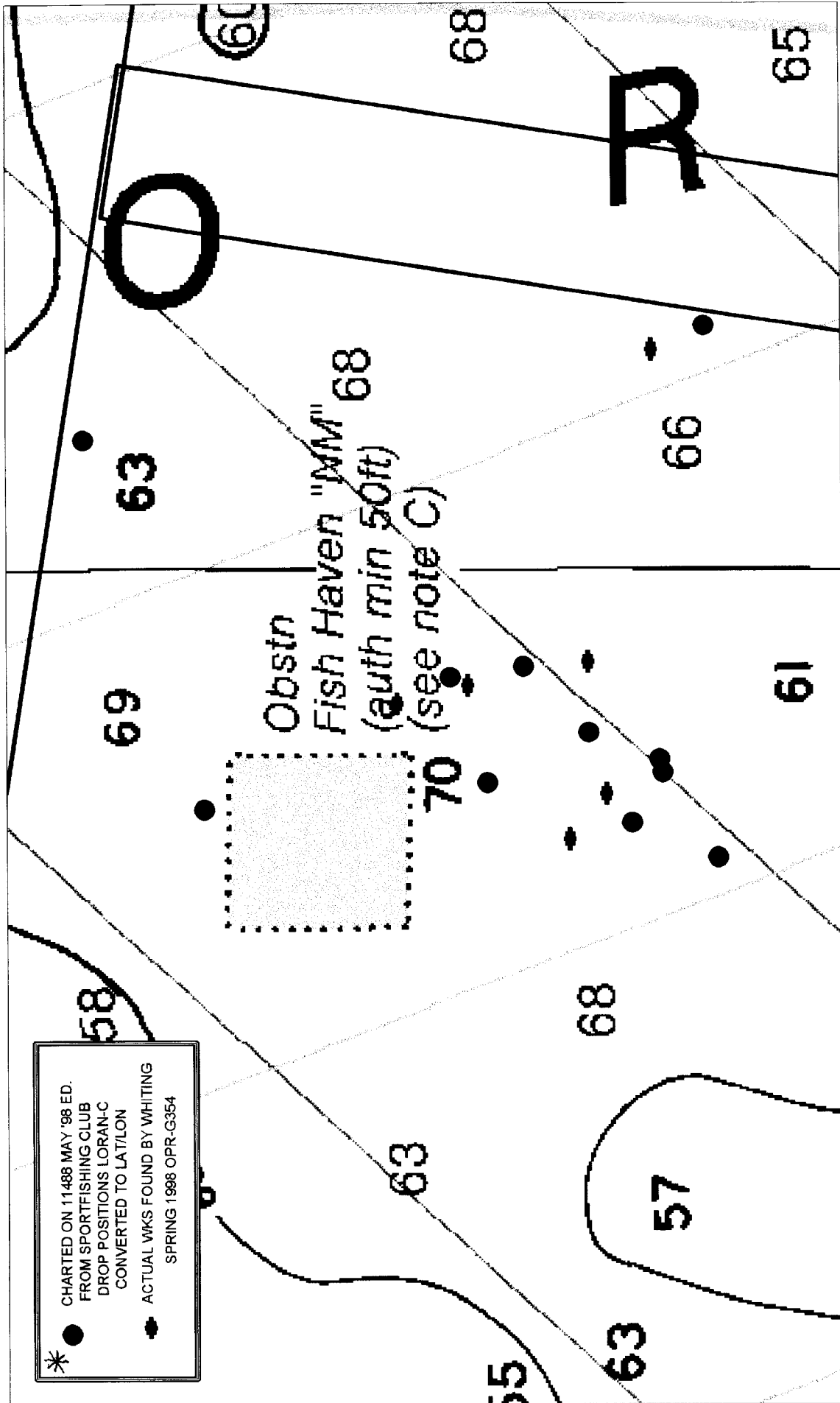
See appendix A of this report for complete danger to navigation letter.

0.3 a. Overall, the soundings collected for this survey correlated well with charted depths. Survey depths were converted from meters to feet and overlaid on the largest scale chart of the area using MapInfo software. Depending on geographic area, depths generally showed minor shoaling and deepening when compared to charted soundings. Survey depths deeper than charted depths by 5 feet or greater were investigated by splitting the 80 meter line spacing mainscheme hydrography, resulting in 40 meter line splits.

