F00501

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey **Field Examination**

Registry No. **F00501**

LOCALITY

State/Territory GEORGIA

General Locality Savannah River

Sub-locality Port Wentworth to Tybee Island

2005

CHIEF OF PARTY
David B. Elliott -Team Leader

NOAA FORM 77-28U.S. DEPARTMENT OF COMMERCE (11-72)NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION	REGISTRY NUMBER:
HYDROGRAPHIC TITLE SHEET	**F00501**
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: none

State/Territory: **Georgia**

General Locality: **Savannah River**

Sub-Locality: **Port Wentworth to Tybee Island**

Scale: Date of Survey: March 8, 2005 to Nov. 15,2005

Instructions Dated: **25 Feb, 2005** Project Number: **OPR-G381-NRT-04**

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- 1050C plus *(Field)***

Verification by: **Atlantic Hydrographic Branch *Personnel***

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

Remarks: ***Notes in bold, red, italic 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

OPR-G381

FIELD EXAMINATION
F00501

Year of Survey: 2005
Navigation Response Team 2 - Launch 1210
David B. Elliott- Team Leader

A. AREA SURVEYED

This Field Examination survey was conducted in accordance with Port Letter Instructions for project OPR-G381-NRT-04, Savannah River, Georgia The instructions are dated Feb. 25, 2005 and Change No. 1 dated March 23, 2005.

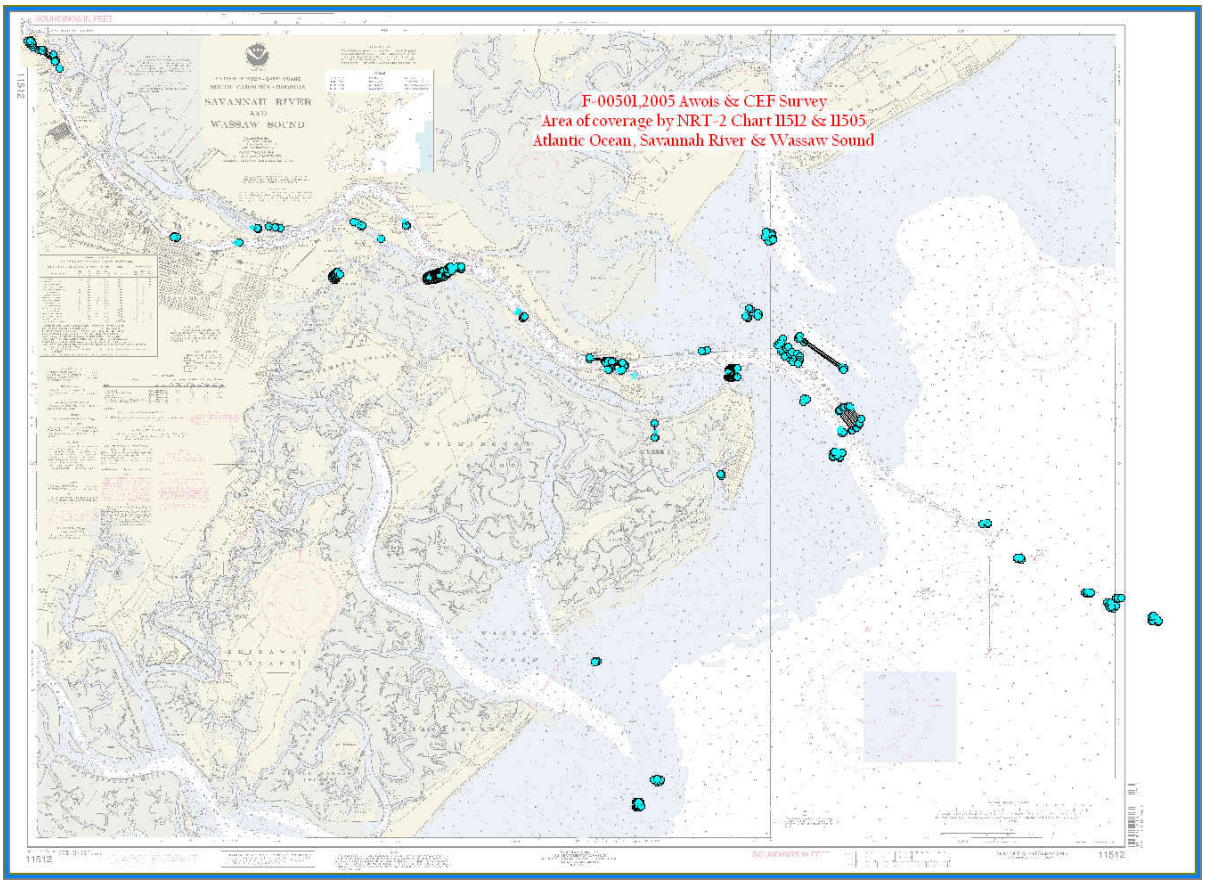
The purpose of this project is to quantify the Chart Evaluation File (CEF) and update the AWOIS database for specific regions in the Savannah river and Approaches. Results from the investigations will also serve as a chart evaluation for NOS Electronic Nautical Charts (ENC). The hydrographic data from this project will help ensure navigational safety through updated critical nautical charts.

Survey Limits for F00501 are as follows:

32° 09’51" N
081° 09' 26" W
31° 51’ 50" N
080° 39' 31" W

Survey Dates: March 8, 2005 (DN: 067) to Nov 15, 2005 (DN: 319)

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 205 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 TPU (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 30-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

Following the Field Procedures Manual and the NOS Hydrographic Surveys Specifications and Deliverables Manual, June 2003 has insured the integrity of the survey data for F00501

The lead line for launch 1210 was calibrated using a steel tape on March 02, 2005 (DN:061). 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 02, 2005 (DN:061). These measurements were conducted in Tybee Island on the Savannah 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 (1^{st} 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 100/500kHz.

A coverage of 200% was obtained wherever possible in the required survey areas and 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, or sea state, were seen periodically. Significant contacts and shadows were processed with Caris 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 100kHz and 500kHz. The recorder was set on one of either 50/75/100-meter range scales. There were no water depths greater than 17 meters.

Junctions

There were no Junctions for comparison on F00501. ***Concur.***

B.3. CORRECTIONS TO ECHO SOUNDING

A table detailing all sound velocity cast data is contained in Descriptive Reports, Separates, section Logs. 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 January 4, 2005. 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 soundings are corrected by unverified actual heights from NOAA/CO-OPS.
The Real Time Actual 6 min Tides are downloaded from:
"http://co-ops.nos.noaa.gov/data_res.html", for all gauges required in the given projects defined by the ZDF file provided in the project letter, and instruction. Tide values are downloaded in blocks of data that covers the Times of Hydrography, and saved in a text file format. The MapInfo program is then used with the "HYDRO_MI" pre-Survey function, of "Create Cowlis", this function converts the text file into a Caris tide file (.tid).

All elevations and soundings on survey F00501 are based on MLLW unless otherwise specified.

A Request for Approved Tides letter was sent to N/OPS1 on 11-3-05 (Appendix V).*
* *Filed with the original digital data.*
Horizontal Control *See also the Evaluation Report.*

The horizontal datum used for this survey is the North American Datum of 1983 (NAD 83), projected using UTM zone 17N. The control reference station used for this survey was the USCG DGPS Beacon, auto – power selectable (strongest station signal).

Horizontal dilution of precision (HDOP) was monitored on Hypack daily on all survey platforms. No value exceeded 2.50, 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.*

There are four charts affected by this survey:

11505, 2nd edition, Apr. 01, 2004	1:40,000
11509, 29th edition, Aug. 1, 2005	1:80,000
11512, 60th edition, Dec. 01, 2004	1:40,000
11514, 27th edition, July 10, 2004	1:20,000

D. 1. CHART COMPARISION

General Agreement with Charted soundings

In general survey soundings compared with the charted soundings within two to three feet. The smooth tides may resolve some of these soundings. All charted soundings should be superseded by this survey.

