H10899

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-10-4-99

Registry No. H10899

LOCALITY

State Florida

General Locality St. Johns River

Locality Reddie Point to Commodore Point

1999

CHIEF OF PARTY
LCDR J. W. Humphrey

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DATE OCT 2 2000

NOAA FORM 77-28
(11-72)

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

REGISTRY NOS:

HYDROGRAPHIC TITLE SHEET

H-10899

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 NO: WH-10-04-99

State: Florida

General locality: St. Johns River, Jacksonville Reddie Point To Commodore Point

Locality: ~~Prout River to Hart Bridge~~

Scale: 1: 10,000 Date of survey: May 24, 1999 – June 26, 1999

Instructions dated: May 4, 1999 Project Number: OPR-G354-WH-99

Vessel: NOAA Launch 1014 (EDP:2932)

Chief of Party: LCDR John W. Humphrey

Surveyed by: LCDR John W. Humphrey , LT. T Haupt, LT L. Krepp, MJ. Annis, U.L. Gardner, P. Lewit, C Clemens, C. Kemp

Soundings taken by echo sounder, hand lead-line, or pole: Echotrac Fathometer

Graphic record scaled by: WHITING Personnel

Graphic record checked by: WHITING Personnel

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

Verification by: ATLANTIC Hydrographic Surveys Branch Personnel

Soundings in: Feet: ✓ Fathoms: ___ Meters: ~~(*)~~ at MLW: ___ MLLW: (*): ✓

Remarks: **Time Zone Used, 17 (UTC)**

Navigable Area Survey and 200% Side Scan Sonar

* Hand written Notes in Descriptive Report were made during Office Processing.

AWOIS/SURF ✓ 9/18/00, 25 ✓

TABLE OF CONTENTS

A. PROJECT

A.1 This survey was conducted in accordance with Hydrographic Project Instructions OPR-G354-WH-99, basic hydrographic survey, Atlantic Ocean, approaches to Jacksonville.

A.2 The original instructions are dated May 4, 1999.

A.3 There have been no changes to the original project instructions dated May 4, 1999.

A.4 This Descriptive Report covers H10899 (sheet "O") of OPR-G354-WH. H10899 lies between Trout River and Hart Bridge in the St. Johns River Jacksonville, Florida. See section B.2 for exact survey boundaries.

A.5 Project OPR-G354-WH responds to a request from the Jacksonville Waterway Management Council and the ST Johns River Bar Pilots. 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 east side of the St Johns River Channel to the 18 foot curve Jacksonville, Florida.

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

Sheet "O":

Latitude	Longitude
30-25-01.99 N	081-40-03.63 W
30-25-03.38 N	081-35-14.11 W
30-18-25.72 N	081-35-11.74 W
30-18-24.34 N	081-40-00.93 W

B.3 Data collection for this survey began on May 24, 1999 (DN 144). Data collection ended on June 26, 1999 (DN 177).

C. SURVEY VESSELS

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

Vessel	EDP Number	Primary Function
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 9.4** compact disc provided by Pacific Hydrographic Branch (N/CS33). A list of software used from this disc are contained in appendix H.*

D.2 The SEABIRD SBE-19 sound velocity profile unit was utilized with **SEASOFT 3.3M** and **SEACAT 2.0** software. The program **VELOCIWIN** (Version 4.0, March 1999) was used to process the collected data and calculate velocity corrections.

E. SONAR EQUIPMENT

E.1 The 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.

* Data Filed with Field Records.

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 several range scales to cover the entire sheet. A range scale of 100, 75, and 50 meters was used depending on water depth. These range scales were used to obtain complete (200%) coverage in areas suitable for side scan and provide optimal contact resolution. In some cases side scan was not practical in areas less than 12 feet(see F.5.) 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 sand waves, scours and substrate density changes. These features were annotated on the sonogram.

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(see F.5.) All side scan coverage was checked with swath plots to ensure proper overlap between adjoining lines.