0.3 b. In general, survey depths were deeper than charted depths. Differences of 1 to 3 feet were common, with an occasional difference of 5 feet. Any survey depth that showed significant deviation from the charted depths was investigated with singlebeam echosounder.

0.3 c. During the period this sheet was being processed, the 21st edition of NOS Chart 11488 dated May 9, 1998 was released. Through Chart Letter L-528/98, a group of 38 obstructions charted as "OBSTN" with the related symbol for a "submerged obstruction, depth unknown" were applied to the 21st edition. The positions for the obstructions were supplied to Coast Survey Marine Chart Division, Nautical Data Branch from the Jacksonville Sport Fishing Club. The obstructions were listed as a variety of debris including culverts and barges intended as fishhaven replenishment. The supplied positions were converted from LORAN-C Time Delays to latitude/longitude positions by the Nautical Data Branch. Positions that fell outside of the existing charted fishhavens were charted as individual obstructions as mentioned above.

Within the limits of this survey sheet, 11 new obstructions were compiled on the 21st edition of 11488. The area encompassing these 11 obstructions was surveyed with 200% side scan sonar coverage. All charted obstructions were surveyed with a minimum of a 750m radius about the center position of the obstruction. Because the obstructions lie in the center of the sheet many of them have a larger radius of search about their center position. Hydrographic Survey Operations Branch concurs that the 750 meter radius is sufficient to disprove an item of this positional accuracy.



** DELETE THE CHARTED OBSTRUCTION SYMBOLS WITHIN THE LORAN AREA
CHART WRECKS LOCATED BY THE HYDROGRAPHER AS SHOWN ON THE PRESENT SURVEY*

Seven previously uncharted wrecks were found in the vicinity of these 11 charted obstructions. Disproval requirements were met over the area of the newly charted obstructions and is recommended that the charted "OBSTN" and related symbol for a "submerged obstruction depth unknown" be removed from the chart and the wrecks found during this survey (See Section N.) be charted with a "dangerous wreck symbol, least depth known". Survey data from H-10799 should supercede all sounding, wreck and obstruction data in the common area of charts 11480, 11488, and 11490.

P. ADEQUACY OF SURVEY *SEE ALSO THE EVALUATION REPORT*

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

Q. AIDS TO NAVIGATION

Q.2 There is a privately maintained fish haven buoy charted within the survey limits of H-10799. This buoy was not located during the course of this survey. No other charted aids to navigation are located within H-10799.

R. STATISTICS

R.1 a.	Number of Non-Rejected Positions	26550
b.	Linear Nautical Miles of Sounding Lines:	
	Nautical Miles of Side Scan Sonar	627.50
	Nautical Miles Hydrography	87.89
R.2 a.	Square Nautical Miles of Hydrography	27
b.	Days of Production	19
c.	Detached Positions	11
d.	Bottom Samples	24
e.	Tide Stations.	1
g.	Velocity Casts	67

S. MISCELLANEOUS *SEE ALSO THE EVALUATION REPORT*

S.1 Bottom samples were taken at 2000-meter intervals. Samples were examined for composition and consistency, then stored in plastic bags and sent to the Smithsonian Institution.

T. RECOMMENDATIONS

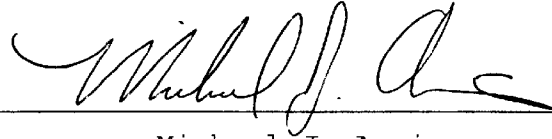
T.1 No further survey work is recommended.

T.2 See Section O.3 c.

U. 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 VII

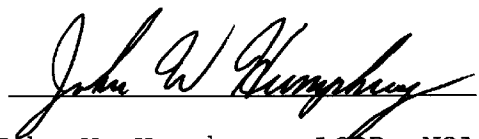
APPROVAL SHEET

LETTER OF APPROVAL

REGISTRY NO. H-10799

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", 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, Office of Coast Survey
 Atlantic Hydrographic Branch
 439 W. York Street
 Norfolk, VA 23510-1114

May 19, 1998

Commander(oan)
 Seventh Coast Guard District
 Brickell Plaza Building
 909 SE 1st Avenue
 Miami, Florida 33131-3050

Dear Sir,

While undergoing hydrographic survey operations at the entrance to St. Johns River, Mayport, Florida, (project OPR-G354-WH-98, registry H-10794) the NOAA Ship WHITING discovered three wrecks identified as hazards to navigation. I recommend that these items be included in the next Local Notice to Mariners. These positions are based on NAD83 datum and the soundings have been reduced to Mean Lower Low Water (MLLW) using predicted tides. All items were located using Differential GPS. All data is preliminary and subject to further field work and office review.