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

1. A charted wreck at 32° 05' 01"N, ~~080~~*081*° 05'03" W was found to be non-existent, recommend removal from chart. ***Do not concur. Original position is outside of survey limits. No wreck is shown at adjusted position. No change in charting is recommended.***

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

1. A charted 36’ report at 32° 09’ 05***.25***” N 081° 08’ ~~52~~***53.15***” W, is now 40 – 43 feet deep. ***Concur. Delete note 36 ft rep.***
2. A charted 35’ 1989, at 32° 02’ 04” N 080° 53’ 57” W, is now 42 feet deep. ***Concur. AWOIS item #12763. See the Evaluation Report for charting recommendations (AWOIS item Investigations #28).***

AWOIS Item Investigations ***See also the Evaluation Report.***

There were 40 AWOIS items within the survey limits, 32 for full investigation and 15 for informational purposes only {eight informational were not investigated}. The detailed documentation for these features can be found in the PSS in Pydro; “F00501 Awois.pdf” document is included in part III* of the descriptive report appendices. **** Filed with the original digital data.***

Dangers to Navigation

There were two DTONS within the confines of F00501, the reference for these features can be found in the Appendices section II.* 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 ***See also the Evaluation Report.***

Aids to Navigation and Other Detached Positions

All Navigation Aids serve their intended purpose. Charted positions should be superseded by new survey positions. ***Concur.***

Chart Evaluation File (CEF)

A pilot project was initiated on OPR-G381 named the Chart Evaluation File. This form of survey documentation is primarily for shoreline changes and alongshore features. The file is generated by Remote Sensing Division (RSD) and given to the NRT in a perspective port for visual verifications or physical position changes via Trimble Backpack acquisition. A MapInfo spreadsheet detailed the regions of discrepancies and NRT2 verified these features as to be removed, retained or changed. Upon completion of this spreadsheet the file was returned to RSD for final digital compilation and application to the Geographic Cell (GC). After final compilation RSD will post the corrections to the GC on the Shoreline Update Notice (SUN) for Marine Chart Division (MCD) application to the chart. The CEF PSS will be included with the survey package for F00501, Field Examination of Savannah River in 2005. This data is being submitted to the Marine Center strictly for **Information Only** and does not require additional work by Atlantic Hydrographic Branch personnel. The objective is for the evaluators to see what features were addressed for shoreline changes that will subsequently be revised to the digital shoreline file. Some seaward features along the shoreline that may have required side scan sonar for disproval or additions are likewise addressed in the CEF spreadsheet. These features that are investigated by the NRT are either re-positioned on discovery or recommended for removal to RSD. When a NRT begins port surveys for ENC and Field Examinations, the CEF will be their first priority and in time the shoreline changes may have reached the chart products before additional surveys are submitted to the Marine Center.

E. APPROVAL SHEET

OPR-G381-NRT-04
Savannah River
Georgia
Survey Registry No. F00501

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

F-00501, 2005 DTON Report

Registry Number: F-00501

State: Georgia

Locality: Savannah River

Sub-locality: Port Wentworth to Tybee Island

Project Number: OPR-G381-NRT2-04

Survey Dates: 06/23/2005 - 08/19/2005

The following list the two items determined to warrant a DTON.

Charts Affected

Number	Version	Date	Scale
11505	2nd Ed.	04/01/2004	1:40000
11512	59th Ed.	01/01/2003	1:40000
11509	28th Ed.	05/01/2004	1:80000
11513	24th Ed.	05/01/2004	1:80000
11480	38th Ed.	05/01/2003	1:449659
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	440/1 LD=12ft subm RNG Plat	Shoal	3.83 m	032° 00' 12.948" N	80° 48' 16.912" W	---
1.2	269/1 LD=28ft on subm obstr	Sounding	8.71 m	032° 02' 15.085" N	80° 54' 10.046" W	---

1 - Danger To Navigation

1.1) 440/1 LD=12ft subm RNG Plat

DANGER TO NAVIGATION

Survey Summary

Survey Position: 032° 00' 12.948" N, 80° 48' 16.912" W

Least Depth: 3.83 m

Timestamp: 2005-174.16:36:08.823 (06/23/2005)

Survey Line: f-00501 / nrt2_1210_sb / 2005-174 / 597_1635

Profile/Beam: 440/1

Charts Affected: 11505_1, 11512_1, 11509_1, 11513_1, 11480_1, 11009_1, 411_1

Remarks:

Least Depth on subm platform, of old FNT RNG. Identified during search for Awois 12759 12760. This item is a danger to navigation. Didson imagery was acquired by diver investigation.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f-00501/nrt2_1210_sb/2005-174/597_1635	440/1	0.00	000.0	Primary
f-00501/nrt2_1210_klein3000hf_100sss/2005-174/sss050623162100	0001	1.88	338.0	Secondary
f-00501/nrt2_1210_klein3000hf_100sss/2005-174/sss050623155800	0001	4.83	270.0	Secondary

Hydrographer Recommendations

Chart a subm obstruction.32°00'12.948" , -080°48'16.912". VBES Least Depth @ 12 ft. ***Concur. Chart a dangerous 12-ft Obstn.***

Cartographically-Rounded Depth (Affected Charts):

12ft (11505_1, 11512_1, 11509_1, 11513_1)

2fm (11480_1, 11009_1, 411_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: CATOBS - 6:foul area

CONDTN - 2:ruined

INFORM - Least Depth on subm platform, of old FNT RNG. Identified during search for Awois 12759 12760. This item is a danger to navigation.

NATCON - 6:wooden

OBJNAM - subm plat old FNT RNG

QUASOU - 6:least depth known

STATUS - 1:permanent

TECSOU - 1:found by echo-sounder; 2:found by side scan sonar

VALSOU - 3.825 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Geo object 2: Sounding (SOUNDG)

Attributes: INFORM - Least Depth on subm platform, of old FNT RNG. Identified during search for Awois 12759 12760. This item is a danger to navigation.