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

E.4.e On launch 1014 the SSS towfish was deployed using a Superwinch in conjunction with an adjustable davit arm on the 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. Single beam echosounder was also utilized for contact investigation. Development survey lines were routinely run with side scan sonar at 50-meter range scale. No dives were performed in this survey. Detailed descriptions of all 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** software **version 5.0.**

F. SOUNDING EQUIPMENT

F.1 All hydrographic soundings were acquired using an ODOM ECHOTRAC DF3200 MKII precision survey echo sounder. The following is a list of the ECHOTRACKs used:

Vessel	EDP Number	ECHOTRACK S/N
NOAA Launch WH-2	2932 (1014)	9644 (A008304)

F.2 No Diver investigations were performed. 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 was recorded on an analog trace. Only high frequency was recorded digitally during data acquisition and plotted.

F.5 Some of the areas of coverage were extremely shoal making SSS impractical. Those areas were ensonified with echosounder developments and splits with 20 meter line spacing. All other areas are addressed in Item investigations

G. CORRECTIONS TO SOUNDINGS

G.1.a Sound Velocity Correctors
The velocity of sound through water was calculated 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. The Seacat Profiler was calibrated January 14, 1999 by SEA-BIRD ELECTRONICS, INC.

All sound velocity data were processed using program **VELOCIWIN** version 4.0. 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 H10899:

Table No.	Day No.	Vessel	Position Of Cast Lat.	Long.	Days Covered	Cast Dep. (M)
15	145	1014	30 20 48N	081 37 12W	144-147	11.5
25	167	1014	30 21 24N	081 37 00W	167-177	12.8

b. Lead line Comparison

Lead line comparisons were done on launch 1014 on DN 147. The location of the check for launch 1014 was at St. John's River (30°19'12"N and 081°37'24"W). The Digital Instrument correctors for 1014 had a high of 0.21 and a low of 0.15.

Weather and sea conditions were calm and proved ideal for performing the Lead line comparison. No corrections to soundings were needed. Lead lines used were calibrated on May 17, 1999, and the calibration confirmed that the Lead line error was negligible. See the fathometer record on the above listed days for actual ECHOTRAC DF 3200 MKII readings.

c. Static Draft

The static draft correctors for launch 1014 were measured on July 28, 1993 and calculated at .55 meters. The correctors were entered into HPS Offset Tables 2. Static draft correctors were applied during data processing for each survey platform.

d. Dynamic Draft

The settlement and squat values for launch 1014 were determined March 16, 1998 and entered into offset tables 2.

e. Heave, Roll, and Pitch Correctors

Heave correctors for data acquired by 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:

Vessel	Serial Number
2932	2068

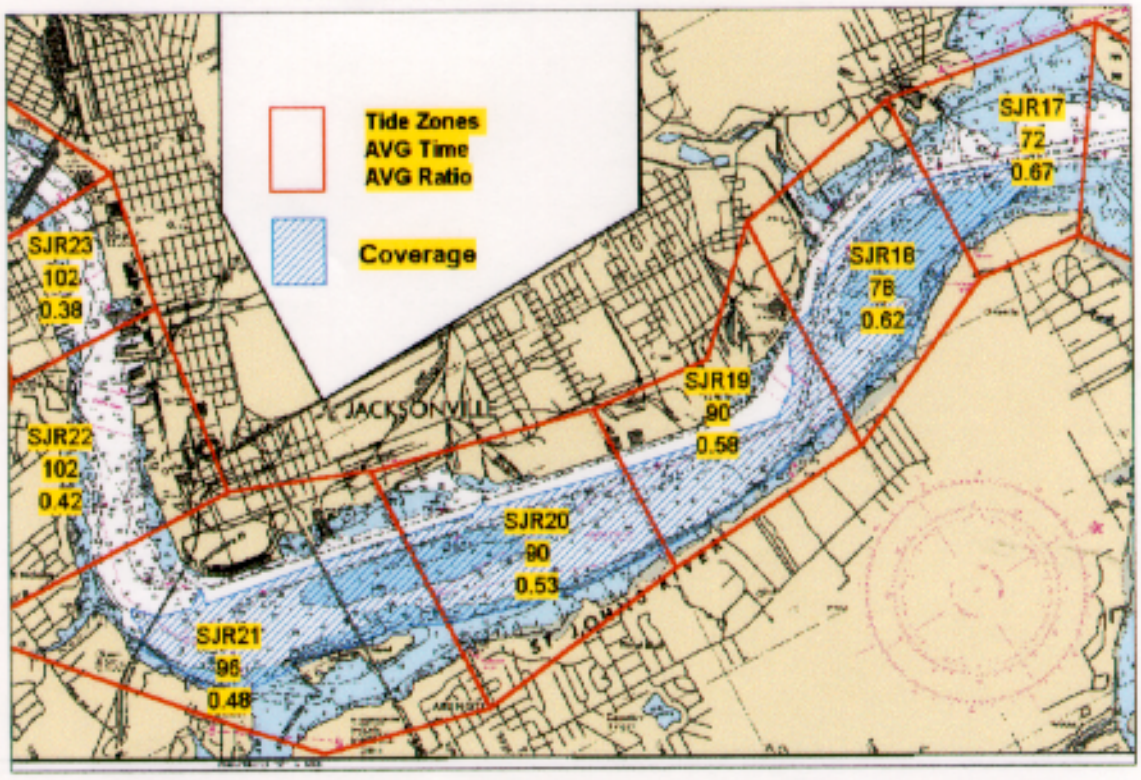
G.4 Divers least depth gauge was not used.

