

F00417

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey **HYDROGRAPHIC**
Field No. **WH-10-10-95**
Registry No. **FE-417**

LOCALITY

State **GEORGIA**
General Locality **NORTH ATLANTIC OCEAN**
Sublocality **1 NM EAST OF
WASSAW SOUND**

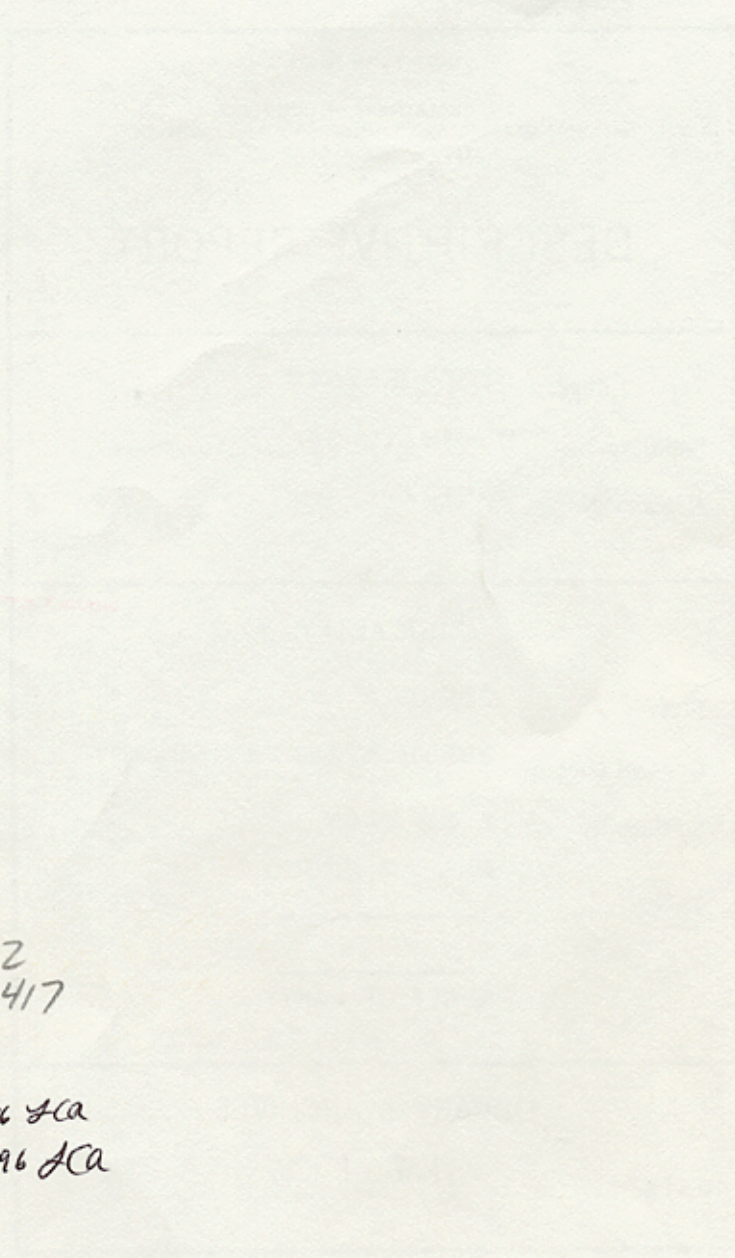
19 95

CHIEF OF PARTY
CDR, J. D. WILDER, NOAA

LIBRARY & ARCHIVES

DATE **MAY 1 1996**

DIAGRAM 1241-3



114007

©
Ref: BP 157912
Ref: 11572-FE.417
Charts
CP4
11512 appd 6/13/96 JCA
11509 appd 7/17/96 JCA
11480 n/c

NOAA FORM 77-28 (11-72)	U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION	REGISTER NOS.
HYDROGRAPHIC TITLE SHEET		FE-417
INSTRUCTIONS - The Hydrographic Sheet should be accompanied by this form, filled in completely as possible, when the sheet is forwarded to the Office.		FIELD NO.
		WH-10-10-95
<p>State <u>Georgia</u></p> <p>General locality <u>NORTH Atlantic Ocean</u></p> <p>Locality <u>1 NM East of Wassaw Sound</u></p> <p>Scale <u>1:10,000</u> Date of Survey <u>June 1 - June 20, 1995</u></p> <p>Instructions dated <u>August 25, 1994</u> Project No. <u>OPR-G115-WH</u></p> <p>Vessel <u>Launch 1014 (2932) and Launch 1015 (2931)</u></p> <p>Chief of Party <u>Commander John D. Wilder</u></p> <p>Surveyed by <u>J.D. Wilder, M.R. Kenny, W.G. Kitt, A.L. Beaver, J.T. Michalski, C.E. Parrish, G. Garte, M.M. Cisternelli, J.B. Gaskin, F.R. Cruz</u></p> <p>Soundings taken by echo sounder <u>DSF-6000N</u></p> <p>Graphic record scaled by <u>WHITING Survey Personnel</u></p> <p>Graphic record checked by <u>WHITING Survey Personnel</u></p> <p>Protracted by <u>N/A</u> Automated plot by <u>ENCAD NOVASET III PLOTTER (GAB) HP 7959B, Bruning (FIELD)</u></p> <p>Verification by <u>ATLANTIC HYDROGRAPHIC BRANCH PERSONNEL</u></p> <p>Soundings in MLLW <u>Meters FEET</u></p>		
<p>REMARKS: <u>Time Zone Used, 0 (UTC)</u></p> <p><u>This report covers the search for AWOIS item 8902 left over from survey H-10576, OPR-G115-WH.</u></p> <p><u>NOTES IN THE DESCRIPTIVE REPORT WERE MADE IN RED DURING OFFICE PROCESSING.</u></p>		
<p>MAY 1 1996 <u>SA</u> <u>AWOIS and SURF ✓ 5/96 RWD</u></p>		

**DESCRIPTIVE REPORT FOR
AWOIS 8902 INVESTIGATION
OPR-G115-WH
WH-10-10-95
FE-417**

**NOAA SHIP WHITING
CDR John D. Wilder, NOAA
Commanding Officer**

A. PROJECT

This report describes the search for the GREAT WHITE, AWOIS 8902.

