H11091

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey **Basic Hydrographic**

(Navigable Area)

Registry No. **H11091**

LOCALITY

State/Territory Florida

General Locality St. Johns River

Sub-locality Entrance to St. Johns River to Little Marsh Island

2002-2003

CHIEF OF PARTY
David B. Elliott -Team Leader

LIBRARY & ARCHIVES

DATE

NOAA FORM 77-28
U.S. DEPARTMENT OF COMMERCE
(11-72)
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

HYDROGRAPHIC TITLE SHEET

REGISTRY NUMBER:

H11091

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: ~~N/A~~ *"C"*

State/Territory: **Florida**

General Locality: **St. Johns River**

Sub-Locality:

Scale: **1:10,000** Date of Survey: 7 Nov. 2002- 3 Feb. 2003

Instructions Dated: **13 Dec 01** Project Number: **OPR-G443-NRB**

Vessel: **NOAA Launch 1210**

Chief of Party: **David B. Elliott - Team Leader**

Surveyed by: **David Elliott & Robert Ramsey (NRT2)**

Soundings by: **Innerspace 448**

Graphic record scaled by: **DE, RR**

Graphic record checked by: **DE. RR**

Hewlett Packard Design Jet 2500CP (office)

Protracted by: **N/A** Automated Plot: **HP-750C** *(field)*

Verification by: **Atlantic Hydrographic Branch** *(AHB) Personnel*

Soundings in: ~~**Meters**~~ *Feet* **at MLLW**

Remarks: ***Red, bold italic notes in Descriptive Report were made during office processing.***

1) All Times are UTC.

2) This is a basic Hydrographic Survey under the Navigable Area Concept.

3) Projection is UTM Zone 17.

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**** Filed with the original field data.***

DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SURVEY H11091

Scale of Survey: 1:10,000
Year of Survey: 2002-03
Navigation Response Team 2 - Launch 1210
David B. Elliott- Team Leader

A. AREA SURVEYED

This hydrographic survey was conducted in accordance with Port Letter Instructions for project OPR-G443-NRB, Brunswick Georgia to Jacksonville, Florida. The instructions are dated December 13, 2001.

The purpose of Field Examination H11091 is to collect new hydrography, investigate and resolve a number of deficiencies that exist on National Ocean Service Charts in the Ports from Brunswick, GA and Jacksonville, FL. Results from the investigations and hydrography obtained for this project will be used to update NOS Nautical Charts and serve as a chart evaluation for NOS Electronic Nautical Charts (ENC).

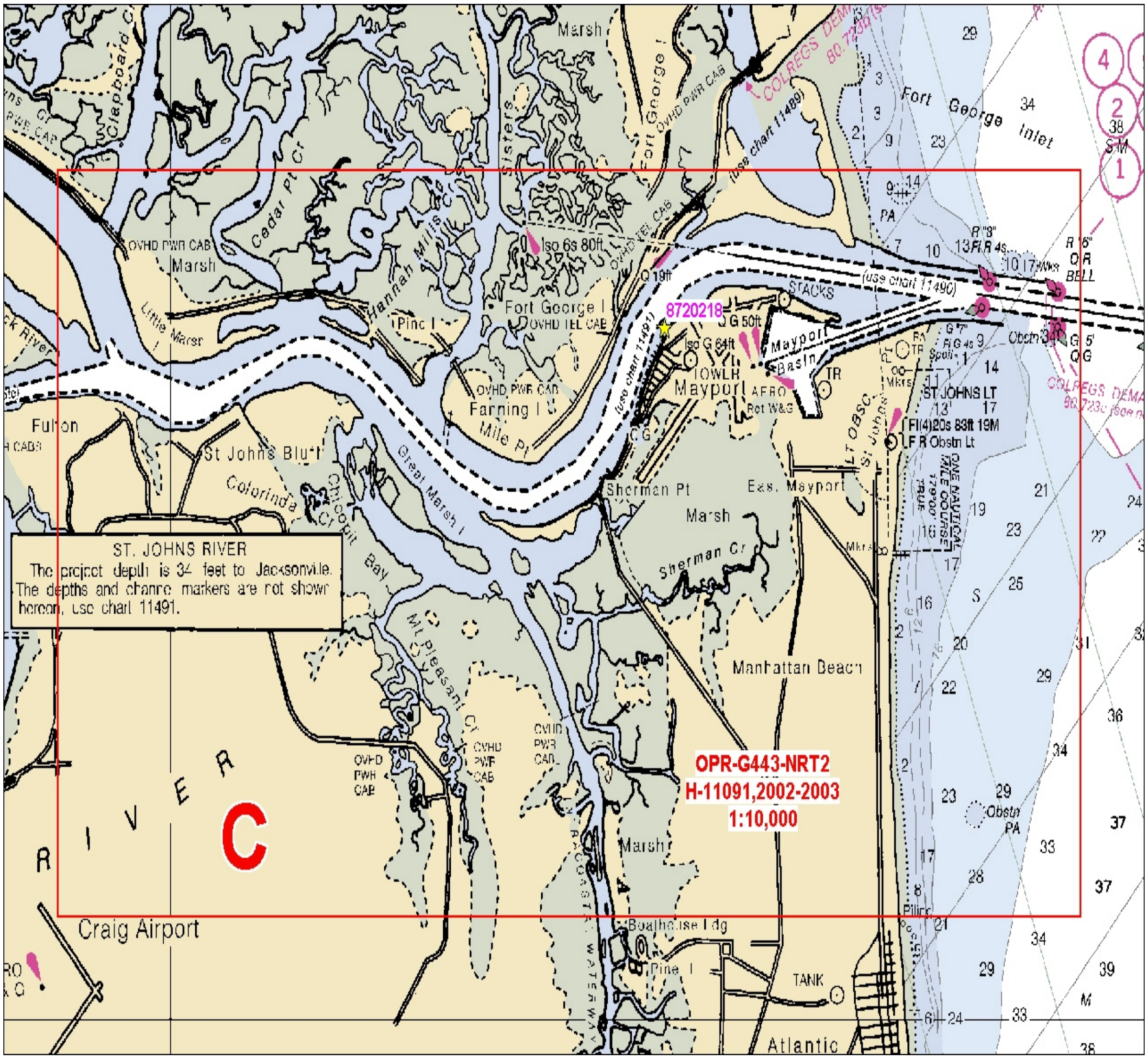
Note: There is an error in the Sub-Locality on the Port Instructions for Sheet Letter "C"
The correct locality should read: "Entrance to St.Johns River to Little Marsh Island".