Depth	Geographic Position	
	Latitude	Longitude
39'	30°24'25.984"N	081°15'41.640"W
45'	30°23'40.210"N	081°10'18.372"W — ERROR, SEE LETTER DATED MAY 29, 1998
53'	30°23'15.600"N	081°10'30.740"W

Affected Nautical Charts:

Chart Number	Edition Number	Date	Horizontal Datum
11480	34 th	5/03/97	NAD 83
11488	20 th	3/09/96	NAD 83
11490	14 th	3/30/96	NAD 83
11491	29 th	1/04/97	NAD 83

The attached chartlet depicts the position of depths to be added.

Questions concerning this report should be directed to the Atlantic Hydrographic Branch by calling 757-441-6746.

Sincerely,

Nicholas E. Perugini
 Nicholas E. Perugini, CDR, NOAA
 Chief, Atlantic Hydrographic Branch

Attachment

cc: NIMA-NIS
 N/CS26
 N/CS31
 SJBPA
 NAVSTA Mayport





UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
 NATIONAL OCEAN SERVICE, Office of Coast Survey
 Atlantic Hydrographic Branch
 439 W. York Street
 Norfolk, VA 23510-1114

May 29, 1998

Commander (oan)
 Seventh Coast Guard District
 Brickell Plaza Building
 909 SE 1st Avenue
 Miami, Florida 33131-3050

Dear Sir,

This is a letter of correction in regards to the danger to navigation letter sent on May 19, 1998. The geographic position for the danger item, referred to as "45'", should be updated with correct position listed below. The depth of this danger item should also be changed from "45'" to "44'". The attached chartlets in the original letter reflect the correct position and depth for all items concerned. These positions are based on NAD83 datum and the soundings have been reduced to Mean Lower Low Water (MLLW) using predicted tides. All items were located using Differential GPS. All data is preliminary and subject to further field work and office review.

Depth	Geographic Position	
	Latitude	Longitude
39'	30°24'25.984"N	081°15'41.640"W
44'	30°24'46.740"N	081°15'36.500"W
53'	30°23'15.600"N	081°10'30.740"W

Affected Nautical Charts:

Chart Number	Edition Number	Date	Horizontal Datum
11480	34 th	5/03/97	NAD 83
11488	20 th	3/09/96	NAD 83
11490	14 th	3/30/96	NAD 83
11491	29 th	1/04/97	NAD 83

The attached chartlet depicts the position of depths to be added.

Questions concerning this report should be directed to the Atlantic Hydrographic Branch by calling 757-441-6746.

Sincerely,

Nicholas E. Perugini, CDR, NOAA
 Chief, Atlantic Hydrographic Branch

Attachment

cc: NIMA-NIS
 N/CS26
 N/CS31
 SJBPA
 NAVSTA Mayport



OPR-G354-WH-98

Approaches to Jacksonville, FL
LCDR John W. Humphrey, NOAA
Commanding Officer
NOAA Ship WHITING