G.6 Tide Correctors

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

b. Zoning for this survey is consistent with the project instructions. HPTools was used for Tide table creation. HPS was used for the application of the tables. All proper zones will be applied through HPS upon receipt of smooth tides from N/OES234. See following table for tide zone used.

Zone Name	Time Corr. (Min)	Ratio Corr.	Reference
SJR18	+78	0.62	8720220



Smooth tides for H10899 was requested from N/OES234 in a letter dated July 9 1999 See appendix D.* Data Filed with Field Records.

Approved Tides and Zones were applied During office Processing.

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 station network. The launch used an Ashtech Sensor GPS receiver with a CSI MBX1 beacon receiver supplying USCG correctors for DGPS navigation. Ashtech receivers were automatically initialized by HSDutils and the CSI MBX1 units were preset to the appropriate station and frequency.

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

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

H.5 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 was either smoothed or rejected. Smoothed data did not exceed 200 meters in length.

H.5.b DGPS performance checks for the WHITING, 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 between vessels. An offset in distance and azimuth was then calculated between the ship and launch systems. A summary of the DGPS performance checks is included in Appendix G* All DGPS performance checks confirmed that the equipment was working properly.

* Data Filed with Field Records

H.6 Differential GPS Equipment:

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

Vessel	Device	Serial Number
2930 (WTEW)	Ashtech Sensors	700417B1203 (system A) 700417B1191 (system B)
	CSI MBXI	X-1318 (system A) X-1081 (system B)
2931 (1015)	Ashtech Sensor CSI MBX1(before 6/9/99)	700417B1194 X-1088
2932 (1014)	Ashtech Sensor CSI MBXI(before 6/9/99) CSI MBXI(after 6/9/99)	700417B1055 X-1079 X-1088

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

H.7.b The GPS antenna for launch 1014 (s/n X-1079) malfunctioned June 6, 1999, and was replaced with the antenna from launch 1015 (s/n X-1088) for the remainder of the survey.

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

H.7.d The maximum allowed HDOP value was 4.0. HDOP values at or exceeding 4.0 were rejected or smoothed(See E.4.A.)
H.7.e No systematic errors were detected which required adjustments.

H.7.f DGPS antenna offsets were measured on April 15, 1999 for the 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 H10899 providing altitude unconstrained positioning.

H.7.g Offset, laybacks and height corrections for the launches aft towing boom were measured on July 28, 1993, verified on April 15, 1999, and applied by HPS during processing. Correctors were entered into Offset Table 1 for launch 1015 and Table 2 for launch 1014. Offset, laybacks and height for WHITING's A-frame was measured on April 15, 1999 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 the appendix F. * DATA Filed with Field Records.

I. **SHORELINE** See Also Evaluation Report.

No shoreline is contained within the boundaries of this survey.