Survey Limits for Sheet "C" H11091 are as follows:

30˚ 24' 39" N
081˚ 22' 15" W
30˚ 20' 33" N
081˚ 30' 57" W

Survey Dates: Nov. 7, 2002 - Feb. 3, 2003

Survey limits are displayed graphically in the chartlet on the following page .


ST. JOHNS RIVER
The project depth is 34 feet to Jacksonville. The depths and channel markers are not shown hereon, use chart 11491.
OPR-G443-NRT2
H-11091,2002-2003
1:10,000
8720218
Mayport
Fort George I
Farning I
Sherman Pt
East Mayport
Manhattan Beach
Craig Airport
Atlantic
Fort George Inlet
ST JOHNS LT
C

B. DATA ACQUISITION AND PROCESSING *See Also the Evaluation Report.*

B.1. EQUIPMENT

Data were acquired by Navigation Response Team 2 and survey Launch 1210. The vessel was configured as described in the Data Acquisition and Processing Report (DAPR)* for this project. Major data acquisition systems are summarized below. **** Filed at AHB.***

An Innerspace model 448 depth sounder, S/Ns 188 was used to collect all echo soundings on this survey. A standard lead line calibrated in meters, S/N 1210, was used during this survey for comparison with the echo sounder. No problems were encountered with any of the sounding equipment.

An Edge Tech ACI digital interface image correcting side scan sonar recorder (S/N 027573) with a model 272-TD towfish (S/N 020892), was used throughout this survey. The side scan sonar equipment was used to investigate AWOIS items.

A Trimble DGPS Beacon Receiver (S/N 0220261525) was used as the primary navigation station on launch 1210.

A Trimble Pathfinder ProXRS (S/N 0224010201) and antenna (S/N 0220170250) were used for all ENC high accuracy positioning and establishment of calibration points.

The instrument used for determining corrections for the speed of sound through the water column was a Seabird-Seacat Velocity Profiler, model 19-03, S/N 198671-1477.

NOAA launch 1210, a 27-foot SeaArk with a draft of 0.5 meters, was used to collect all survey data. There were no unusual vessel configurations or problems encountered with the vessel.

B.2. QUALITY CONTROL

The integrity of the survey data for H11091 has been insured by following the Field Procedures Manual and the NOS Hydrographic Surveys Specifications and Deliverables Manual, June 2000.

The lead line for launch 1210 was calibrated using a steel tape on Nov.27, 2001(DN:331). No corrections were necessary. A static draft of 0.5 meters was applied to the sounding plots by the Carris program. The draft was measured by subtracting the difference from a punch mark on the side of launch 1210, 0.6 meter above the transducer, to the water surface.

Settlement and squat measurements for launch 1210 were taken on Nov.27, 2001(DN:331). These measurements were conducted in Jacksonville, FL on the St. Johns River using the level method. Settlement and squat correctors were applied to the sounding plots using the Carris program.