Feature Images

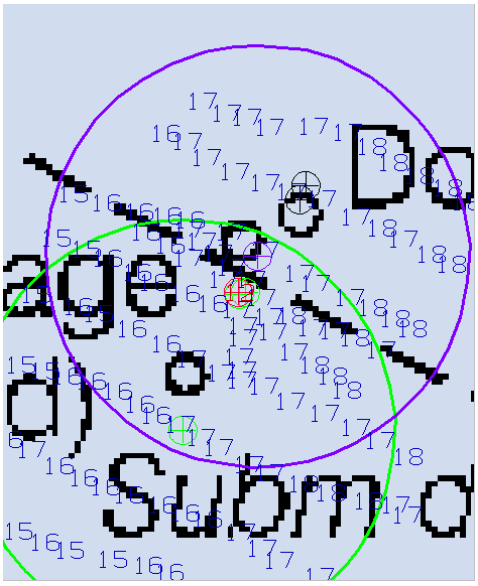


Figure 1.1.1

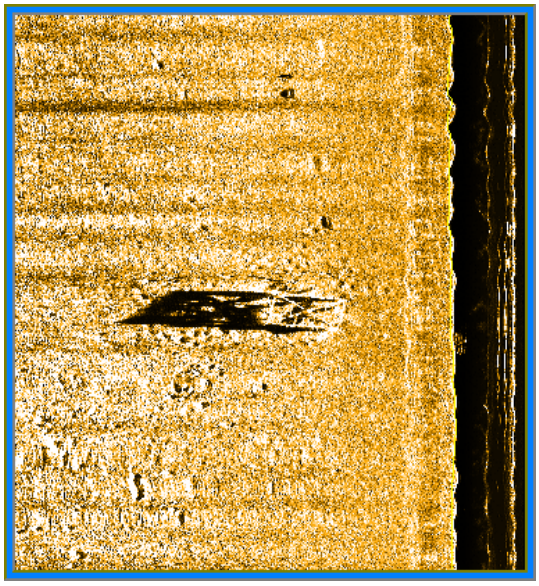


Figure 1.1.2

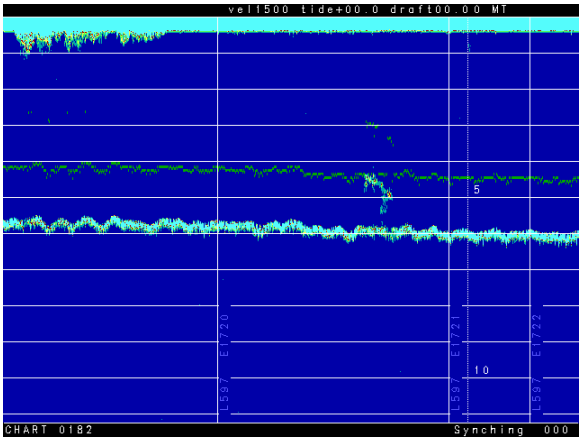


Figure 1.1.3

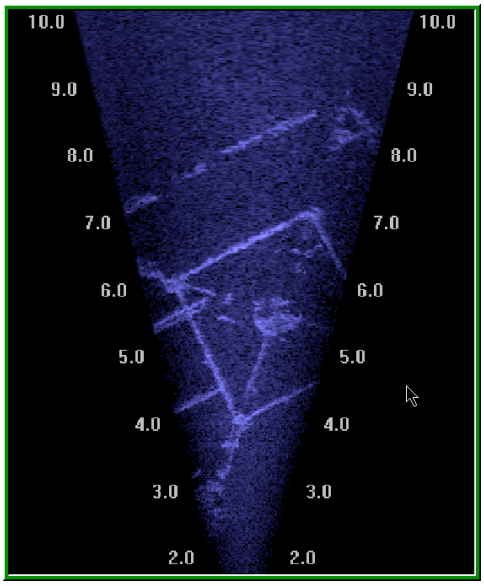


Figure 1.1.4

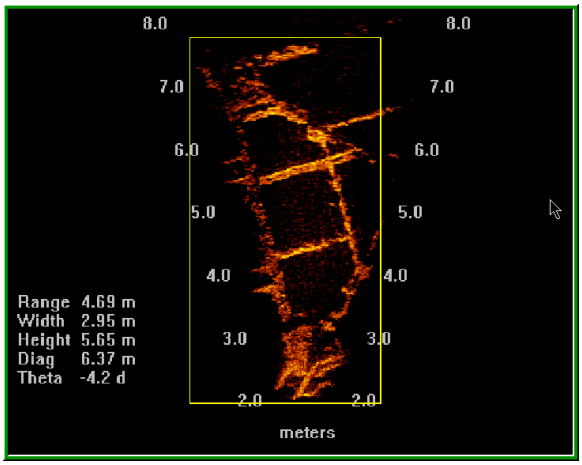


Figure 1.1.5

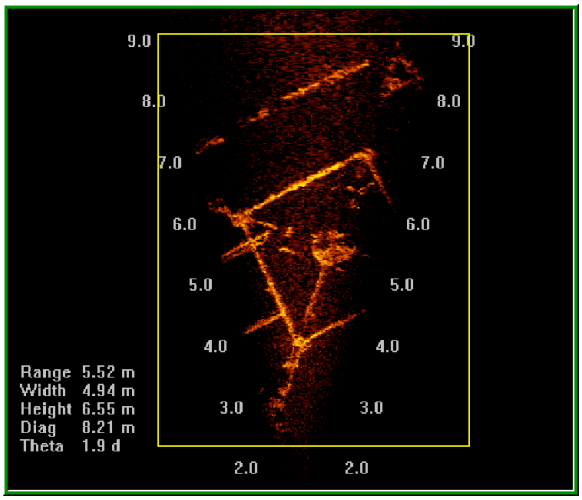

9.0
9.0
8.0
8.0
7.0
7.0
6.0
6.0
5.0
5.0
4.0
4.0
3.0
3.0
2.0
2.0
Range 5.52 m
Width 4.94 m
Height 6.55 m
Diag 8.21 m
Theta 1.9 d

Figure 1.1.6

1.2) 269/1 LD=28ft on subm obstr

DANGER TO NAVIGATION

Survey Summary

Survey Position: 032° 02' 15.085" N, 80° 54' 10.046" W

Least Depth: 8.71 m

Timestamp: 2005-231.13:59:38.470 (08/19/2005)

Survey Line: f-00501 / nrt2_1210_sb / 2005-231 / 005_1359

Profile/Beam: 269/1

Charts Affected: 11512_1, 11513_1, 11480_1, 11009_1, 411_1

Remarks:

SSS operations identified this contact. It appears to be a verticle embeded pipe, or pile. Hard VBES data was acquired on multable passes, validating the Least Depth and position.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f-00501/nrt2_1210_sb/2005-231/005_1359	269/1	0.00	000.0	Primary
f-00501/nrt2_1210_klein3000hf_200sss/2005-089/sss050330161400	0001	1.69	127.6	Secondary
f-00501/nrt2_1210_klein3000hf_100sss/2005-089/sss050330160300	0001	2.82	339.4	Secondary

Hydrographer Recommendations

Retain the charted obstr. Add 28ft sounding. ***Concur in part. Revise the charted obstruction to a dangerous 28 Obstn in the position located by the present survey.***

Cartographically-Rounded Depth (Affected Charts):

28ft (11512_1, 11513_1)

4 ¾fm (11480_1, 11009_1, 411_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: CONDTN - 2:ruined

NATCON - 4:hard surfaced

OBJNAM - subm obstr probable pipe on end

QUASOU - 1:depth known

TECSOU - 1:found by echo-sounder; 2:found by side scan sonar

VALSOU - 8.713 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Feature Images

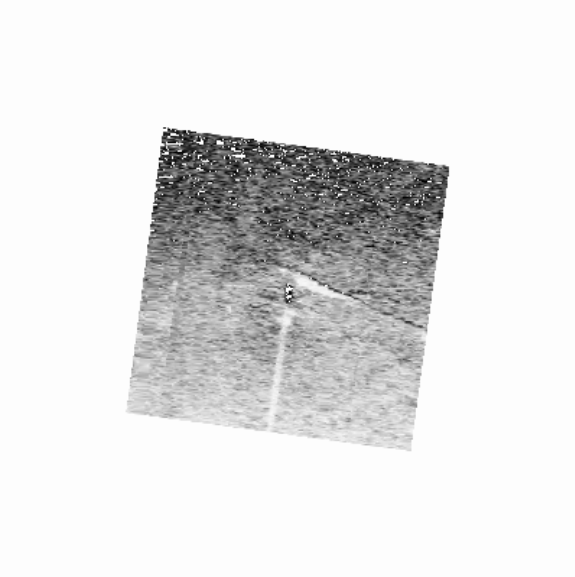


Figure 1.2.1

Figure 1.2.2

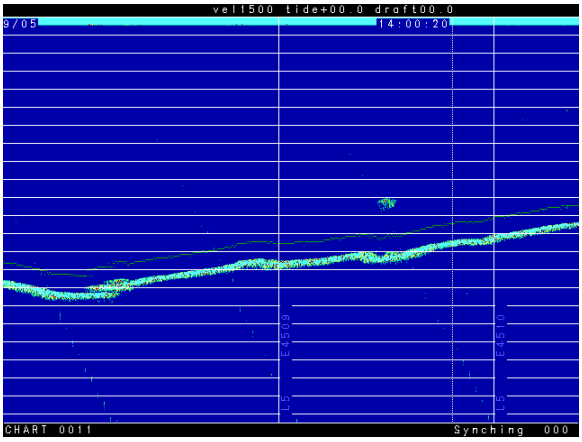


Figure 1.2.3

ATLANTIC HYDROGRAPHIC BRANCH
EVALUATION REPORT FOR F00501 (2005)

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.

Twenty two 1:10,000 scale page size sheets were generated during office processing and are appended to this report. These plots are considered the smooth plots for this survey.

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 07.01.0.18)-1
MapInfo, version 8.0
CARIS HIPS/SIPS 6.0
PYDRO, version 6.4.9-HF4

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

D.1. CHART COMPARISONS

11505 (2nd Ed., Apr 01/04)
11509 (29th Ed., Aug 01/05)
11512 (60th Ed., Dec 01/04)
11514 (27th Ed., Jul 10/04)

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. The following should be noted:

1. An uncharted obstruction with a depth of 32 feet was located by the hydrographer in Latitude 32°09′14.85″N, Longitude 81°09′11.54″W. It is recommended that a dangerous obstruction with a depth of 32 feet be charted as shown on the present survey. See 1 of 22.

2. A charted obstruction PA in Latitude 32°00′49.45″N, Longitude 80°53′01.32″W was located by the hydrographer in Latitude 32°00′49.78″N, Longitude 80°53′00.85″W with a depth of 8 feet. It is recommended that the obstruction PA be revised to a dangerous obstruction with a depth of 8 feet be charted as shown on the present survey. See sheet 10 of 22.

3. A charted dangerous sunken wreck in Latitude 32°00′39.73″N, Longitude 80°52′57.86″W is considered neither verified nor disproved. It is recommended that the dangerous sunken wreck be retained as charted. See sheet 10 of 22.

4. A charted dangerous sunken wreck (4 ft rep) in Latitude 32°05′01.15″N, Longitude 80°50′04.12″W is considered disproved by the present survey. It is recommended that the dangerous sunken wreck (4 ft rep) be deleted from the chart. See sheet 12 of 22.

5. It appears that Bloody Point Range Rear Light in Latitude 32°03′17.92″N, Longitude 80°50′22.15″W has been moved. The position of the charted light was developed by multibeam. The status of the Light was not discussed by the hydrographer. It is recommended that the possible new location for the Rear light be deferred to MCD for charting disposition. See sheet 13 of 22.