J. CROSSLINES

Side scan lines were run perpendicular to hydro lines and served as crossline checks. A combined total of 55.6 linear nautical miles were acquired for this survey representing 41% of the 135.2 lnm 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-mm (50-meter) radius. Based on this procedure, agreement between main scheme and cross line soundings were found to be excellent. The majority of compared soundings fell within 1 to 2 feet of each other.

K. JUNCTIONS See Also Evaluation Report.

The middle part of survey H-10899 junctions with survey H-10647 from 30° 22′ 15″N to 30° 20′ 15″N. H-10647 OPR-G364-CN 1995 with a scale of 1:10000. A comparison of data collected on H-10899 to that of H-10647 showed general agreement with Whiting soundings being 1 to 2 feet shoaler. Occasional differences of significance existed in the shoal areas.

L. COMPARISON WITH PRIOR SURVEYS See Also Evaluation Report.

A comparison with prior surveys is not required due to the 200% side scan sonar coverage.

M. ITEM INVESTIGATION REPORTS

Contact No: N/A

Item Description: Barge with spuds

Source: N/A

AWOIS Position: N/A

Required Investigation: N/A **Radius:** N/A

Charts Affected: 11491

INVESTIGATION

Date(s): 26 June 1999 (DN 177)

Position Numbers: 26092, 26095

Investigation Used: ES

Surveyed Position: Lat. 30 20 01.09N Lon. 081 36 54.15W

Position Determined By: Differential GPS

Investigation Summary: In the course of survey a privately maintained barge with spud anchors is located 200 meters west of the Arlington Marina and is considered to be a permanent feature in the area. The barge is approximately 49 meters long (160 ft) has two white lights displayed 1/3 the way from each end. Barges are frequently moored to the anchored barge.

15 m wide (50 FT.)

CHARTING RECOMMENDATION

Recommendation: The Hydrographer recommends charting a mooring platform at the surveyed position (Mid point of the Dp's). Detached positions were taken on the Northern and Southern ends towards the western side of the barge.

Do NOT Concur

Cross State Towing Co.
5138 Arlington Rd.
Arlington, Fl.
(904) 745-1603

~~Chart barge (Lighted)~~
Do NOT Chart
Floating Barge

Contact No: 27102.5

Item Description: Obstruction
Source: N/A

AWOIS Position: N/A

Required Investigation: N/A **Radius:** N/A

Charts Affected: 11491

INVESTIGATION

Date(s): 26 June 1999 (DN 177)
Position Numbers:27102.5

Investigation Used: S2

Surveyed Position: Lat. 30° 19'32.79"N Lon. 081° 37'06.39"W

Position Determined By: Differential GPS

Investigation Summary: In the course of survey, side scan contact 27102.5 was found with an estimated height of 12 feet. Surrounding depths were in the range of 24 feet. A sounding close by was found at 19 feet. The item was close to nadir on a slope causing exaggeration and is not a true representation of the height.

CHARTING RECOMMENDATION

Recommendation: The hydrographer recommends charting representative soundings. No further survey work is required. Concur

(bottom texture)

Contact No: 23889.2

Item Description: Block shaped Obstruction

Source: N/A

AWOIS Position: N/A

Required Investigation: N/A **Radius:** N/A

Charts Affected: 11491

INVESTIGATION

Date(s): 26 June 1999 (DN 177)

Position Numbers: 26455.8

Investigation Used: S2, ES

Surveyed Position: Lat.30° 22'14.804"N Lon. 081° 37'16.848"W

Position Determined By: Differential GPS

Investigation Summary: On day 177 an echosounder development was performed over contact 23889.2 which appeared to be a block shaped object. A least depth was taken over the item.