Differential GPS (DGPS) was used for all hydrographic data acquired on this survey. DGPS performance checks were conducted in accordance with FPM 3.4.4 by comparing the DGPS position of the vessel to a high accuracy (1st order) calibration point.

Side Scan Sonar Quality Control

Daily confidence checks were conducted by observing side scan imagery in the vicinity of known contacts, such as buoys or sand waves. Side scan data were considered satisfactory if these contacts could be distinguished throughout the entire range of the side scan trace. The confidence checks were performed daily at 100kHz.

A coverage of 200% was obtained wherever possible in the required survey areas and AWOIS items where water depth and/or hazards permitted. Side scan sonar coverage was conducted to the 12-foot depth curve and single beam reduced line spacing was performed in other areas where warranted. The towfish was deployed off the starboard quarter of the vessel, which proved very stable. Distorted images caused by strong tidal currents were seen periodically. All contacts and shadows were scaled and entered into Carris SIPS to determine the height off the bottom. The significant contacts were then compared by position, as well as common depth and relationship to channels to determine if further investigations were needed. All areas surveyed were track line/swath line plotted to insure complete coverage.

The system frequency used was 100kHz. The recorder was set on one of either 50/75/100-meter range scales. There were no water depths greater than 35 meters.

When operating in shoaler waters (e.g. less than 30 meters deep), a short tow was required for the Edgetech system. When cable-out was approximately 7 meters or less, minor degradation of the side scan imagery and Innerspace echosounder traces were noted due to cross-talk between the two systems.

Crossline and mainscheme sounding data were compared using MAPINFO 5.1, with no significant discrepancies observed.

Junctions ***See also the Evaluation Report.***

Sounding Junctions were compared to H-11090, 2002 west of H11091. The soundings compared favorably within 1 to 2 feet.

B.3. CORRECTIONS TO ECHO SOUNDING

A table detailing all sound velocity casts is contained in Separates III *- Sound Velocity Profile Data. Sound velocity data has been submitted on CD-ROM with the digital data package. Cast data is organized on the digital media as follows: vessel / day of cast / cast data.

There are no deviations to be discussed in this section.

C. VERTICAL AND HORIZONTAL CONTROL ***See also the Evaluation Report.***

The instrument used for determining corrections for the speed of sound through the water column was a Seabird-Seacat Velocity Profiler. The manufacturer calibrated this unit on December 5, 2001. Data quality assurance tests were performed after each cast. Program VELOCWIN was used for computing the correctors. Corrections were applied to the sounding plot using the Carris HIPS.

Field tide reduction of soundings is based on unverified actual heights from the Internet from station Mayport, FL 872-0218. The values were downloaded from:
http://www.opsd.nos.noaa.gov/data_retrieve.shtml?input_code=101011111pwl.
Values and correctors were applied at the perspective locations of Hydrography from the Zone files provided by CO-OPS/RDD
All elevations and soundings on survey H11091 are based on MLLW unless otherwise specified.

A Request for Approved Tides letter was sent to N/OPS1 on February 12, 2003 (Appendix IV)*.

Horizontal Control

The horizontal datum used for this survey is the North American Datum of 1983 (NAD 83), projected using UTM zone 17. The control reference station used for this survey was the USCG DGPS Station at Savannah, GA (Station ID #818), located at 32˚08.3156' N, 081˚41.7798' W.

**** Filed with the original field records.***

Horizontal dilution of precision (HDOP) was monitored on Hypack daily on all survey platforms. Neither value exceeded 4.00, and adequate satellite coverage was maintained throughout the survey period. All positioning equipment was operated in a manner consistent with the manufacturer's requirements and as described in the DAPR.* There were no equipment malfunctions which affected the positional quality of the data. **** Filed at AHB.***

D. RESULTS AND RECOMMENDATIONS *See also the Evaluation Report.*

D.1. CHART COMPARISON

There are four charts affected by this survey:

11489, 33rd edition, Aug 25, 2001 1:40,000
11490, 17th edition, May 05, 2001 1:15,000
11491, 33rd edition, Feb. 01, 2003 1:20,000
11492, 19th edition, Nov. 24, 2001 1:40,000

General Agreement with Charted soundings
In general survey soundings compared with the charted soundings within three to five feet. The smooth tides may resolve some of these soundings. Some regions of the chart had discrepancies of 10 feet or more. All charted soundings should be superseded by this survey. ***Concur.*** There are likewise some areas of change in the controlling depths investigated during H11091 noted below.

