

H11221

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey **Basic Hydrographic**

Registry No. **H11221**

LOCALITY

State/Territory Florida

General Locality St. Johns River

Sub-locality Clark Creek to Racy Point

2004

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:

H11221

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

State/Territory: **Florida**
General Locality: **St. Johns River**
Sub-Locality: **Clark Creek to Racy Point**
Scale: **1:10,000** Date of Survey: Nov. 1, 2004 to Nov. 30, 2004
Instructions Dated: **05 May 2003** Project Number: **OPR-G443-NRB**
Vessel: **NOAA Launch 1210**
Chief of Party: **David B. Elliott - Team Leader**
Surveyed by: **David Elliott, Robert Ramsey & Laurie Brennan (NRT2)**
Soundings by: **Innerspace 448**
Graphic record scaled by: **DE, RR, LB**
Graphic record checked by: **DE, RR, LB**
Protracted by: **N/A** Automated Plot: **HP-750C (field)**
Verification by: **Atlantic Hydrographic Branch *Personnel***
Soundings in: **~~Meters~~ *Feet* at MLLW**

Remarks: ***Bold, red, italic notes in the 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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DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SURVEY H-11221

Scale of Survey: 1:10,000

Year of Survey: 2004

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 May 5, 2003 and change dated June 17, 2004.

The purpose of this project is to collect new hydrography in support of the NOAA led Coastal Storms Initiative and to update National Ocean Service (NOS) charts on the St. Johns River in the vicinity of Jacksonville, FL. Results from the investigations will also serve as a chart evaluation for NOS Electronic Nautical Charts (ENC). The hydrographic data from this project will help ensure navigational safety through updated critical nautical charts and provide new information for emergency response organizations to use in the event of a marine casualty or coastal storm.

Survey Limits for Sheet "H" - H11221 are as follows:

29° 54' 13" N

081° 32' 49" W

29° 47' 38" N

081° 37' 33" W

Survey Dates: Nov. 01, 2004 (DN: 306) to Nov. 30, 2004 (DN: 335)

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

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 the Atlantic Hydrographic Branch (AHB).*

An Innerspace model 455 depth sounder, S/Ns 189 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.

A Klein 3110 side scan sonar recorder (S/N 315) with a model 3210 towfish (S/N 414), 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 H11221 has been insured by following the Field Procedures Manual and the NOS Hydrographic Surveys Specifications and Deliverables Manual, June 2003.

The lead line for launch 1210 was calibrated using a steel tape on March 25, 2003(DN:084). 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 March 25, 2003(DN:084) 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 100 kHz.

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 HIPS/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 frequencies used were 100 kHz and 500 kHz. 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 Klein 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.*

This survey H11221 junctions with survey H11222, Sheet "J" 2004 to the south and H11220 Sheet "G" 2004 to the north. The survey soundings compared favorably within one to two 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 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

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 19, 2003. 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 water levels from the NOAA Co-Ops site. The values are from I-295 Bridge station 872-0357, Red Bay Point station 872-0503, Racy Point station 872-0625, Palatka station 872-0774 and are in six minute intervals. Values and correctors were applied at the perspective locations of Hydrography from the Zone files provided by CO-OPS/RDD. *Approved tides and zones were applied to the smooth sheet during office processing.*

All elevations and soundings on survey H-11221 are based on MLLW unless otherwise specified.

A Request for Approved Tides letter was sent to N/OPS1 on Dec. 06, 2004 (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.

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 with the original digital data.*

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

There is one chart affected by this survey:

11487, 19 th edition, Nov. 24, 2001	1:40,000
11492, 19 th edition Nov. 24, 2001	1:40,000

General Agreement with Charted soundings

In general survey soundings compared with the charted soundings within one to two feet. The smooth tides may resolve some of these soundings. All charted soundings should be superseded by this survey. *Concur, within the limits of the present survey.*

Note: Due to the nature of this survey for the Coastal Storms Initiative (CSI) and primary need for contemporary bathymetry, extensive shoreline investigations were not conducted. However visual identifications conducted by NRT2 found regions alongshore in the form of Dols, piles and piers to be adequately charted. Unless otherwise noted in the sections below all features along shore visible or submerged should remain as charted.