6. A charted visible Dolphin in Latitude 32°02′28.82″N, Longitude 80°51′43.76″W was not adequately disproved by the present survey. It is recommended that the visible dolphin be revised to a submerged dolphin. See sheet 15 of 22.

7. A charted dangerous sunken wreck PA in Latitude 32°01′25.08″N, Longitude 80°49′07.99″W was found by the hydrographer to be an obstruction with a depth of 15 feet. The obstruction is considered insignificant because surrounding depths are 11 to 13 feet. It is recommended that the dangerous sunken wreck be deleted from the chart. See

sheet 16 of 22.

8. The hydrographer investigated debris from the old Tybee Light in Latitude 32°57′01.70″N, Longitude 80°40′57.86″W. Present survey depths are 48 to 49 feet. It is recommended that the present survey soundings be charted. See sheet 19 of 22.

9. A charted dangerous sunken wreck PA was found by the hydrographer as a visible wreck in Latitude 32°55′38.32″N, Longitude 80°54′33.59″W. It is recommended that the dangerous sunken wreck PA be revised to a visible wreck as shown on the present survey. See sheet 21 of 22.

AWOIS Item Investigations

1. Automated Wreck and Obstruction Investigation System (AWOIS) #2690 is a charted dangerous obstruction with a depth of 7 feet in Latitude 32°04′58.95″N, Longitude 81°00′09.40″W. The obstruction was verified with 200% side scan as a pile. It is recommended that the dangerous obstruction with a depth of 7 feet be retained as charted. See sheet 6 of 22.

2. AWOIS #8068 is an uncharted obstruction in Latitude 32°04′59.08″N, Longitude 81°00′07.68″W. As stated by the hydrographer, the obstruction is the same as AWOIS #2690. It is recommended that the AWOIS #8068 be removed from the data base and deleted from any charts on which the item may be shown. See sheet 6 of 22.

3. AWOIS #8906 is a charted dangerous sunken wreck, PA in Latitude 32°01′00.00″N, Longitude 80°48′00.00″W. The wreck was investigated by the hydrographer and disproved by multibeam and 200% side scan sonar coverage. It is recommended that the dangerous sunken wreck, PA be deleted from the charts. See sheet 17 of 22.

4. AWOIS #10413 is a charted dangerous sunken wreck in Latitude 32°05′13.55″N, Longitude 81°02′47.76″W. The wreck was verified by the hydrographer with 200% side scan sonar coverage. It is recommended that the dangerous sunken wreck be retained as charted. See sheet 4 of 22.

5. AWOIS #10414 is a charted dangerous sunken wreck in Latitude 32°05′14.75″N, Longitude 81°02′55.20″W. The wreck is

considered disproved by the present survey. It is recommended that the dangerous sunken wreck be deleted from the charts. See sheet 4 of 22.

6. AWOIS #10415 is a charted dangerous sunken wreck in Latitude 32°05′12.05″N, Longitude 81°03′24.60″W. The wreck is considered disproved by the present survey with multibeam and side scan sonar coverage. It is recommended that the dangerous sunken wreck be deleted from the chart. See sheet 4 of 22.

7. AWOIS #10416 is charted wreckage limits in Latitude 32°04′53.55″N, Longitude 81°03′51.40″W. The wreckage was verified by the hydrographer with 200% side scan coverage. It is recommended that the wreckage limits be retained as charted. See sheet 4 of 22.

8. AWOIS #11407 is a charted dangerous obstruction with a depth of 41 feet in Latitude 31°57′54.50″N, Longitude 80°43′34.95″W. The obstruction was investigated by the hydrographer and found to have a depth of 42 feet in Latitude 31°57′55.33″N, Longitude 80°43′35.46″W It is recommended that the dangerous obstruction with a depth of 41 feet be revised to a dangerous obstruction with a depth of 42 feet. See sheet 18 of 22.

9. AWOIS #11413 is a charted dangerous obstruction PA in Latitude 32°05′18.75″N, Longitude 80°05′31.40″W. The obstruction is considered disproved with 200% side scan coverage. It is recommended that the dangerous obstruction PA be deleted. See sheet 6 of 22.

10. AWOIS #11470 is a charted dangerous obstruction with a depth of 42 feet in Latitude 31°56′33.92″N, Longitude 80°40′03.11″W. The obstruction was investigated by the hydrographer and found to have a depth of 45 feet in Latitude 31°56′33.94″N, Longitude 80°40′03.08W. It is recommended that the dangerous obstruction with a depth of 42 feet be revised to a dangerous obstruction with a depth of 45 feet. See sheet 20 of 22.

11. AWOIS #11472 is a charted dangerous submerged anchor with a depth of 46 feet in Latitude 31°57′09.73″N, Longitude 80°41′47.72″W. The obstruction was investigated by the hydrographer and found to have a depth of 44 feet in Latitude 31°57′10.06″N, Longitude 80°41′47.99W. It is recommended that

the dangerous submerged anchor with a depth of 46 feet be revised to a dangerous obstruction with a depth of 44 feet. See sheet 19 of 22.

12. AWOIS #11474 is a charted dangerous sunken wreck in Latitude 31°53′00.50″N, Longitude 80°52′57.36″W. The wreck was investigated by the hydrographer and found to have a depth of 4 feet in Latitude 31°53′00.27″N, Longitude 80°52′57.41″W. It is recommended that the dangerous sunken wreck be revised to a dangerous wreck with a depth of 4 feet and charted in the present survey location. See sheet 22 of 22.

13. AWOIS #11993 is a charted dangerous obstruction in Latitude 31°52′28.13″N, Longitude 80°53′26.66″W. The area was developed by the hydrographer and shoaling to 6 feet was found. It is recommended that the dangerous obstruction be deleted and chart present survey depths as shown on the present survey. See sheet 22 of 22.

14. AWOIS #12137 is a charted dangerous obstruction with a depth of 38 feet shown on chart 11512 in Latitude 31°56′53.14″N, Longitude 80°41′10.25″W. The area was developed by the hydrographer and is considered disproved by the present survey with 200% side scan sonar coverage. Present survey depths in the immediate area are 45 to 46 feet. It is recommended that the dangerous obstruction with a depth of 38 feet be deleted. Chart present survey depths. See sheet 19 of 22.

It should also be noted that AWOIS #12137 is shown as dangerous 44 Obstns on chart 11505. It is recommended that the dangerous obstructions with a depth of 44 feet be deleted and chart present survey depths. See sheet 19 of 22.

15. AWOIS #12746 is a charted dangerous obstruction with a depth of 39 feet in Latitude 31°58′41.11″N, Longitude 81°44′27.60″W. The obstruction was verified by the hydrographer with 200% side scan coverage. It is recommended that the obstruction with a depth of 39 feet be retained as charted. See sheet 18 of 22.

16. AWOIS #12747 is a charted submerged pile PA in Latitude 32°02′18.80″N, Longitude 80°49′23.40″W. The obstruction is considered disproved with 200% side scan coverage. It is recommended that the submerged pile PA be deleted. See sheet 14 of 22.

17. AWOIS #12748 is a charted dangerous sunken wreck, Masts PA in Latitude 32°02′00.00″N, Longitude 80°51′00.00″W. The wreck was developed by the hydrographer and is considered disproved. It is recommended that the dangerous sunken wreck, Masts PA be deleted from the chart. Chart present survey depths within the common area. See sheet 15 of 22.

18. AWOIS #12749 is a charted visible wreck, PA in Latitude 32°03′18.76″N, Longitude 80°50′36.40″W. The wreck is considered disproved with 200% side scan coverage. Present survey depths are now 5 to 6 feet. It is recommended that the visible wreck, PA be deleted. See sheet 13 of 22.

19. AWOIS #12750 is a charted dangerous obstruction in Latitude 32°02′05.06″N, Longitude 80°54′15.90″W. The obstruction is considered disproved with 200% side scan coverage. It is recommended that the dangerous obstruction be deleted. See sheet 9 of 22.

20. AWOIS #12751 is two charted dolphins in Latitude 32°02′15.40″N, Longitude 80°53′59.60″W. The hydrographer is not clear in his recommendation as to what charted features should be removed. The two dolphins are not considered disproved by the present survey. No change in charting is recommended. See sheet 9 of 22.