The following is a list of controlling depths for channel legs (general mid-channel):

1. St Johns Bluff Reach = ~~37~~ ***35*** feet
2. White Shells Cut Range = 38 feet
3. Short Cut Turn = 42 feet
4. Training Wall Reach = 40 feet
5. Mile Point Lower Range and Turn = ~~37~~ ***35*** feet
6. Sherman Cut Range = 39 feet
7. Mayport Cut Range = ~~40~~ ***39*** feet

8. Pilot Town Cut Range = ~~41~~*40* feet

9. St Johns Bar Cut Range West Section = ~~37~~*36* feet

The following is a list of identified channel shoaling areas: ***See also the Evaluation Report.***

10. From Lat 030˚24'05"N, Lon 081˚23' 48"W to Lat 30˚24'08"N, Lon 081˚24'08"W is shoaling from the north side of channel to ~~34~~*30* feet. ***Concur. St Johns Bar Cut Range West Section. This conflicts with controlling depths of 31.9 ft.***

11. From Lat 030˚24'08"N, Lon 081˚25' 09"W to Lat 30˚24'04"N, Lon 081˚25'27"W is shoaling from the south side of channel to ~~33~~ *25* feet. ***Concur. Pilot Town Cut Range. This conflicts with controlling depth of 26 ft.***

12. From Lat 030˚23'03"N, Lon 081˚26'30"W to Lat 30˚22'57"N, Lon 081˚26'42"W is shoaling from the north side of channel to ~~32~~*28* feet. ***Concur. Mile Pt Lower Range and Turn. No conflict with controlling depths of 28.5 ft.***

The following is a list of Charted items that were visually investigated or disproved by side scan sonar:

13. The Foul area at 30˚23'18.85"N, 081˚30'16.97"W exists as charted. ***Concur. Retain.***

14. The pile at 30˚23'33.22"N, 081˚29'56.56"W disproved by side scan, recommend removal. ***Concur. Delete pile symbol.***

15. The pile at 30˚23'33.55"N, 081˚29'53.51"W disproved by side scan, recommend removal. ***Concur. Delete pile symbol.***

16. The piles PA at 30˚23'35.11"N, 081˚29'48.03"W exists as charted. ***Concur. Retain.***

17. The submerged piles at 30˚23'14.~~47~~*10* "N, 081˚29'~~43.73~~*45.40*"W disproved by side scan, recommend removal. ***Concur. Delete Subm piles note and one pile symbol.***

18. The dols at 30˚23'22.65"N, 081˚28'21.82"W do not exist as charted. ***Concur. Delete two Dols.***

19. The pile PA at 30˚23'37.65"N, 081˚27'40.24"W exists as charted. ***Concur. Retain.***

20. The 17 foot shoal sounding at 30˚23'06.41"N, 081˚27'56.29"W exists as charted. ***Concur. Revise position to reflect the present survey.***

21. The submerged pile at 30˚22'53.09"N, 081˚27'44.09"W exists as charted. ***Concur. Retain.***

22. The 4 foot shoal sounding at 30˚23'03.56"N, 081˚26'41.44"W does not exist as charted. See surrounding survey data reflecting 18 feet. ***Concur. Revise to reflect the present survey.***

23. The Dols PA at 30˚23''06.50"N, 081˚26'43.70"W exists as charted. ***Concur. Retain.***

24. The pile PA at 30˚23’08.44”N, 081˚26’41.22”W exists as charted. ***Concur. Retain***

25. The submerged piles at 30˚22’54.48”N, 081˚26’23.25”W exists as charted. ***Concur. Retain.***

26. The piles at 30˚23’05.47”N, 081˚26’12.16”W exists as charted. ***Concur. Retain.***

27. The foul area at 30˚23’08.73”N, 081˚26’09.01”W exists as charted. ***Concur. Retain.***

28. The Dol PA at 30˚23’14.35”N, 081˚26’07.01”W exists as charted. ***Concur. Retain.***

29. The pile PA at 30˚23’22.48”N, 081˚26’22.69”W does not exist, disproved by side scan recommend removal. ***Concur. See AWOIS 11243, page 14, of this report.***

30. The pile at 30˚23’26.70”N, 081˚26’20.64”W does not exist. Visual search in shallow clear water. ***Concur. Delete pile symbol.***

31. The pile at 30˚23’29.88”N, 081˚26’18.11”W does not exist. Visual search in shallow clear water. ***Concur. Delete pile symbol.***

32. The piling at 30˚23’20.22”N, 081˚26’03.03”W does not exist as charted. However there is a submerged ***(insignificant)*** contact at 30˚23'20.05"N, 081˚26'04.01"W, with a least depth of 39 feet. Recommend removal of the charted piling. ***Concur. Delete piling and symbol.***

33. The pile at 30˚23’45.64”N, 081˚26’08.38”W does not exist, and was disproved by side scan recommend removal. ***Concur. Delete Pile.***