Advanced Information

Subject to Office Review
Not for Use in Navigation

Soundings in Feet
MLLW Using Predicted Tides

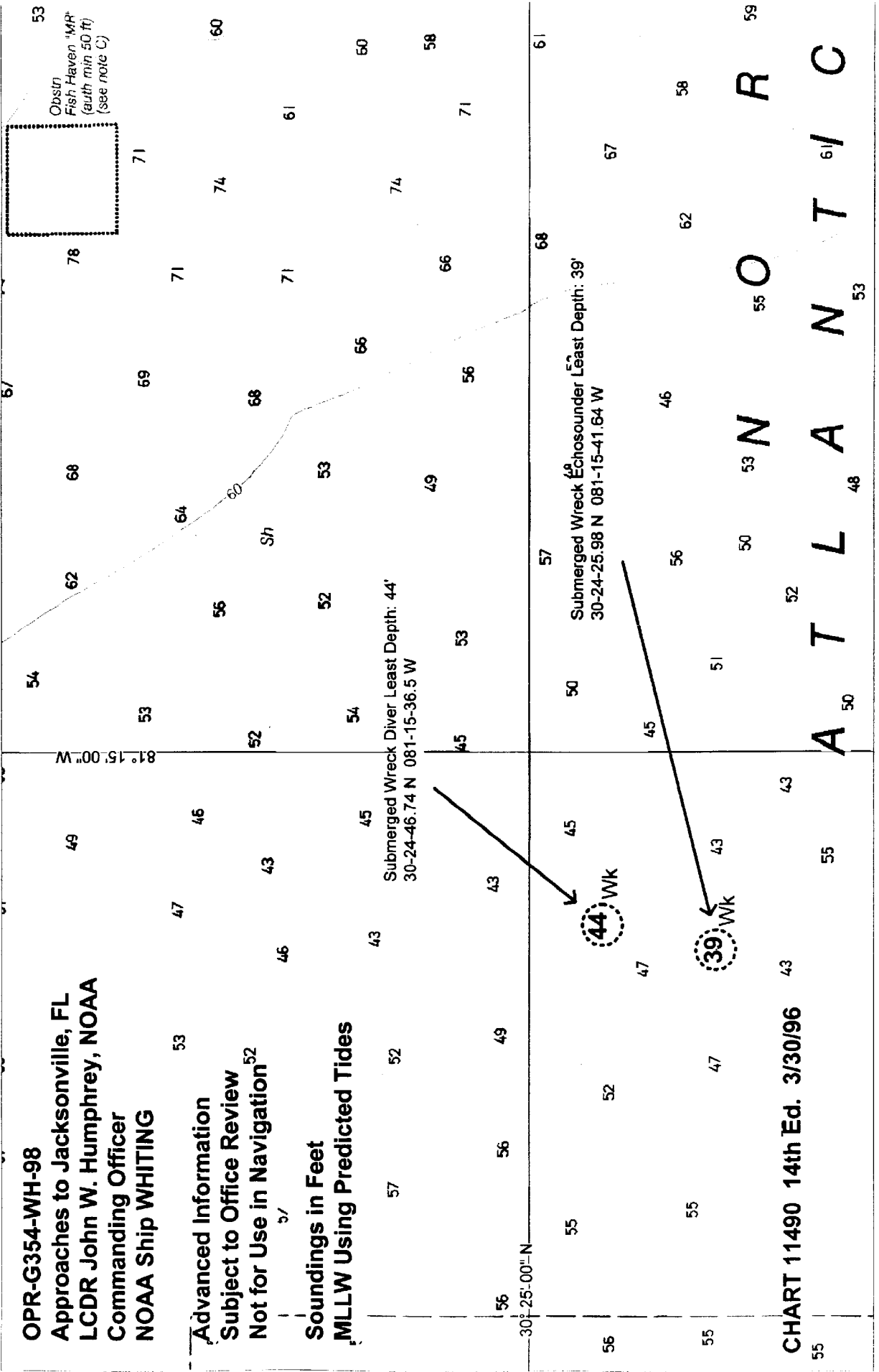
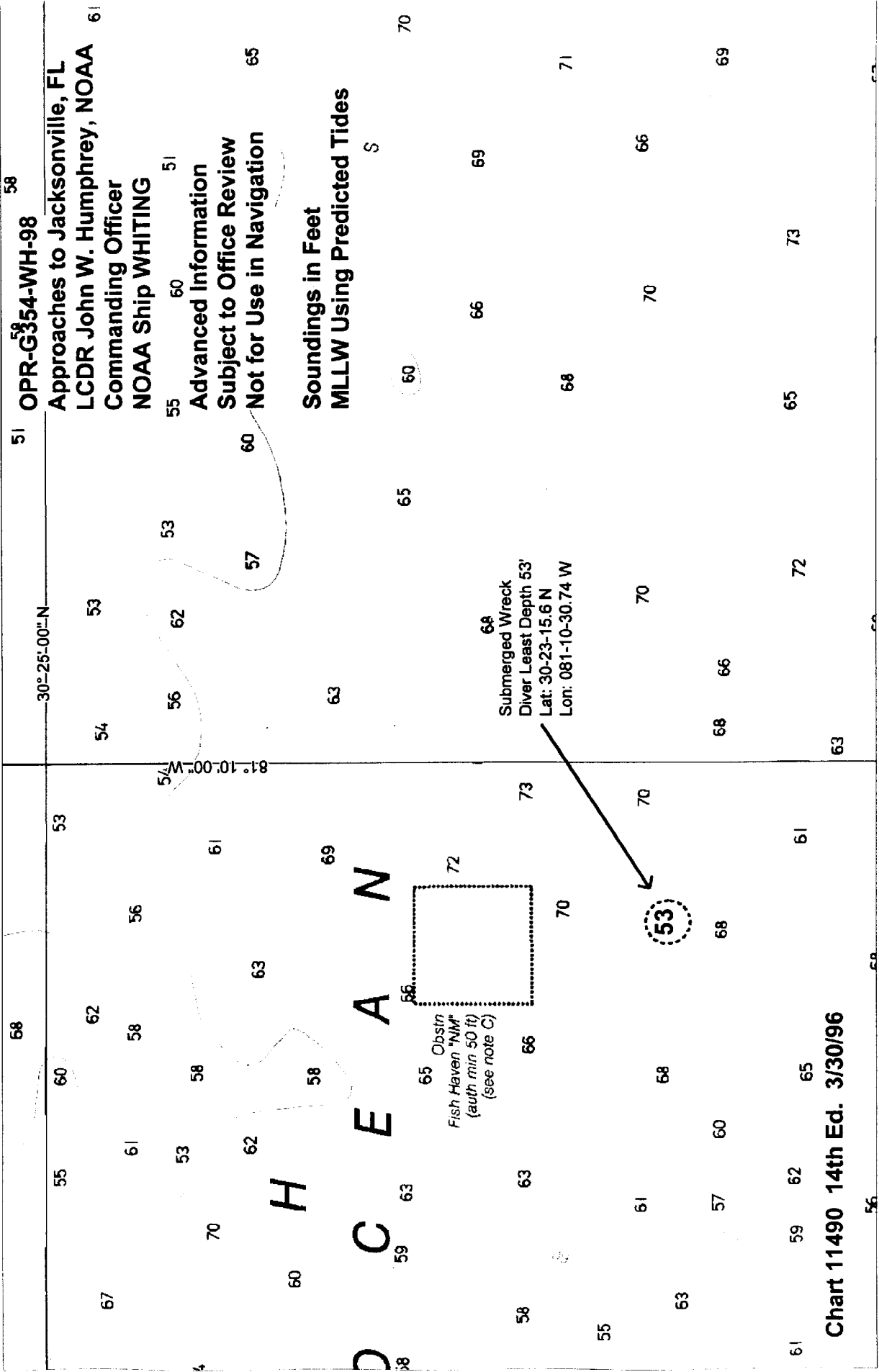