21. AWOIS #12752 is a charted Pile PA in Latitude 32°03′18.76″N, Longitude 80°56′31.40″W. The pile is considered disproved with 200% side scan coverage. It is recommended that the pile, PA be deleted. See sheet 8 of 22.

22. AWOIS items #12753 and #12754 are charted Rks rep PA 1990 in Latitude 32°04′20.46″N, Longitude 80°58′08.33″W and Latitude 32°03′18.40″N, Longitude 80°58′13.48″W respectively. AWOIS #12753 was found to be the offshore end of the charted breakwater in Latitude 32°04′18.28″N, Longitude 80°58′08.64″W. AWOIS #12754 is rocks reported PA to the south west. This area has been disproved by the present survey. It is recommended that the breakwater be revised and extended to the position located by the present survey. It is also recommended that the notation *Rks rep PA 1990* be deleted. See sheet 7 of 22.

23. AWOIS #12755 is a charted submerged obstruction (Rep 1983) in Latitude 32°05′19.95″N, Longitude 81°00′43.20″W. The obstruction has been disproved 200% side scan coverage. It is

recommended that the submerged obstruction (Rep 1983) be deleted. See sheet 6 of 22.

24. AWOIS #12757 is a charted dangerous obstruction with a depth of 41 feet in Latitude 32°05′00.06″N, Longitude 81°05′27.07″W. The obstruction was verified with 200% side scan coverage. It is recommended that the dangerous obstruction with a depth of 41 feet be retained as charted. See sheet 3 of 22.

25. AWOIS #12758 is a charted dangerous wreck with a depth of 19 feet in Latitude 32°08′45.19″N, Longitude 81°08′26.21″W. The wreck was verified with 200% side scan coverage. It is recommended that the dangerous wreck with a depth of 19 feet be retained as charted. See sheet 1 of 22.

26. AWOIS #12759 is a charted US Army Corps of engineers (USACE) tide gauge in Latitude 32°00′13.77″N, Longitude 80°48′16.40″W. The tide gauge was located in Latitude 32°00′15.10″N, Longitude 80°48′15.28″W. It is recommended that the latest position for the tide gauge and shown as a charted dolphin be retained as charted. It is recommended that the original position for the tide gauge (dolphin symbol) be deleted, showing only one dolphin in the area. See sheet 17 of 22.

27. AWOIS #12760 is a charted submerged dolphin in Latitude 32°00′09.77″N, Longitude 80°48′18.40″W. The submerged dolphin was disproved with 200% side scan coverage. It is recommended that the submerged dolphin be deleted from the charts. See sheet 17 of 22.

28. AWOIS #12761 is two charted dolphins, in Latitude 32°02′28.77″N, Longitude 80°49′41.40″W which is part of a USACE tide gage. The dolphins were investigated by the hydrographer. The dolphin in Latitude 32°02′28.77″N, Longitude 80°49′41.40″W was disproved by 200% side scan sonar. The second dolphin was located with a depth of 18 feet in Latitude 32°02′29.99″N, Longitude 80°49′42.53″W. It is recommended that the two dolphins be deleted from the charts. It is also recommended that a dangerous obstruction with a depth of 18 feet be charted as shown on the present survey. See sheet 14 of 22.

A charted dolphin in Latitude 32°02′33.16″N, Longitude 80°49′36.97″W was disproved with 200% side scan

sonar. It is recommended that the dolphin be deleted. See sheet 14 of 22.

29. AWOIS #12762 is a charted obstruction PA (platform ruins) in Latitude 32°01′54.60″N, Longitude 80°53′34.88″W. The hydrographer located the platform ruins in Latitude 32°01′56.89″N, Longitude 80°53′33.42″W. It is recommended that the charted obstruction PA be deleted and platform ruins be charted in the present survey location. See sheet 9 of 22.

30. AWOIS #12763 is a charted notation *35 FT 1989* in Latitude 32°02′04.34″N, Longitude 80°53′57.08″W. Soundings in the area are 40 to 47 feet. The 35 ft (1989) is considered disproved by the present survey. It is recommended that the notation *35 FT 1989* and leader be deleted. See sheet 9 of 22.

31. AWOIS #12764 is a charted 18-ft shoal in Latitude 32°00′44.00″N, Longitude 80°48′11.63″W. The shoal is considered disproved by present survey depths of 22 to 30 feet. It is recommended that the 18-ft shoal be deleted. See sheet 17 of 22.

32. The following AWOIS items were not investigated:

AWOIS #	Feature	Latitude(N)	Longitude(W)
491	Sunken Wk PD	31-59-00.77	80-47-59.39
498	8-ft Obstn	32-00-49.47	80-49-34.99
2675	8-ft Wk	32-01-23.01	80-50-12.27
2676	Subm dol	32-00-44.77	80-49-32.39
2691	Pile PA	32-02-24.76	80-56-36.40
7451	10-ft Wk	31-58-36.24	80-47-46.66
8918	Fish Haven	31-57-05.78	80-44-14.38
12136	29-ft Obstn	31-57-13.70	80-44-19.27

It is recommended that these features be retained as charted.

D.2. ADDITIONAL RESULTS

Aids to navigation and Other Detached Positions

The hydrographer located an uncharted aid to navigation *RN"2A"* in Latitude 32°04′14.91″N, Longitude 80°58′26.16″W. It is recommended that the aid to navigation *RN"2A"* be deferred to Marine Chart Division (MCD).

ADEQUACY OF SURVEY

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

MISCELLANIOUS

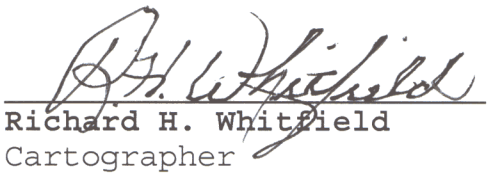
Chart compilation was done by Atlantic Hydrographic Branch personnel in Norfolk, Virginia. Compilation data will be forwarded to Marine Chart Division, Silver Spring, Maryland. The following NOS charts were used for compilation of the present survey:

11514 (28th Ed. Nov/05) corrected thru NM Nov 5/05
corrected thru LNM Oct 25/05

11512 (60th Ed. Dec/04) corrected thru NM Dec 25/04
corrected thru LNM Dec 14/04

11505 (2nd Ed. Apr/04) corrected thru NM Apr 10/04
corrected thru LNM Mar 30/04

F00501



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

APPROVAL SHEET
F00501 (2005)

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.

R. H. Whitfield

Date: 6/5/06

Richard H. Whitfield, Cartographer,
Atlantic Hydrographic Branch

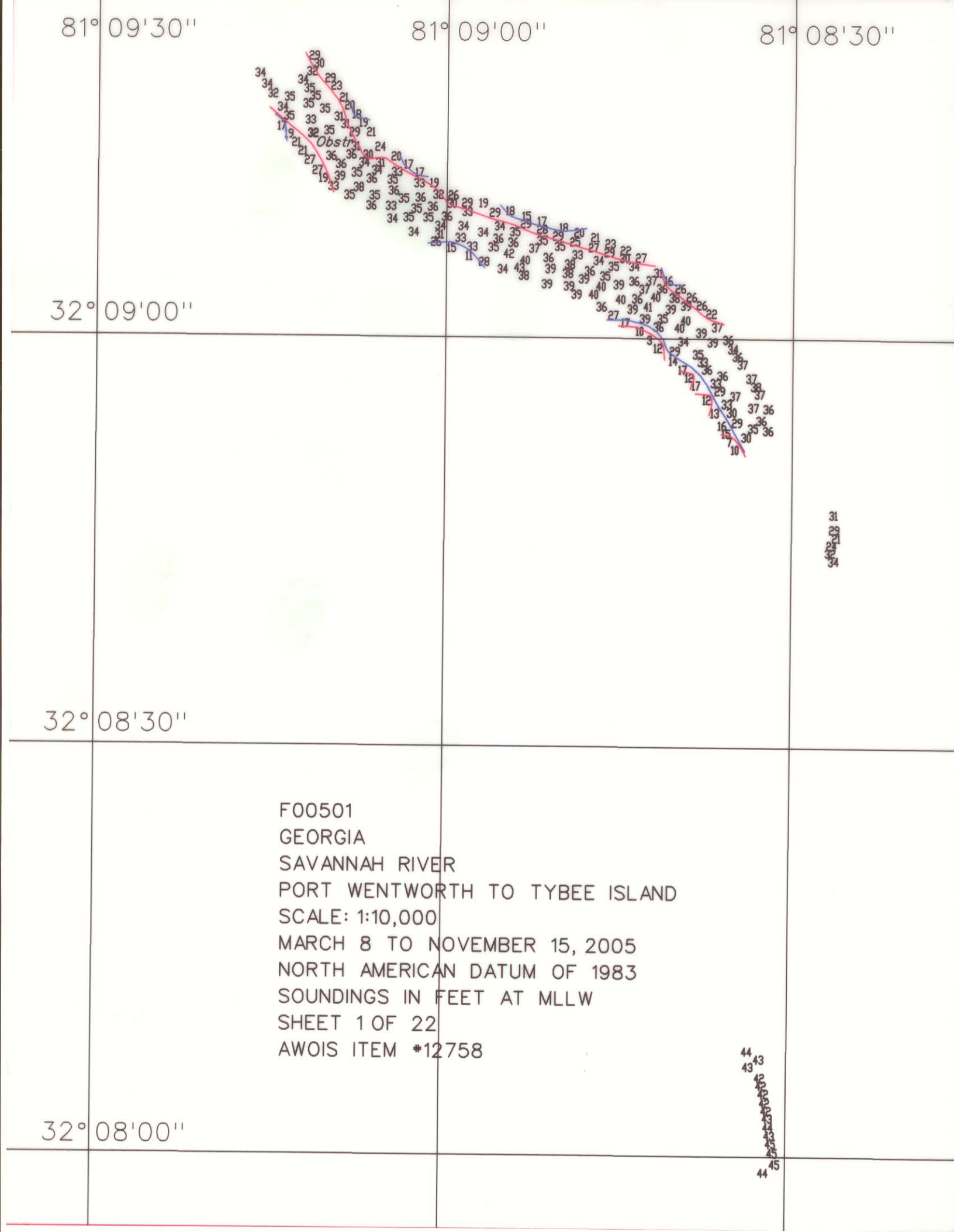
I have reviewed the smooth sheet, accompanying data, and reports. This survey and accompanying digital data meet or exceed NOS requirements and standards for products in support of nautical charting except where noted in the Evaluation Report.