34. The piling at 30˚23’55.67”N, 081˚26’00.74”W does not exist, and was disproved by side scan recommend removal. ***Concur. Delete Piling, arrow and symbol.***

35. The 3 pilings centered at 30˚24'13.24”N, 081˚25’37.77”W do not exist, and were disproved by side scan recommend removal. ***Concur. Delete three pile symbols and note piling.***

36. The Dol at 30˚23’39.17”N, 081˚24’20.97”W exists as charted. ***Concur. Retain.***

The following Charted shoreline errors were identified: ***See also the Evaluation Report.***

37. Soundings fall on shore between 30˚23'23"N, 081˚29'149"W and 30˚23'27"N, 081˚28'44"W. ***Concur.***
38. Soundings fall on shore between 30˚23'23"N, 081˚28'29"W and 30˚23'19"N, 081˚28'23"W. ***Concur.***
39. Soundings fall on shore between 30˚23'08"N, 081˚28'12"W and 30˚22'54"N, 081˚27'52"W. ***Concur.***

40. Shoreline has receded from 30˚24'16"N, 081˚25'36"W to 30˚24'21"N, 081˚25'27"W.
Concur.

AWOIS Item Investigations

There are nine AWOIS items within the survey limits. All items were completed. These item investigations are summarized in the following pages. The AWOIS MDB file is also included under the Supplemental records section in the Appendices.

AWOIS: 11233

Item Description: Unknown

Source: LNNM19/87–7THCGD, Submerged Wreck

Item Position: Lat. 30˚ 23' 33.27" N, Long. 081˚ 28' 43.70" W

Required Investigation: S2, ES,VS **Status:** Completed

Charts Affected: 11491 **Radius:** 100m

INVESTIGATION

Date(s): 11/14/02 (DN:318) & 12/11/02 (DN:345)

Hydrographic Survey Number: H11091

VN: 1210 **Pos.** 2387-2418 & 5439-5456

Investigation Methods Used: 200% SSS & ES

Surveyed Position: Lat. 30˚23'35.942"N, Lon. 081˚28'42.574"W

Position Determined By: Differential GPS

Investigation Summary: 200% Side scan coverage in this region revealed a submerged Wreck near the charted location. The wreck contact was defined in post processing and NRT2 returned for least depth on 12/11/02. The least depth was 28.5 feet at time 2002-345.15:27:33.834

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends remove the wreck symbol PA and chart a submerged Wreck at the new survey position above. ***Delete the dangerous sunken Wk, PA. Chart a dangerous 28 Wk.***

AWOIS: 11239

Item Description: Obstruction

Source: CL888/77–USPS , Concrete Object (looks like old breakwater)

Item Position: Lat. 30˚ 23' 48.01" N, Long. 081˚ 26' 06.86" W

Required Investigation: S2,SD,ES **Status:** Complete

Charts Affected: 11491 **Radius:** 50m

INVESTIGATION

Date(s): 11/14/02 (DN:318) & 121102 (DN:345)

Hydrographic Survey Number: H11091

VN: 1210 **Pos.** 2461-2473 & 5264-5285

Investigation Methods Used: 200% SSS, ES

Surveyed Position: Lat. 30˚23'48.~~791~~***292***" N, Lon. 081˚26'05.~~568~~***728***" W

Position Determined By: DGPS

Investigation Summary: A 200% Side scan sonar revealed an obstruction at the charted location. The contact was defined in post processing and NRT2 returned for a least depth on 12/11/02. The least depth was ~~25.6~~***24.96*** feet at time 2002-345.~~13:55:30.858~~.
13:56:51.346

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends retain the submerged obstruction on the chart at the new survey position above. ***Do not concur. Delete Obstn rep, PA and danger curve. Chart a dangerous 25 Obstn.***

AWOIS: 11240

Item Description: Obstruction

Source: CL2267/76-12/30/76, NOS

Item Position: Lat. 30˚ 22' 52.46" N, Long.081˚ 27' 35.32" W

Required Investigation: S2,VS,SD,ES **Status:** Completed

Charts Affected: 11491 Radius: 50m

INVESTIGATION

Date(s): 11/14/02 (DN:318)

Hydrographic Survey Number: H11091

VN: 1210 **Pos.** 2431-2445

Investigation Used: 200% SSS, ES

Surveyed Position: none

Position Determined By: Differential GPS

Investigation Summary: A 200 % Side scan sonar in this region revealed no obstructions or 12 foot soundings. The search result was negative.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends removing the charted obstruction symbol and 12 foot sounding from the chart. ***Concur. Delete Obstn (12 ft rep) and danger curve.***

AWOIS: 11241

Item Description: Obstruction

Source: Unknown

Item Position: Lat. 30˚ 23' 14.93" N, Long.081˚ 29' 42.00" W

Required Investigation: VS,ES,S2,SD **Status:** Completed

Charts Affected: 11491 Radius: 30m

INVESTIGATION

Date(s): 11/14/02 (DN:318)

Hydrographic Survey Number: H11091

VN: 1210 **Pos.** 2420-2430

Investigation Used: 200 % SSS, ES

Surveyed Position: none.