The following is a list of notable sounding discrepancies on the chart:

- 1.) The six-foot contour at 29° 54' 03" N, 081° 37' 17" W, has migrated to the east 190 meters.
Concur.
- 2.) The twelve-foot isolated shoal at 29° 53' 00" N, 081° 35' 42" W, is now 22 feet deep. *Concur.*
- 3.) The six-foot contour at 29° 52' 42" N, 081° 34' 41" W, has migrated to the west 270 meters.
Concur.
- 4.) The six-foot contour at 29° 51' 27" N, 081° 33' 30" W, has migrated to the west 610 meters.
Concur.
- 5.) The six-foot isolated shoal at 29° 50' 51" N, 081° 35' 20" W, has deepened to the 7-8 foot range.
Do not concur. Area of 6 feet has reduced in size.
- 6.) The isolated six-foot shoal at 29° 51' 50" N, 081° 35' 44" W, has receded from the north end approximately 240 meters and from the south-west side 190 meters to the east.
Concur.
- 7.) The six-foot contour at 29° 49' 45" N, 081° 34' 54" W, has receded to the west 480 meters.
Concur.

- 8.) The isolated eleven-foot sounding at 29° 50' 09" N, 081° 34' 26" W, is now 12 to 13 feet deep. **Concur.**
- 9.) The isolated twelve-foot sounding at 29° 49' 08" N, 081° 33' 47" W, is now 13 to 14 feet deep. **Concur.**
- 10.) The isolated five-foot sounding at 29° 48' 56" N, 081° 33' 18" W, is now 6 to 8 feet deep. **Concur.**
- 11.) The six-foot contour at 29° 48' 46" N, 081° 35' 09" W, has migrated to the east 310 meters. **Concur.**

The following is a list of items that were investigated or disproved by 200% side scan sonar:

AWOIS # 11779 was investigated with side scan and the results were negative for charted stakes. However, what appears to be a non-dangerous submerged wreck buried in the sand was found. This wreck has no projection from the bottom and is merely a shape of a hull completely buried on the river bottom. The St. Augustine Marine Archeologists and FL state were notified about this feature. The hydrographer recommends removing the charted stakes from the chart. **See also "AWOIS Item Investigations", page 2 of the Evaluation Report.**

The following is a list of Charted sounding notations that were investigated by echo sounder.

- 1.) The 13-foot centerline June 2002~~1~~ at 29° 49' 57"N, 081° 34' 17" W, is now 15 to 16 feet deep. **Not considered disproved. Hydrography was not conducted parallel to the centerline. Retain the notation 13 FT CENTERLINE JUNE 2001.**
- 2.) The submerged wreck ED at 29° 51' 25" N, 081° 33' 33" W, does not exist and should be removed from the chart. **Concur. See also visually investigated, item 6.), below.**

The following is a list of Charted items that were visually investigated.

- 1.) The submerged pile at 29° 51' 05" N, 081° 36' 33" W, exists as charted. **Concur. Retain.**
- 2.) The two stakes centered at 29° 50' 11" N, 081° 35' 50" W, exist as charted. **Concur. Retain.**
- 3.) The submerged piles at 29° 48' 24" N, 081° 34' 33" W, exist as charted. **Concur. Retain.**
- 4.) The foul area and submerged piles at 29° 48' 07" N, 081° 33' 05" W, exist as charted. **Concur. Retain.**
- 5.) The piles at 29° 50' 46" N, 081° 33' 39" W, exist as charted. **Concur. Retain.**
- 6.) The submerged wreck ED at 29° 51' 25" N, 081° 33' 33" W, does not exist and should be removed from the chart. Investigated at low tide in addition to echo sounder noted above. **Concur. Delete the dangerous sunken wreck, ED.**