CHART 11490 14th Ed. 3/30/96



58
 51

30°-25'-00" N

81°-10'-00" W

58

53

55

62

56

61

58

53

53

56

54

62

61

60

57

60

63

62

60

65

63

63

65

63

63

69

63

60

59

63

65

63

H
 C
 E
 A
 N

56

65

63

63

66

72

70

65

60

65

66

69

71

66

70

66

68

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

65

APPENDIX III

LIST OF HORIZONTAL CONTROL STATIONS & MONITOR Output Plots

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

Charleston, SC 298 KHz	Lat. 32° 45.5 N Long. 079° 50.6 W
Cape Canaveral, FL 289 KHz	Lat. 28° 27.6 N Long. 080° 32.6 W
NOAA VHF "Fly Away" 171.2 MHz	Lat. 30° 23.169 N Long. 081° 23.875 W

GEOGRAPHIC NAMES

H-10799

Name on Survey	A PART 11480, 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										
	A	B	C	D	E	F	G	H	K		
FLORIDA (title)	X		X								1
NORTH ATLANTIC OCEAN	X		X								2
SAINT JOHNS RIVER (title)	X		X								3
											4
											5
											6
											7
											8
											9
											10
											11
											12
											13
											14
											15
											16
											17
											18
											19
											20
											21
											22
											23
											24
											25