Position Determined By: Differential GPS

Investigation Summary: A 200 % Side scan sonar in this region only revealed piles associated with nearby charted piers in the vicinity. The search result for submerged piles was negative.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends removal of the submerged pile symbol from the chart. ***Concur. Delete one pile symbol.***

AWOIS: 11242

Item Description: Obstuction

Source: Unknown

Item Position: Lat. 30˚ 23' 39.12" N, Long.081˚ 28' 16.05" W

Required Investigation: S2,ES,DI,SD **Status:** Completed

Charts Affected: 11491 Radius: 50m

INVESTIGATION

Date(s): 11/14/02 (DN:318)

Hydrographic Survey Number: H11091

VN: 1210 **Pos.** 2419

Investigation Used: Visual

Surveyed Position: Lat. 30˚ 23' 39.262" N, Lon. 081˚ 28' 15.687" W

Position Determined By: Differential GPS

Investigation Summary: A visual investigation revealed a pile awash at the charted location. In addition there were three other piles in this region that exist as charted.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends retaining this pile and the three nearby piles as charted. ***Concur. Revise the notation Piling PA to Piling.***

AWOIS: 11243

Item Description:Obstruction

Source: Unknown

Item Position: Lat. 30˚ 23' 22.38" N, Long.081˚ 26' 22.99" W

Required Investigation: S2,VS,ES,SD **Status:** Completed

Charts Affected: 11491 Radius: 100m

INVESTIGATION

Date(s): 11/14/02 (DN: 318)

Hydrographic Survey Number: H11091

VN: 1210 **Pos.** 2446-2460

Investigation Used: 200% SSS, ES

Surveyed Position: none

Position Determined By: Differential GPS

Investigation Summary: 200% Side scan sonar in this region revealed only piles associated with nearby charted piers. The search result for a pile in this region was negative.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends remove the pile PA symbol from the chart.

Concur. Delete Pile PA and symbol.

AWOIS: 11244

Item Description: Obstruction

Source: Unknown

Item Position: Lat. 30˚ 24' 02.06" N, Long. 081˚ 25' 26.41" W
and Lat. 30˚24'02.78" N, Long. 081˚25'24.74" W
Required Investigation: S2,ES,VS,SD **Status:** Completed

Charts Affected: 11491 Radius: 30m

INVESTIGATION

Date(s): 11/14/02 (DN:318)

Hydrographic Survey Number: H11091

VN: 1210 **Pos.** 2474-2483

Investigation Used: 200% SSS, ES

Surveyed Position: none

Position Determined By: Differential GPS

Investigation Summary: 200% Side scan sonar in this region revealed no submerged piles. The search result in regards to a submerged pile was negative.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends remove the submerged pile PA symbol from the chart. Concur. ***Concur. Delete the two Subm piles PA.***

AWOIS: 11245

Item Description: Obstruction

Source: Unknown

Item Position: Lat. 30˚ 24' 03.24" N, Long.081˚ 25' 20.38" W

Required Investigation: S2,ES,SD **Status:** Completed

Charts Affected: 11491 Radius:30m

INVESTIGATION

Date(s): 11/14/02 (DN:318)

Hydrographic Survey Number: H11091

VN: 1210 **Pos.** 2522-2523

Investigation Used: Visual

Surveyed Position: Lat. 30˚ 24' 03.448" N, Lon. 081˚ 25' 18.141" W
Lat. 30˚ 24' 03.164" N, Lon. 081˚25' 20.338" W

Position Determined By: Differential GPS

Investigation Summary: Two steel Dols were found visually at the charted location.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends ~~remove~~ ***removing*** the Dol***s*** PA symbol from the chart and charting the two Dols at the survey position***s*** above. ***Concur. Revise the two dolphins to the surveyed positions and delete the notation PA.***

AWOIS: 11246

Item Description: Obstruction

Source: Unknown

Item Position: Lat. 30˚ 24' 16.55" N, Long.081˚ 25' 29.15" W

Required Investigation: VS,S2,ES,SD **Status:** Completed

Charts Affected: 11491 Radius: 50m

INVESTIGATION

Date(s): 11/14/02 (DN: 318) & 12/9/02 (DN:343)

Hydrographic Survey Number: H11091

VN: 1210 **Pos.** 2484-2521 & 5208-5243

Investigation Used: 200% SSS, ES

Surveyed Position: as Charted

Position Determined By: Differential GPS

Investigation Summary: 200% Side scan sonar in this region revealed a single submerged pile near the charted location. The contact was defined in post processing and NRT2 returned for a least depth. During the second investigation the submerged piling was determined to be flat on the bottom and no least depth could be acquired.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends retaining the submerged piles symbol on the chart at the currently charted position. ***Concur in part. Revise Subm piles to Subm pile.***

Dangers to Navigation

There were no Dangers to Navigation reported on H11091.