- 7.) The platform at 29° 52' 02.00" N, 081° 34' 33.60" W, does not exist and should be removed from the chart. *Concur. Delete platform.*
- 8.) The piles at 29° 52' 27" N, 081° 34' 40" W, exist as charted. *Concur. Retain.*
- 9.) The 5 piles centered at 29° 54' 01" N, 081° 37' 23" W, exist and should be charted as submerged ruins at their charted location. *Concur. Revise the 5 piling to Subm piles*

Note: All currently charted foul areas within the confines of H-11221 should remain as charted. *Concur.*

AWOIS Item Investigations *See also the Evaluation Report*

There was one AWOIS item within the survey limits. The results of this investigation are noted above and can be found in the PSS file for H-11221. *Filed with the digital data.*

Dangers to Navigation *See also the Evaluation Report*

There were two DTONS within the confines of H-11221, the reference for these features can be found in the Appendices section I.* The geographic locations for these DTONS are all new positions to the chart. These items were submitted in advance to MCD. * *Appended to this report.*

D. 2. ADDITIONAL RESULTS

Aids to Navigation and Other Detached Positions

All Navigation Aids serve their intended purpose. Charted positions should be superseded by new survey positions. *Concur. Defer to Marine Charting Division (MCD) Update Service Branch for charting recommendations for Aids to Navigation*

All fixed ranges were not positioned during H-11221 due to being positioned by ENC methods and submitted as a stand alone document at the FTP site for ELRIC.NCD.NOAA.GOV. Located under NRB Uploads for NRT2, SJR.

Ferry Routes

There are no Ferry routes within the confines of H-11221. *Concur.*

Submarine Cables and Pipelines

There are no submerged cable, submerged pipeline or overhead cable crossing areas within the confines of H-11221. *Concur.*

Bridges

There are no bridges within the confines of H-11221, the horizontal and vertical clearances were verified by NRT2 and are adequately charted. *Concur.*

MapInfo Shape files

The ERSI shape files “New shapes”, located in the survey data under Level 1\ plots\ shoreline, depicts shapes associated with all new features. *Filed with the digital data.*

E. APPROVAL SHEET

**OPR-G443-NRB
St. Johns River
Jacksonville, FL
Survey Registry No. H-11221**

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**

H-11221, 2004 Dangers to Navigation

Registry Number: H-11221
State: Florida
Locality: St. Johns River
Sub-locality: Clark Creek to Racy Point
Project Number: OPR-G443-NRT-2
Survey Date: 11/17/2004

Listed below are the DTON's positioned during the survey of H-11221, sheet "H", 2004. St Johns River.

Charts Affected

Number	Version	Date	Scale
11492	19th Ed.	11/24/2001	1:40000
11480	38th Ed.	05/01/2003	1:449659
11451	31st Ed.	02/01/2003	1:495362
11006	31st Ed.	09/01/2003	1:875000
11009	37th Ed.	07/01/2004	1:1200000
411	49th Ed.	03/01/2003	1:2160000

Features

No.	Name	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	vis wrk	Wreck	-2.88 m	029° 52' 08.412" N	81° 36' 56.662" W	---
1.2	wrk awash.	Wreck	-0.09 m	029° 52' 47.782" N	81° 35' 03.964" W	---

1 - Danger To Navigation

1.1) vis wrk**DANGER TO NAVIGATION****Survey Summary**

Survey Position: 029° 52' 08.412" N, 81° 36' 56.662" W
Least Depth: -2.88 m
Timestamp: 2004-322.13:49:28.000 (11/17/2004)
DP Dataset: H-11221_H / S_1210_dp_Non_Fatho / 2004-322 / 11172004
Profile/Beam: 1/1
Charts Affected: 11492_2, 11480_1, 11451_17, 11006_1, 11009_1, 411_1

Remarks:

Vis wrk approx:60ft LOA, by 2.5m beam. Position aquired on offshore stern.