CHARTING RECOMMENDATION

Recommendation: The Hydrographer recommends charting an obstruction, least depth of ~~18~~ 16 (5.0m) feet (corrected with ~~predicted~~ tides) at the surveyed position. Concur Approved

Chart (16) Obstr

Contact No: 26403~~.5~~ 2.1

Item Description: Shoals possible sandbars

Source: N/A

AWOIS Position: N/A

Required Investigation: N/A **Radius:** N/A

Charts Affected: 11491

INVESTIGATION

Date(s): ~~26~~ 17 June 1999 (DN ~~177~~ 168)

Position Numbers: **26403~~.5~~** 2.1

Investigation Used: S2, ES

Surveyed Position: Lat. 30° 19' ~~21.0~~ 19.755"N Lon. 081° 37' 09.~~72~~ 751"W

Position Determined By: Differential GPS

Investigation Summary: In the course of survey contact 26403.5s showed a large area of shoaling. The area was developed with echosounder. Most soundings around the area were of equal value.

CHARTING RECOMMENDATION

Recommendation: The Hydrographer recommends charting representative soundings in the area surveyed. CONCUR

Contact No: ~~23814.0~~ 24297.0

Item Description: Shoals possible sandbars

Source: N/A

AWOIS Position: N/A

Required Investigation: N/A **Radius:** N/A

Charts Affected: 11491

INVESTIGATION

Date(s): ~~26~~ 15 June 1999 (DN ~~177~~ 166)

Position Numbers: ~~24316-24317~~ 24297.0

Investigation Used: S2, D1

Surveyed Position: Lat.30° 22' ~~57.2~~ 56,971"N Lon. 081° 37' ~~38~~ 37.232"W

Position Determined By: Differential GPS

Investigation Summary: In the course of survey, item 23814.0 displayed shoaling over an area near the edge of the ~~St Johns River Channel~~ Chaseville Turn. An Echo sounder development was performed over the area. Resulting depths were of equal value with the area.

CHARTING RECOMMENDATION

Recommendation: The Hydrographer recommends charting representative soundings in the area surveyed. Concur

N. COMPARISON WITH THE CHART see also Evaluation Report.

N.1 One chart is are affected by this survey(H10899): Chart 11491 31st ed. ^mar. 27, 1999 is an intercoastal at a scale 1:20000.

N.2 Overall, the soundings collected for this survey were on average slightly deeper (1 to 2 feet) than previously charted depths. In the shoal areas near the channel, differences averaged 3 to 7 feet were found. Survey depths were converted from meters to feet and overlaid on the largest scale chart of the area using MapInfo software.

Any survey depth that showed significant deviation from the charted depths were investigated with single beam echosounder.

O. ADEQUACY OF SURVEY See also Evaluation Report.

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

P. AIDS TO NAVIGATION

There are 10 aids to navigation within the survey limits of H10899. While conducting survey operations the Aids were found to be in excellent agreement with the chart. Passes close aboard revealed positions less than 1-2 meters from the charted position. No detached positions were taken on ATONS. Fathograms and Side scan records were annotated when in close proximity of ATON's.

Q. STATISTICS

Q.1	a. Number of Non-Rejected Positions	40313
	b. Linear Nautical Miles of Sounding Lines:	
	Nautical Miles of Side Scan Sonar	55.57
	Nautical Miles Hydrography	61.36
Q.2	a. Square Nautical Miles of Hydrography	2.44
	b. Days of Production	8
	c. Detached Positions	3
	d. Bottom Samples	0
	e. Tide Stations	1
	g. Velocity Casts	2

R. MISCELLANEOUS see also Evaluation Report.

No Bottom samples were taken in this survey.

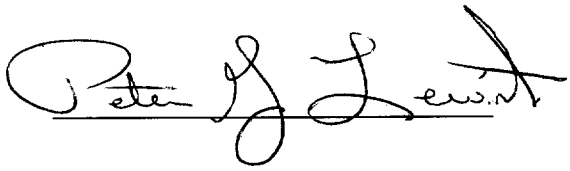
S. RECOMMENDATIONS

No further Survey work required

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.



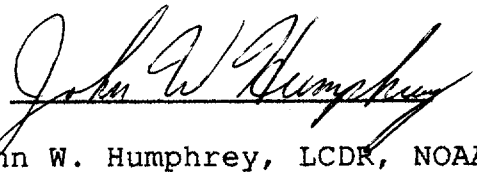
Peter G. Lewit
Senior Survey Technician
NOAA Ship Whiting

K. APPROVAL SHEET

REGISTRY NO. H10899

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 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.