D. 2. ADDITIONAL RESULTS ***See also the Evaluation Report.***

Aids to Navigation and Other Detached Positions

All Navigation Aids serve their intended purpose. The fixed range towers were positioned by the DGPS antenna being placed directly on the light to ensure the highest order of accuracy. The ELRIC ftp site will be posted with all range tower USCG Light positions collected during OPR-G443. ***Defer to Marine Charting Division (MCD) Update Service Branch for charting recommendations for Aids to Navigation.***
All floating aids were positioned by the survey vessel and are on station.

Ferry Routes

There is one ferry route and terminal located within the survey limits and they are charted correctly. ***Concur.***

Submarine Cables and Pipelines

There is one submerged cable crossing on H11091 and they are existing as charted. ***Concur***.

There is one overhead cable crossing, the clearance was checked by NRT2 and both horizontal and vertical clearances are charted correctly. ***Concur.***

E. APPROVAL SHEET

OPR-G443-NRB
St. Johns River
Jacksonville, FL
Survey Registry No. H-11091

Field operations for this basic hydrographic survey were conducted under my daily supervision with frequent checks of progress and adequacy. All field sheets, this Descriptive Report, and all accompanying records and data are approved.

This survey is adequate to supersede all prior surveys in common areas, and for application to the relevant NOS nautical charts.

Submitted: _____

David B. Elliott - Team Leader
Navigation Response Team 2

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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: April 4, 2003

HYDROGRAPHIC BRANCH: Atlantic
HYDROGRAPHIC PROJECT: OPR-G443-NRT-2001/2002
HYDROGRAPHIC SHEET: H11091

LOCALITY: St. John's River, FL
TIME PERIOD: November 17, 2002 - February 3, 2003

TIDE STATION USED: 872-0218 Bar Pilots Dock, FL
Lat. 30° 23.54'N Lon. 81° 25.40'W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 1.445 meters

REMARKS: RECOMMENDED ZONING
Use zone(s) identified as: SJR1, SJR2, SJR3, SJR4, SJR5, SJR6, SJR7 & SJR7A, SJR7B, SJR7C,SJR7D,SJR7E,SJR7G,SJR8, SJR9, SJR11, SA198

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.

Thomas W. Meyer 5/5/03

CHIEF, REQUIREMENTS AND DEVELOPMENT DIVISION

ATLANTIC HYDROGRAPHIC BRANCH
EVALUATION REPORT FOR H11091 (2002-03)

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.

B. 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 J 01, version 7.1
I/RAS B, version 5.01
Caris HIPS/SIPS
PYDRO, Release 2.5.3

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

B.2. QUALITY CONTROL

Junctions

H11090 (2002) 1:10,000 to the west

A standard junction was effected between the present survey and survey and H11090 (2002). There are no contemporary surveys to the north, south or east. Present survey depths are in harmony with the charted depths to the north, south and east.

C. HORIZONTAL CONTROL

Horizontal control used for this survey during data acquisition is based upon the North American Datum of 1983 (NAD 83)using the UTM zone 17 projection. Office processing of this survey is based on these values.

D. RESULTS AND RECOMMENDATIONS

D.1. COMPARISON WITH CHARTS 11489 (35th Ed., Feb 04

Corrected through NM Feb 21/04
Corrected through LMN Feb 10/04
11491 (33rd Ed., Mar 24/01)
11490 (17th Ed., May 05/01)

The charted hydrography originates with prior surveys and

requires no further consideration. The hydrographer makes adequate chart comparisons in Section D.1 of the Descriptive Report.

Controlling Depths

A conflict exists with the charted controlling depth along the right inside quarter of ST JOHNS BAR CUT RANGE WEST SECTION in the vicinity of Latitude 30°24'04.00"N Longitude 81°23'55.00"W. The present survey shows shoaling of 36 feet in charted controlling depths of 37 feet.

A conflict exists with the charted controlling depth along the right outside quarter of ST JOHNS BAR CUT RANGE WEST SECTION in the vicinity of Latitude 30°24'07.25"N Longitude 81°23'55.43"W. The present survey shows shoaling of 30 feet in charted controlling depths of 31.9 feet.