Approved: P. Schattgen

Date: 6/14/06

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

Digitally signed by Jeremy McHugh
Reason: AWOIS / SURF check complete
Date: 2006.06.23 09:17:56 -04'00'



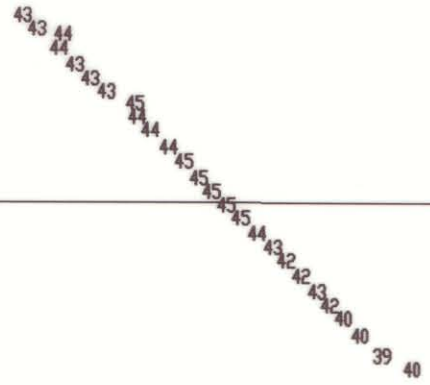
F00501
GEORGIA
SAVANNAH RIVER
PORT WENTWORTH TO TYBEE ISLAND
SCALE: 1:10,000
MARCH 8 TO NOVEMBER 15, 2005
NORTH AMERICAN DATUM OF 1983
SOUNDINGS IN FEET AT MLLW
SHEET 1 OF 22
AWOIS ITEM #12758

81° 07'30"

81° 07'00"

81° 06'30"

32° 06'00"



32° 05'30"

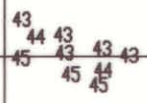
F00501
GEORGIA
SAVANNAH RIVER
PORT WENTWORTH TO TYBEE ISLAND
SCALE: 1:10,000
MARCH 8 TO NOVEMBER 15, 2005
NORTH AMERICAN DATUM OF 1983
SOUNDINGS IN FEET AT MLLW
SHEET 2 OF 22

32° 05'00"

81° 05'30"

81° 05'00"

32° 05'00"



32° 04'30"

F00501
GEORGIA
SAVANNAH RIVER
PORT WENTWORTH TO TYBEE ISLAND
SCALE: 1:10,000
MARCH 8 TO NOVEMBER 15, 2005
NORTH AMERICAN DATUM OF 1983
SOUNDINGS IN FEET AT MLLW
SHEET 3 OF 22
AWOIS ITEM #12757

32° 04'00"

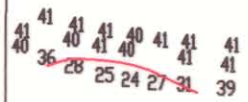
81° 04'00"

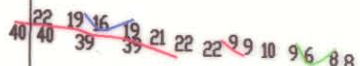
81° 03'30"

81° 03'00"

32° 05'00"

32° 04'30"

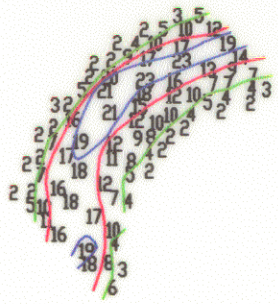




F00501
GEORGIA
SAVANNAH RIVER
PORT WENTWORTH TO TYBEE ISLAND
SCALE: 1:10,000
MARCH 8 TO NOVEMBER 15, 2005
~~NORTH AMERICAN DATUM OF 1983~~
SOUNDINGS IN FEET AT MLLW
SHEET 4 OF 22
AWOIS ITEMS #10413, #10414, #10415, #10416

32° 04'30"

32° 04'00"



32° 03'30"

F00501
GEORGIA
SAVANNAH RIVER
PORT WENTWORTH TO TYBEE ISLAND
~~SCALE: 1:10,000~~
MARCH 8 TO NOVEMBER 15, 2005
NORTH AMERICAN DATUM OF 1983
SOUNDINGS IN FEET AT MLLW
SHEET 5 OF 22

81° 02'00"

81° 01'30"

81° 01'00"

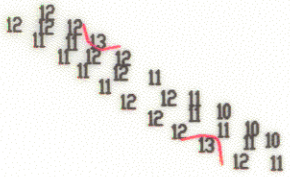
81° 01'00"

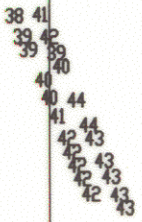
81° 00'30"

81° 00'00"

80° 59'30"

32° 05'30"





32° 05'00"

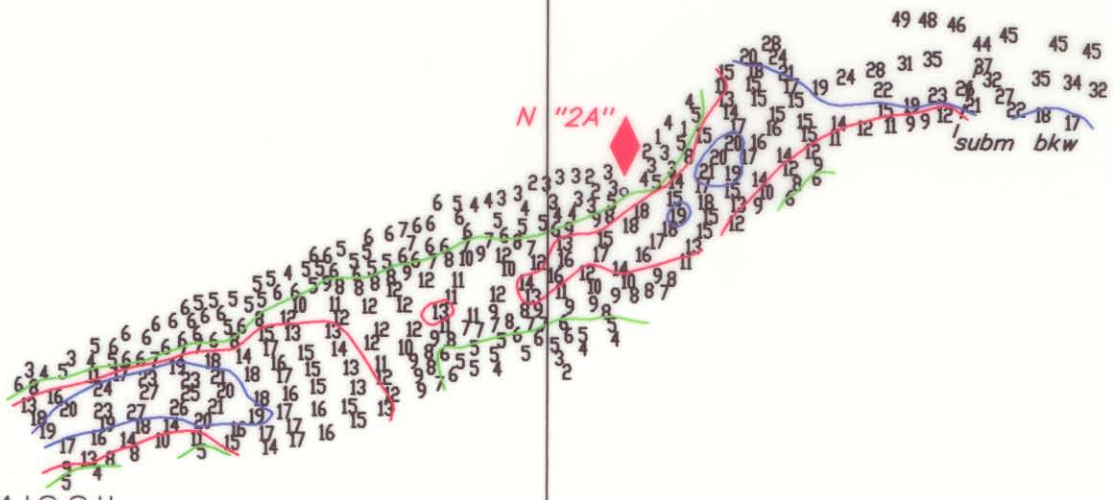
F00501
GEORGIA
SAVANNAH RIVER
PORT WENTWORTH TO TYBEE ISLAND
SCALE: 1:10,000
MARCH 8 TO NOVEMBER 15, 2005
NORTH AMERICAN DATUM OF 1983
SOUNDINGS IN FEET AT MLLW
SHEET 6 OF 22
AWOIS ITEMS *8068, *2690, *11413, *12755

80° 59'00"

80° 58'30"

80° 58'00"

32° 04'30"



32° 04'00"

32° 03'30"