Feature Correlation

Address	Feature	Range	Azimuth	Status
H-11221_H/S_1210_dp_Non_Fatho/2004-322/11172004	1/1	0.00	000.0	Primary

Hydrographer Recommendations

Chart vis wrk.

Cartographically-Rounded Depth (Affected Charts):

-10ft (11492_2, 11451_17)

-1 ½fm (11480_1, 11006_1, 11009_1, 411_1)

S-57 Data

Geo object 1: Wreck (WRECKS)
Attributes: CATWRK - 2:dangerous wreck
 INFORM - Vis wrk approx:60ft LOA, by 2.5m beam. Position aquired on offshore stern.
 OBJNAM - unkown
 TECSOU - 1:found by echo-sounder
 VALSOU - -2.88 m

WATLEV - 2:always dry

Feature Images

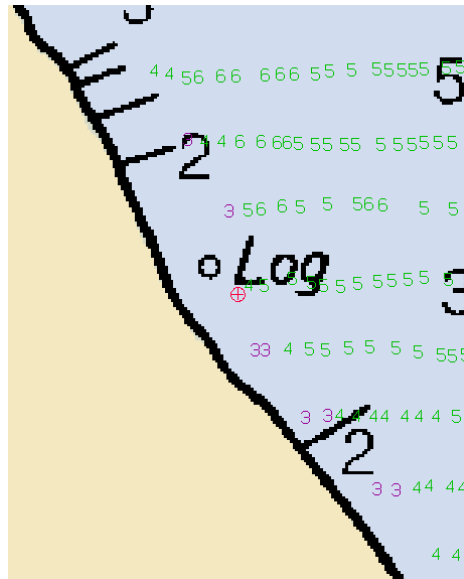


Figure 1.1.1



Figure 1.1.2



Figure 1.1.3

1.2) wrk awash.**DANGER TO NAVIGATION****Survey Summary**

Survey Position: 029° 52' 47.782" N, 81° 35' 03.964" W
Least Depth: -0.09 m
Timestamp: 2004-322.19:51:17.000 (11/17/2004)
DP Dataset: H-11221_H / S_1210_dp_Non_Fatho / 2004-322 / 11172004
Profile/Beam: 2/1
Charts Affected: 11492_2, 11480_1, 11451_17, 11006_1, 11009_1, 411_1

Remarks:

Wrk awash reported by FLA State Fish and Wildlife.

Feature Correlation

Address	Feature	Range	Azimuth	Status
H-11221_H/S_1210_dp_Non_Fatho/2004-322/11172004	2/1	0.00	000.0	Primary

Hydrographer Recommendations

Chart wrk awash.

Cartographically-Rounded Depth (Affected Charts):

-1ft (11492_2, 11451_17)

0fm (11480_1, 11006_1, 11009_1, 411_1)

S-57 Data

Geo object 1: Wreck (WRECKS)
Attributes: CATWRK - 2:dangerous wreck
 INFORM - Wrk awash reported by FLA State Fish and Wildlife.
 OBJNAM - unknown
 TECSOU - 1:found by echo-sounder
 VALSOU - -0.09 m

WATLEV - 4: covers and uncovers

Feature Images

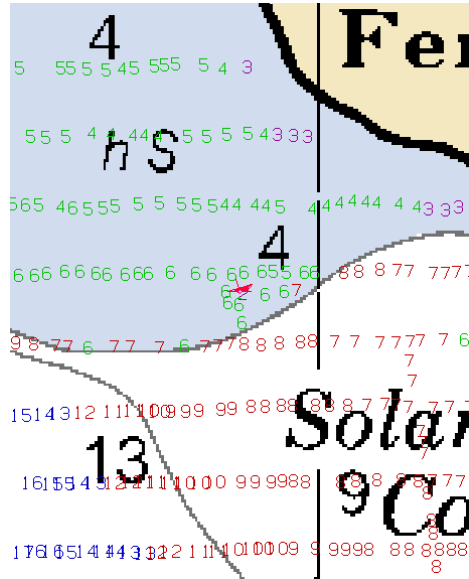


Figure 1.2.1



Figure 1.2.2



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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: April 28, 2005