Dennis J. Ransley
 Chief Cartographer
 SEP 16 1998



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: September 1, 1998

HYDROGRAPHIC BRANCH: Atlantic

HYDROGRAPHIC PROJECT: OPR-G354-WH

HYDROGRAPHIC SHEET: H-10799

LOCALITY: Atlantic Ocean, Approaches to Jacksonville, FL

TIME PERIOD: April 8 - June 5, 1998

TIDE STATION USED: 872-0587 St. Augustine Beach, FL
Lat. 29° 51.4'N Lon. 81° 15.8'W

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 1.466 meters

REMARKS: RECOMMENDED ZONING

Use zone(s) identified as: SEC185 and SEC186.

Refer to attachments for zoning information.

Note 1: Provided time series data are tabulated in metric units (Meters), relative to MLLW and on Greenwich Mean Time.

A handwritten signature in black ink, appearing to read "D. K. Smith", written over a horizontal dashed line.

CHIEF, OPERATIONAL ANALYSIS BRANCH



N/CS33-109-98

LETTER TRANSMITTING DATA

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

- ORDINARY MAIL AIR MAIL
- REGISTERED MAIL EXPRESS
- GBL (Give number) _____

TO:

NOAA/National Ocean Service
Chief, Data Control Group, N/CS3x1
SSMC3, Station 6815
1315 East-West Highway
 Silver Spring, MD 20910-3282

DATE FORWARDED

December 23, 1998

NUMBER OF PACKAGES

1 Box, 1 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.

H10799

Florida, Approaches to St. Johns River

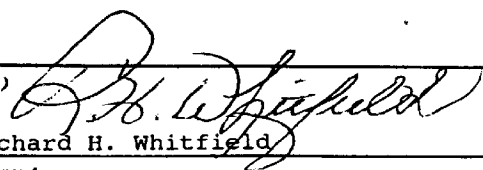
1 Box Containing:

- 1 Original Descriptive Report for H10799**
- 1 HISTORY OF CARTOGRAPHIC WORK (NOAA form 76-71) for H10799 for chart 11490**

1 Tube Containing:

- 1 Original Smooth Sheet for H10799**
- 1 Paper Composite plot of survey H10799 for chart 11490**
- 1 Mylar H-Drawing of H10799 for chart 11490**
- 1 Revised H-Drawing of H10750 to be given to George Myers**

FROM: (Signature)



Richard H. Whitfield

RECEIVED THE ABOVE
(Name, Division, Date)

Return receipted copy to:

Atlantic Hydrographic Branch N/CS331
439 W. York Street
Norfolk, VA 23510-1114

12/22/98

HYDROGRAPHIC SURVEY STATISTICS
REGISTRY NUMBER: H10799

NUMBER OF CONTROL STATIONS		2
NUMBER OF POSITIONS		26550
NUMBER OF SOUNDINGS		26550
	TIME-HOURS	DATE COMPLETED
PREPROCESSING EXAMINATION	47	08/17/98
VERIFICATION OF FIELD DATA	97	11/10/98
EVALUATION AND ANALYSIS	3	
FINAL INSPECTION	8	11/23/98
COMPILATION	107	12/17/98
TOTAL TIME	270	
ATLANTIC HYDROGRAPHIC BRANCH APPROVAL		12/07/98

**ATLANTIC HYDROGRAPHIC BRANCH
EVALUATION REPORT FOR H10799 (1998)**

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 2.1
MicroStation 95, version 5.05
I/RAS B, version 5.01

The smooth sheet was plotted using a 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). The smooth sheet has been annotated with ticks showing the computed mean shift between the North American Datum of 1983 (NAD 83) and the North American Datum of 1927 (NAD 27).

To place the survey on the NAD 27 datum, move the projection lines 0.871 seconds (26.807 meters or 2.68 mm at the scale of the survey) north in latitude and 0.714 seconds (19.077 meters or 1.91 mm at the scale of the survey) east in longitude.

L. JUNCTIONS

H10793 (1998) west
H10794 (1998) east

A standard junction has been effected between the present survey and survey H10793.