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: H-10899

LOCALITY: St. Johns River, FL

TIME PERIOD: May 24 - June 26, 1999

TIDE STATION USED: 872-0242 Longbranch, FL
Lat. 30° 21.5'N Lon. 81° 37.2'W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 0.750 meters

REMARKS: RECOMMENDED ZONING
Use zone(s) identified as: SJR21, SJR23, SJR24 & SJR26.

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 K. Meso 11/4/99

CHIEF, REQUIREMENTS AND DEVELOPMENT DIVISION

Printed on Recycled Paper

NOAA FORM 76-155
(11-72)

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

SURVEY NUMBER

H-10899

GEOGRAPHIC NAMES

Name on Survey	A ON CHART NO. 1401	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	
ARLINGTON (ppl)	X		X							1
ARLINGTON RIVER	X		X							2
CHASEVILLE	X		X							3
CLIFTON	X									4
COMMODORE POINT	X		X							5
EMPIRE POINT	X		X							6
EXCHANGE ISLAND	X		X							7
FLORAL BLUFF (ppl)	X		X							8
FLORIDA (title)	X		X							9
JACKSONVILLE	X		X							10
LONG BRANCH	X		X							11
REDDIE POINT	X		X							12
ST JOHNS RIVER	X		X							13
										14
										15
										16
										17
										18
										19
										20
										21
										22
										23
										24
										25

Dennis J. Ronesburg

NOV 10 1999

NOAA FORM 76-155 SUPERSEDES C&GS 197

09/12/2000

HYDROGRAPHIC SURVEY STATISTICS
REGISTRY NUMBER: H10899

NUMBER OF CONTROL STATIONS	2
NUMBER OF POSITIONS	7815
NUMBER OF SOUNDINGS	7815

	TIME-HOURS	DATE COMPLETED
PREPROCESSING EXAMINATION	16.0	05/24/2000
VERIFICATION OF FIELD DATA	109.0	05/31/2000
QUALITY CONTROL CHECKS	0.0	
EVALUATION AND ANALYSIS	11.0	
FINAL INSPECTION	56.0	06/05/2000
COMPILATION	102.0	07/17/2000
TOTAL TIME	294.0	

ATLANTIC HYDROGRAPHIC BRANCH APPROVAL 06/07/2000

ATLANTIC HYDROGRAPHIC BRANCH
EVALUATION REPORT FOR H10899 (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
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). Office processing of this survey is based on these values. The smooth sheet has been annotated with ticks showing the computed mean shift between the NAD 83 and the North American Datum of 1927 (NAD 27).

To place this survey on the NAD 27, move the projection lines 0.862 seconds (26.542 meters or 2.65 mm at the scale of the survey) north in latitude, and 0.661 seconds (17.665 meters or 1.76 mm at the scale of the survey) east in longitude.

I. SHORELINE

Brown shoreline originates with National Ocean Service (NOS) chart 11491, (32nd Edition, Apr. 1/00), and is for orientation purposes only.

K. JUNCTIONS

H10647 (1995)

H10647 (1995) is not considered a junctional survey. The portion of this survey that is common to the present survey resides completely inside the present survey limits. The other portions of this survey are to the north and south of the limits of the present survey and should be considered a prior survey.

L. COMPARISON WITH PRIOR SURVEYS

Comparisons with prior surveys were not done during office processing in accordance with section 4. of the memorandum titled "Changes to Hydrographic Survey Processing" dated May 24, 1995. However, areas that were not covered by 100% side scan sonar were compared with prior survey H8463 (1958-59). The following should be noted:

1) Prior survey depth are 1 to 2 ft shoaler than the present survey depths in the following areas:

Latitude (N)	Longitude (W)
30°23'00"	81°37'30"
30°22'20"	81°37'35"
30°20'10"	81°37'15"
30°19'35"	81°37'25"

2) The following charted depths and features originating with prior survey H8463 (1958-59) were investigated by the present survey:

Item	Latitude (N)	Longitude (W)	Surrounding Depths
Shoal ½ ft	30°22'28.0"	81°37'32.5"	3 ft- 9 ft
Islet	30°22'26.5"	81°37'30.5"	5 ft- 6 ft
Pile	30°22'25.9"	81°37'30.3"	5 ft- 6 ft
2-ft	30°22'34.0"	81°37'37.0"	8 ft-11 ft
2-ft	30°22'29.5"	81°37'35.1"	5 ft-10 ft

Echo sounder investigations were performed during present survey operations and all depths and features were disproved. It is recommended that the items be deleted and present survey soundings charted.