HYDROGRAPHIC BRANCH: Atlantic
HYDROGRAPHIC PROJECT: OPR-G443-NRT2-2004
HYDROGRAPHIC SHEET: H11221

LOCALITY: Clark Creek to Racy Point, St. Johns River, FL
TIME PERIOD: November 1 - 30, 2004

TIDE STATION USED: 872-0503 Red Bay Point, FL
Lat. 29° 58.7'N Lon. 81° 37.7'W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 0.291 meters

REMARKS: RECOMMENDED ZONING

Use zone(s) identified as: SJR52A, SJR53, SJR54 & SJR56.

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 N. Mera 4/29/05

CHIEF, REQUIREMENTS AND DEVELOPMENT DIVISION



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**ATLANTIC HYDROGRAPHIC BRANCH
EVALUATION REPORT FOR H11221 (2004)**

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

B.1 EQUIPMENT

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

Hydrographic Processing System
MicroStation J, version 07.01.04.16
I/RAS B, version 07.01.000.18
MapInfo, version 6.5
CARIS HIPS/SIPS 5.4
PYDRO, version 5.3.3rc5

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

Junctions

H11220 (2004) to the north
H11222 (2004) to the south

A standard junction was effected between the present survey and surveys H11220 (2004) and H11222 (2004).

C. VERTICAL AND HORIZONTAL CONTROL

Horizontal Control

Horizontal control used for this survey during data acquisition is based upon the North American Datum of 1983 (NAD83), UTM Zone 17N. Office processing of this survey is based on these values.

D. RESULTS AND RECOMMENDATIONS

CHART COMPARISONS 11487 (19th Ed., Nov 24/01)
11492 (20th Ed., Apr 07/05)

The charted hydrography originates with prior surveys and requires no further consideration. The hydrographer makes an adequate chart comparison in section D. of the Descriptive Report.

AWOIS Item Investigations

Automated Wreck and Obstruction Information System (AWOIS) item #11779 is two stakes in Latitude 29°54'01.00"N, Longitude 81°36'24.00"W. The stakes are considered disproved by the present survey. It is recommended that the two stakes be deleted from the chart.

An uncharted non-dangerous sunken wreck was noted by the hydrographer in the vicinity of Latitude 29°54'00.01"N, Longitude 81°36'27.27"W flush with the bottom with a depth of 16 feet. Archeological personnel have been notified of the wreck to consider future investigation. In addition to the hydrographer's recommendation to not chart the wreck, shoaler depths of 14 to 15 feet are within the immediate area. It is recommended that the non-dangerous sunken wreck not be charted.

Dangers to Navigation

Two Dangers to Navigation Reports were submitted by the hydrographer to the Marine Chart Division (MCD), Silver Spring, Maryland for inclusion in the Local Notice to Mariners. Copies of these reports are appended the Descriptive Report.

1.1) One danger to navigation is an uncharted visible wreck located in Latitude 29°52'08.41"N, Longitude 81°36'56.66"W. It is recommended that a visible wreck be charted as shown on the present survey.

1.2) One danger to navigation is an uncharted wreck awash, located in Latitude 29°52'47.98"N, Longitude 81°35'03.96"W. It is recommended that a wreck be charted as shown on the present survey.

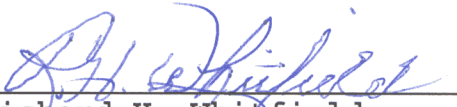
ADEQUACY OF SURVEY

This is an adequate hydrographic survey. No additional work is recommended.

MISCELLANIOUS

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 charts were used for compilation of the present survey:

11487 (19TH Edition, Nov 24/01)
11492 (20th Edition, Apr 07/05)



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

APPROVAL SHEET
H11221 (2004)


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.



Deborah A. Bland Cartographer
Atlantic Hydrographic Branch

Date: 27 Sept 2005

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: 

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

Date: Nov 29, 2005