A conflict exists with the charted controlling depth along the left outside quarter of PILOT TOWN CUT RANGE in the vicinity of Latitude 30°24'06.30"N Longitude 81°25'12.7o"W. The present survey shows shoaling of 25 feet in charted controlling depths of 26 feet.

It is recommended that the controlling depth *41½ FT MAY 2000* in the vicinity of Latitude 30°23'47.50"N Longitude 81°24'03.50"W be revised to *41 FT FEB 2003* unless other information indicates otherwise.

Charted Items

Charted pier ruins are shown on chart 11490 in Latitude 30°24'01.54"N, Longitude 81°25'26.14"W. There is a discrepancy between chart 11490 and 11491. It is recommended that the pier ruins shown on chart 11491 be revised to the delineation shown on chart 11490 unless other information indicates otherwise.

Shoreline

Shoreline discrepancies discussed by the hydrographer in the vicinities of Latitude 30°23'26.00"N Longitude 81°29'00.00"W, Latitude 30°23'24.00"N Longitude 81°28'30.00"W, and Latitude 30°23'04.00"N Longitude 81°28'06.00"W have been revised during office processing and are shown as a dashed red line (approximate shoreline) on the present survey. These areas are also shown as approximate shoreline on the

compilation H-Drawing. It is recommended that Source Data Unit determine the source for the shoreline and make the final determination.

Item 40, page 9, of the Descriptive Report, the hydrographer states "Shoreline has receded from Latitude 30°24'16"N, Longitude 81°25'36"W to Latitude 30°24'21"N, Longitude 81°25'27"W. The shoreline change in this area has been revised during office processing and is shown as a dashed red line (approximate shoreline) on the compilation H-Drawing. The hydrographer's description is not considered adequate to delineate the shoreline change on the present survey. It is recommended that Source Data Unit determine the source for the shoreline and make the final determination.

A shoreline discrepancy was found during office processing in the vicinity of Latitude 30°24'14.25"N Longitude 81°24'15.00"W. The shoreline change is shown as a dashed red line (approximate shoreline) on the compilation H-Drawing. This change is not shown on the present survey. It is recommended that Source Data Unit determine the source for the shoreline and make the final determination.

The low water datum curve has been revised, added or deleted during office processing in the following areas:

Latitude (N)	**Longitude(W)**
30°24'10.74"	81°23'57.12"
30°24'17.00"	81°24'22.00"
30°23'56.00"	81°25'34.70"
30°23'58.00"	81°24'38.62"
30°24'18.46"	81°25'33.42"
30°23'16.36"	81°28'20.09"
30°23'28.00"	81°28'55.77"
30°23'22.00"	81°29'22.64"
30°23'44.00"	81°29'11.46"
30°23'48.25"	81°28'55.45"
30°23'25.76"	81°27'48.96"

It is recommended that Source Data Unit determine the source for the shoreline and make the final determination.

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

D.2. ADDITIONAL RESULTS

Aids to Navigation

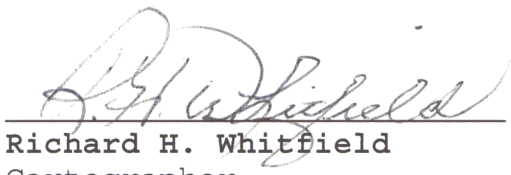
Numerous floating and fixed aids to navigation were located by the hydrographer. These aids to navigation appear adequate to serve their intended purposes. The following should be noted:

Pablo Creek red daybeacon "2" was located by the present survey as buoy N "2". Additional aid to navigation discrepancies exist between charts 11491 and 11489 in the Intracoastal Waterway, Pablo Creek area (LL 38350-38380). It is recommended that these discrepancies be deferred to Marine Charting Division, Update Service Branch for charting recommendations for these Aids to Navigation.

MISCELLANEOUS

Chart compilation was done by Atlantic Hydrographic Branch personnel, in Norfolk, Virginia. Compilation data will be forwarded to the Marine Chart Division, Silver Spring, Maryland. The following National Ocean Survey charts were compiled using the present survey:

11490 (17th Edition, May 05/01)
11491 (33rd Edition, Mar 24/01)



Richard H. Whitfield
Cartographer
Verification of Field Data
Evaluation and Analysis

APPROVAL SHEET
H11091

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. 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
Cartographer,
Atlantic Hydrographic Branch

Date: July 14, 2004

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.

Approved: _____ Date: Oct 18, 2004

P. Tod Schattgen
Lieutenant Commander, NOAA
Chief, Atlantic Hydrographic Branch

Jennifer Sherry
AWOIS/SURF check
Operations Branch, HSD
2004.10.26 09:57:52 -04'00'

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. H11091

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	7/15/04	[signature]	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No.
11491	7/29/04	[signature]	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