3) A charted *6 ft depth*, in the vicinity of Latitude 30°22'38"N, Longitude 81°37'19"W, was neither verified nor disproved by the present survey. A pair of *6 ft* depths in Latitude 30°22'37.7"N, Longitude 81°37'17.2"W, and Latitude 30°22'38.3"N, Longitude 81°37'19.0"W, were brought forward from the prior survey to supplement the present survey. It is recommended that the charted *6 ft depth* be retained as chart.

Differences between the present and prior surveys can be attributed to natural changes in the bottom configuration, cultural change, and/or improved hydrographic surveying methods.

Except as noted above the present survey is adequate to supersede the prior survey within the common area.

N. COMPARISON WITH CHART 11491 (31st EDITION, Mar 27/99)

1. Hydrography

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

1) A charted Dol, PA, in the vicinity of Latitude 30°19'50"N, Longitude 81°37'10"W, originates with unknown sources. The Dol, PA was investigated by side scan sonar, and disproved by the present survey. It is recommended that the Dol, PA be deleted from the chart.

2) Charted *Subm piles and Dols*, in the vicinity of Latitude 30°21'48"N, Longitude 81°36'51"W, originate with unknown sources. The *Subm piles and Dols* were neither verified nor disproved by the present survey. It is recommended that the *Subm piles and Dols* be retained as charted.

3) A charted notation *Shoaling rep*, in the vicinity of Latitude 30°22'28"N, Longitude 81°37'28"W, originates with unknown sources. The *Shoaling, rep* was investigated by echo sounder, and disproved by the present survey. Present survey surrounding depths are 13 to 18 feet. It is recommended that the notation *Shoaling rep*, be deleted form the chart.

4) A charted *Obstruction, with no depth*, in the vicinity of Latitude 30°22'48.6"N, Longitude 81°37'36.0"W, originates with Local Notice to Mariners 20 of 1999 (LNM 20/99). The charted *Obstruction, with no depth* was neither verified nor disproved during present survey operations. It is recommended that the charted *Obstruction, with no depth* be retained.

2. Controlling Depths

1) A conflict exists with the charted controlling depths in the vicinity of Latitude 30°22'28.2"N, Longitude

81°37'40.9"W, on the Chaseville Turn of the St. Johns River. The present survey shows depths of 37 feet with a controlling depth of 38 feet.

2) A conflict exists with the charted controlling depths in the vicinity of Latitude 30°22'23.2"N, Longitude 81°37'38.3"W,
on the Chaseville Turn of the St. Johns River. The present survey shows depths from 35 to 37 feet with a controlling depth of 38 feet.

3) A conflict exists with the charted controlling depths, in the vicinity of Latitude 30°20'03.3"N, Longitude 81°37'18.9"W, on the Terminal Channel of the St. Johns River. The present survey shows depths of 22 feet with a controlling depth of 23 feet.

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:

11491 (32nd Edition, Apr. 1/00)

Robert Snow

Robert Snow
Cartographic Technician
Verification of Field Data
Evaluation and Analysis

APPROVAL SHEET
H10899

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 disproval 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.

Date: 6/7/00

Norris A. Wike
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.

Date: 6/7/00

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

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Final Approval:

Approved: Samuel P. de Bow, Jr. Date: October 2, 2000

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

NOAA FORM 75-96
(10-83)

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

MARINE CHART BRANCH

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H10899

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
11491	070600	[signature]	Full ~~Part Before~~ After Marine Center Approval Signed Via
		Norris Wike	Drawing No. FULL APPLICATION OF SOUNDINGS
			AND CURVES FROM SMOOTH SHEET
			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
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SUPERSEDES C&GS FORM 8352 WHICH MAY BE USED.