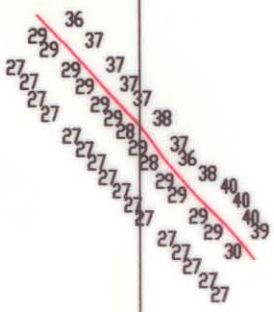
F00501
GEORGIA
SAVANNAH RIVER
PORT WENTWORTH TO TYBEE ISLAND
SCALE: 1:10,000
MARCH 8 TO NOVEMBER 15, 2005
NORTH AMERICAN DATUM OF 1983
SOUNDINGS IN FEET AT MLLW
SHEET 7 OF 22
AWOIS ITEM *12752, *12754

80° 57'00"

80° 56'30"

80° 56'00"

32° 03'30"



32° 03'00"

32° 02'30"

F00501
GEORGIA
SAVANNAH RIVER
PORT WENTWORTH TO TYBEE ISLAND
SCALE: 1:10,000
MARCH 8 TO NOVEMBER 15, 2005
NORTH AMERICAN DATUM OF 1983
SOUNDINGS IN FEET AT MLLW
SHEET 8 OF 22
AWOIS ITEM *12752

80° 54'30"

80° 54'00"

80° 53'30"

32° 02'30"

32° 02'00"

platform ruins

32° 01'30"

F00501
GEORGIA
SAVANNAH RIVER
PORT WENTWORTH TO TYBEE ISLAND
SCALE: 1:10,000
MARCH 8 TO NOVEMBER 15, 2005
NORTH AMERICAN DATUM OF 1983
SOUNDINGS IN FEET AT MLLW
SHEET 9 OF 22
AWOIS ITEMS *12750, *12751, *12762, *12768

80° 53'30"

80° 53'00"

80° 52'30"

32° 01'00"

32° 00'30"

32° 00'00"

F00501
GEORGIA
SAVANNAH RIVER
PORT WENTWORTH TO TYBEE ISLAND
SCALE: 1:10,000
MARCH 8 TO NOVEMBER 15, 2005
NORTH AMERICAN DATUM OF 1983
SOUNDINGS IN FEET AT MLLW
SHEET 10 OF 22

32° 00'00"

31° 59'30"

F00501
GEORGIA
SAVANNAH RIVER
PORT WENTWORTH TO TYBEE ISLAND
SCALE: 1:10,000
MARCH 8 TO NOVEMBER 15, 2005
NORTH AMERICAN DATUM OF 1983
SOUNDINGS IN FEET AT MLLW
SHEET 11 OF 22

31° 59'00"

80° 51'30" 80° 51'00" 80° 50'30"

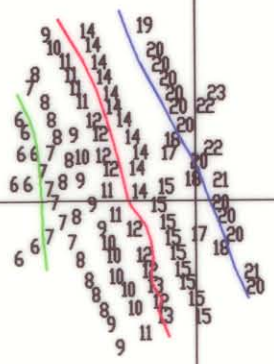
80° 50'30"

80° 50'00"

80° 49'30"

32° 05'30"

32° 05'00"



32° 04'30"

F00501
GEORGIA
SAVANNAH RIVER
PORT WENTWORTH TO TYBEE ISLAND
SCALE: 1:10,000
MARCH 8 TO NOVEMBER 15, 2005
NORTH AMERICAN DATUM OF 1983
SOUNDINGS IN FEET AT MLLW
~~SHEET 12 OF 22~~

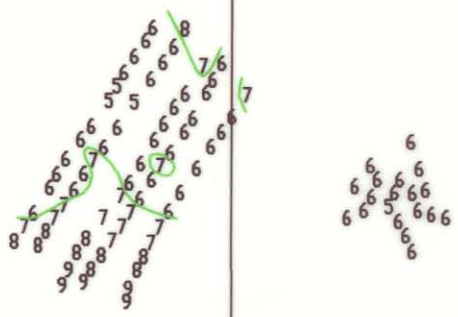
80° 51'30"

80° 51'00"

80° 50'30"

80° 50'00"

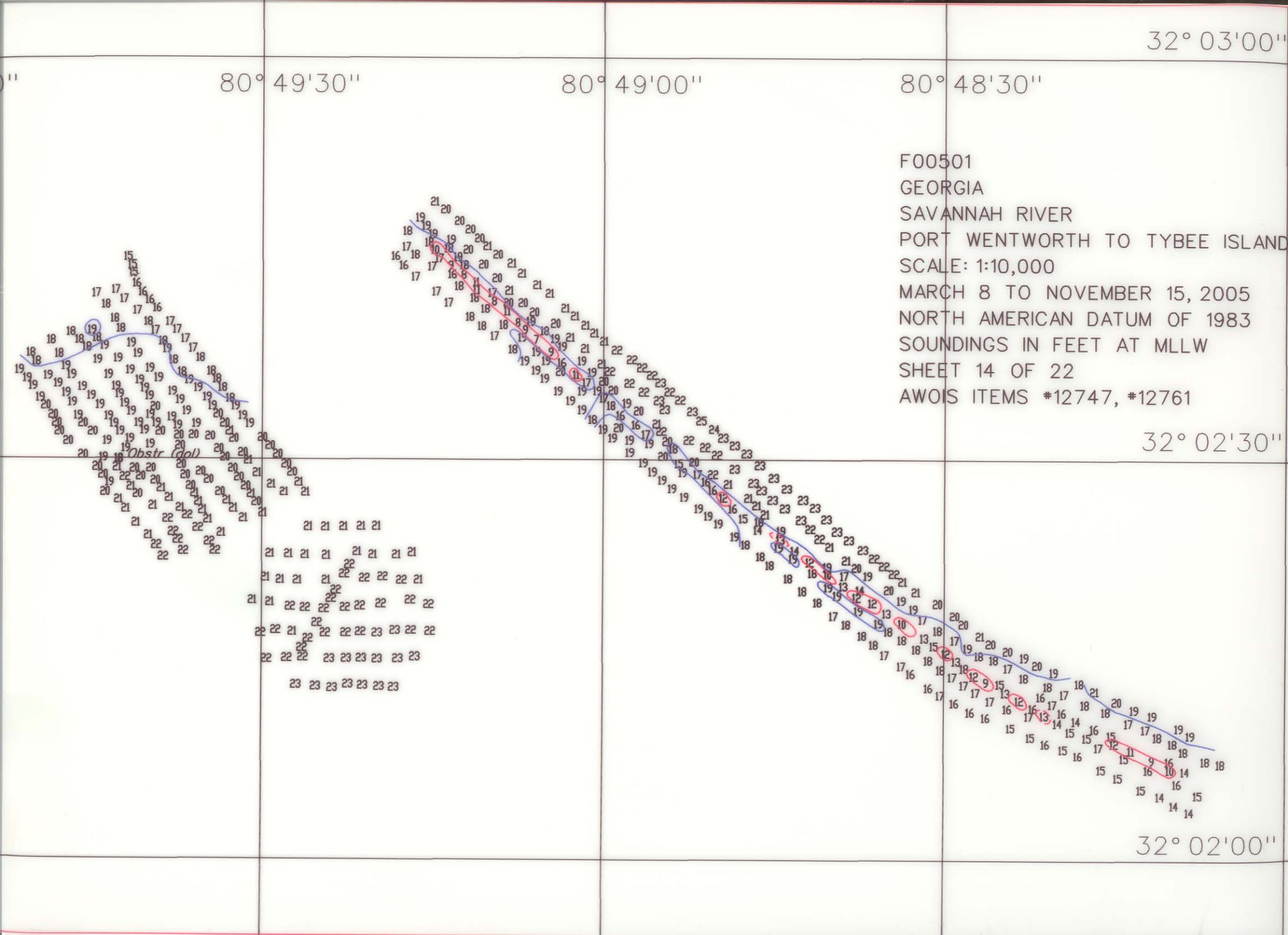
32° 03'30"



F00501
GEORGIA
SAVANNAH RIVER
PORT WENTWORTH TO TYBEE ISLAND

32° 03'00"

SCALE: 1:10,000
MARCH 8 TO NOVEMBER 15, 2005
NORTH AMERICAN DATUM OF 1983
SOUNDINGS IN FEET AT MLLW
SHEET 13 OF 22
AWOIS ITEM *12749


32° 03'00"
80° 49'30"
80° 49'00"
80° 48'30"
F00501
GEORGIA
SAVANNAH RIVER
PORT WENTWORTH TO TYBEE ISLAND
SCALE: 1:10,000
MARCH 8 TO NOVEMBER 15, 2005
NORTH AMERICAN DATUM OF 1983
SOUNDINGS IN FEET AT MLLW
SHEET 14 OF 22
AWOIS ITEMS *12747, *12761
Obstr (dol)
32° 02'30"
32° 02'00"

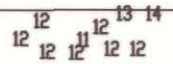
80° 52'00"