A standard junction could not be made with survey H10794. The smooth sheet for the junctional survey is archived at NOS headquarters, Silver Spring, Maryland. In this case the note "ADJOINS" has been shown on the present survey smooth sheet. Any adjustments to the depth curves in the junctional areas will have to be made on the chart during compilation

There are no contemporary surveys to the north or south. Present survey depths are in harmony with the charted

hydrography to the north and south.

M. COMPARISON WITH PRIOR SURVEYS

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

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

**O. COMPARISON WITH CHARTS 11480 (34th Edition, May 3, 1997)
11488 (20th Edition, March 9, 1996)
11490 (14th Edition, March 30, 1996)**

Hydrography

The charted hydrography originates with prior surveys and requires no further consideration. The hydrographer makes an adequate chart comparison in section O. of the Descriptive Report. The following should be noted:

O.2. The following three wrecks, located by the present survey, were submitted as dangers to navigation:

An uncharted dangerous sunken wreck was found by the hydrographer in Latitude 30°24'25.984"N, Longitude 81°15'41.640"W. A depth of 39 feet was computed on the wreck with predicted tides. During office processing approved tides were applied to the present survey. The wreck is shown on the present survey as a dangerous sunken wreck with a depth of 41 feet. It is recommended that a dangerous sunken wreck with a depth of 41 feet (41 Wk) be charted as shown on the present survey.

An uncharted dangerous sunken wreck was found by the hydrographer in Latitude 30°24'46.740"N, Longitude 81°15'36.496"W. A depth of 44 feet was computed on the wreck with predicted tides. During office processing approved tides were applied to the present survey. The wreck is shown on the present survey as a dangerous sunken wreck with a depth of 46 feet. It is recommended that a dangerous sunken wreck with a depth of 46 feet (46 Wk) be charted as shown on the present survey.

An uncharted dangerous sunken wreck was found by the hydrographer in Latitude 30°23'15.600"N, Longitude 81°10'30.739"W. A depth of 53 feet was computed on the wreck with predicted tides. No change in depth was found after

application of approved tides during office processing. It is recommended that a dangerous sunken wreck with a depth of 53 feet (53 Wk) be charted as shown on the present survey.

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

P. ADEQUACY OF SURVEY

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

S. MISCELLANEOUS

Chart compilation using the present survey data was done by Atlantic Hydrographic Branch personnel in Norfolk, Virginia. Compiled data will be forwarded to Hydrographic Survey Division, Silver Spring, Maryland upon completion of the project.

National Ocean Service Chart 11490 (14th Ed., Mar 30/96) was used for compilation of the present survey.

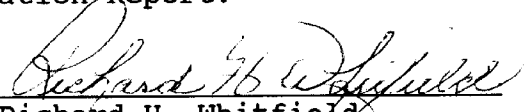
Richard W. Blevins

Richard W. Blevins
Cartographer
Verification of Field Data
Evaluation and Analysis

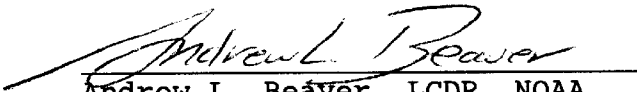
APPROVAL SHEET
H10799

Initial Approvals:

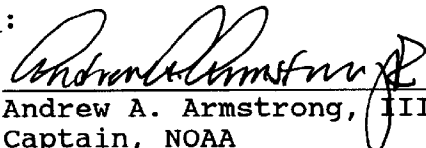
The completed survey has been inspected with regard to survey coverage, delineation of depth curves, development of critical depths, cartographic symbolization, and verification or disapproval of charted data. The digital data have been completed and all revisions and additions made to the smooth sheet 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.


Richard H. Whitfield Date: 2/7/98
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, LCDR, NOAA Date: 12/7/98
Chief, Atlantic Hydrographic Branch

Final Approval:

Approved: 
Andrew A. Armstrong, III Date: Jan 25, 1999
Captain, NOAA
Chief, Hydrographic Surveys Division

MARINE CHART BRANCH
RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H10799

INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.

1. Letter all information.
2. In "Remarks" column cross out words that do not apply.
3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

CHART	DATE	CARTOGRAPHER	REMARKS
11490	10/8/98	<i>[Handwritten Signature]</i>	Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.