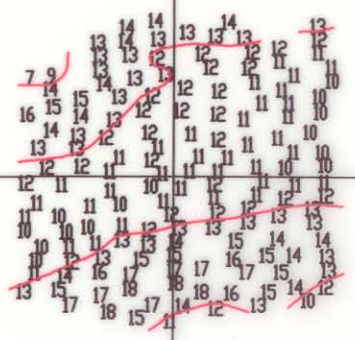
80° 51'30"

80° 51'00"

32° 02'30"

32° 02'00"





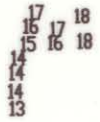
F00501
GEORGIA
SAVANNAH RIVER
PORT WENTWORTH TO TYBEE ISLAND
SCALE: 1:10,000
MARCH 8 TO NOVEMBER 15, 2005
NORTH AMERICAN DATUM OF 1983
SOUNDINGS IN FEET AT MLLW
SHEET 15 OF 22
AWOIS ITEM #12748

80° 50'00"

80° 49'30"

80° 49'00"

32° 01'30"



32° 01'00"

F00501
GEORGIA
SAVANNAH RIVER
PORT WENTWORTH TO TYBEE ISLAND
SCALE: 1:10,000
MARCH 8 TO NOVEMBER 15, 2005
NORTH AMERICAN DATUM OF 1983
SOUNDINGS IN FEET AT MLLW
SHEET 16 OF 22

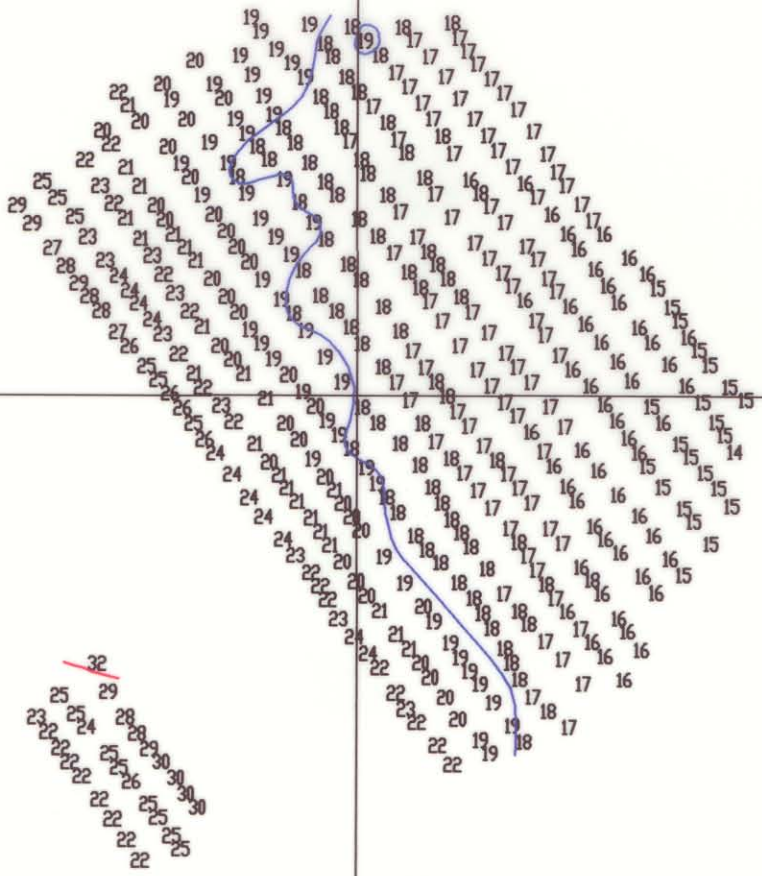
32° 00'30"

80° 48'30"

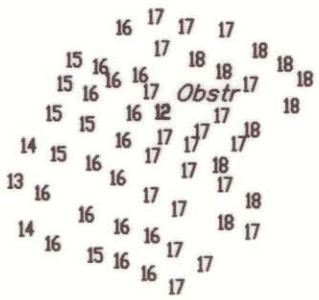
80° 48'00"

80° 47'30"

32° 01'00"



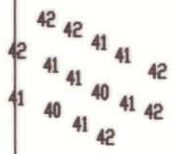
32° 00'30"



F00501
GEORGIA
SAVANNAH RIVER
PORT WENTWORTH TO TYBEE ISLAND
SCALE: 1:10,000
MARCH 8 TO NOVEMBER 15, 2005
NORTH AMERICAN DATUM OF 1983
SOUNDINGS IN FEET AT MLLW
SHEET 17 OF 22
AWOIS ITEMS *8960 *12759,
*12760, *12764

32° 00'00"

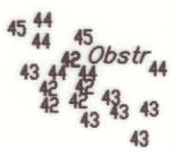
31° 59'00"



31° 58'30"

F00501
GEORGIA
SAVANNAH RIVER
PORT WENTWORTH TO TYBEE ISLAND
SCALE: 1:10,000
MARCH 8 TO NOVEMBER 15, 2005
NORTH AMERICAN DATUM OF 1983
SOUNDINGS IN FEET AT MLLW
SHEET 18 OF 22
AWOIS ITEM #11407, #12746

31° 58'00"



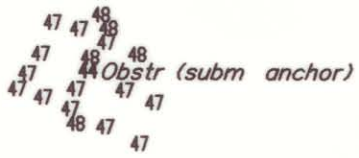
80° 44'30" 80° 44'00" 80° 43'30"

80° 42'00"

80° 41'30"

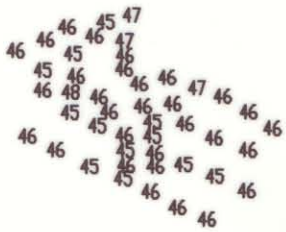
80° 41'00"

31° 57'30"



31° 57'00"

F00501
GEORGIA
SAVANNAH RIVER
PORT WENTWORTH TO TYBEE ISLAND
SCALE: 1:10,000
MARCH 8 TO NOVEMBER 15, 2005
NORTH AMERICAN DATUM OF 1983
SOUNDINGS IN FEET AT MLLW
SHEET 19 OF 22
AWOIS ITEMS #11472, #12137



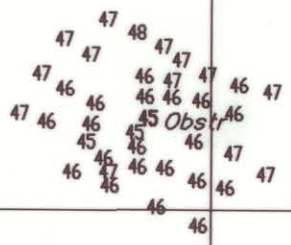
31° 56'30"

80° 40'30"

80° 40'00"

80° 39'30"

31° 57'00"

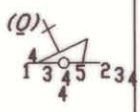


31° 56'30"

F00501
GEORGIA
SAVANNAH RIVER
PORT WENTWORTH TO TYBEE ISLAND
SCALE: 1:10,000
MARCH 8 TO NOVEMBER 15, 2005
NORTH AMERICAN DATUM OF 1983
SOUNDINGS IN FEET AT MLLW
SHEET 20 OF 22
AWOIS ITEM #11470

31° 56'00"

31° 56'00"



31° 55'30"

F00501
GEORGIA
SAVANNAH RIVER
PORT WENTWORTH TO TYBEE ISLAND
SCALE: 1:10,000
MARCH 8 TO NOVEMBER 15, 2005
NORTH AMERICAN DATUM OF 1983
SOUNDINGS IN FEET AT MLLW
SHEET 21 OF 22

31° 55'00"

80° 55'00" 80° 54'30" 80° 54'00"

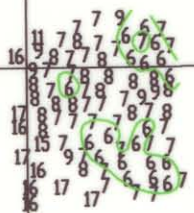
80° 53'30"

80° 53'00"

80° 52'30"

31° 53'00"

31° 52'30"



F00501
GEORGIA
SAVANNAH RIVER
PORT WENTWORTH TO TYBEE ISLAND
SCALE: 1:10,000
MARCH 8 TO NOVEMBER 15, 2005
NORTH AMERICAN DATUM OF 1983
SOUNDINGS IN FEET AT MLLW
SHEET 22 OF 22
AWOIS ITEMS *11474, *11993

31° 52'00"

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. F00501

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
11514	6/9/06	L.H. Whitfield	~~Full~~ Part ~~Before~~ After Marine Center Approval Signed Via
			Drawing No.
11512	6/9/06	L.H. Whitfield	~~Full~~ Part ~~Before~~ After Marine Center Approval Signed Via
			Drawing No.
11505	6/9/06	L.H. Whitfield	~~Full~~ Part ~~Before~~ After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
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			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.

SUPERSEDES C&GS FORM 8352 WHICH MAY BE USED