As a result of the 1994 field season ending, this item was not investigated until the following 1995 season. The Descriptive Report to H-10576 is a source for technical details concerning the project area including AWOIS 8902; all aspects of this AWOIS investigation that do not conform to that descriptive report are described in this report.

B. AREA SURVEYED

A 300 meter search radius for AWOIS item 8902 positioned at 31° 55' 31.98"N, 080° 55' 27.00"W was surveyed. Search operations commenced on June 1, 1995 (DN 152) and were completed on June 20, 1995 (DN 171).

C. SURVEY VESSELS

Launches 1014 (VESNO 2932) and 1015 (VESNO 2931) utilizing side scan sonar and echosounder were used for the AWOIS investigation. Dive operations were conducted from launch 1014.

No unusual vessel configurations were used nor were any problems encountered.

D. AUTOMATED DATA ACQUISITION AND PROCESSING *SEE ALSO EVALUATION REPORT.*

Survey data acquisition and processing were accomplished using the HDAPS system with the following software:

<u>PROGRAM NAME</u>	<u>VERSION</u>	<u>DATE INSTALLED</u>
BACKUP	2.00	February 24, 1995
BASELINE	1.14	February 24, 1995
BIGABST	2.07	February 24, 1995
BIGAUTOST	3.01	February 24, 1995
BLKEDIT	2.02	February 24, 1995
CARTO	2.17	February 24, 1995
CLASSIFY	2.12	April 17, 1995
CONTACT	2.48	April 17, 1995
CONVERT	3.65	February 24, 1995
DAS_SURV	6.80	April 17, 1995
DIAGNOSE	3.05	February 24, 1995
DISC_UTIL	1.00	February 24, 1995
DP	2.18	February 24, 1995
DPCONVERT	1.03	March 07, 1995
DSNEDITS	1.04	March 07, 1995
EXCESS	4.32	February 24, 1995
FILESYS	3.31	March 07, 1995
GRAFEDIT	1.06	February 24, 1995
HIPSTICK	1.01	February 24, 1995
HPRAZ	1.26	February 24, 1995
INVERSE	2.02	February 24, 1995
LISTDATA	1.02	February 24, 1995
LOADNEW	2.13	March 07, 1995
LSTAWOIS	3.07	March 27, 1995
MAINMENU	1.20	February 24, 1995
MAN_DATA	3.02	March 07, 1995
NEWPOST	6.13	February 24, 1995
PLOTALL	2.32	February 24, 1995
POINT	2.12	March 07, 1995
PREDICT	2.01	February 24, 1995
PRESURV	7.11	February 24, 1995
PRINTOUT	4.04	February 24, 1995
QUICK	2.07	February 24, 1995
RAMSAVER	1.02	February 24, 1995
REAPPLY	2.12	February 24, 1995
RECOMP	1.04	March 07, 1995
SCANNER	1.00	February 24, 1995
SELPRINT	2.05	February 24, 1995
SYMBOLS	2.00	February 24, 1995
VERSIONS	1.00	February 24, 1995
ZOOMEDIT	2.33	February 24, 1995

Sound velocity corrections were determined using *CAT* version 2.00 and *VELOCITY* version 2.11. The DGPS station was checked using *MONITOR* version 3.0. There were no

nonstandard automated acquisition or processing methods used .

E. SIDE SCAN SONAR EQUIPMENT

Side scan sonar (SSS) operations were conducted using an EG&G model 260 slant-range corrected SSS recorder and an EG&G 272-TH dual-channel, single frequency towfish. The towfish was operated on the 100 kHz frequency and configured with a 20° beam depression. Data were collected using the 25 meter range scale. The following sonar equipment was used throughout the survey:

<u>VESNO</u>	<u>Type</u>	<u>S/N</u>	<u>DN</u>
2931	Recorder	16671	155
2931	Towfish	16835	155
2932	Recorder	16673	152, 159
2932	Towfish	11902	152, 159

On launches 1014 and 1015, the SSS towfish was deployed from the launch using a Superwinch Model W115 in conjunction with an adjustable davit arm on the stern of the launch. The SSS towfish was towed with vinyl-coated Kevlar cable and was connected to the recorder via a slip ring assembly.

Side scan sonar data were collected utilizing the 25 meter range scale. In order to acquire the required 200% SSS coverage, main-scheme lines were run at a spacing of 20 meters. Side scan sonar lines were run until the AWOIS item was found.

All potentially significant contacts in the survey area were measured off the sonagram and entered into an HDAPS contact table. Using the contact utility program WHITING hydrographers determined contact heights, positions and correlations to one another. Significant items were further developed by diver investigation. Refer to section N and to Separate V for more information. DATA FILED WITH FIELD RECORDS.

F. SOUNDING EQUIPMENT

A Raytheon Digital Survey Fathometer (DSF-6000N) echo sounder was used to measure water depths during the search. All details concerning the DSF-6000N are found in the descriptive report for survey H-10576.

The following fathometers were used during this survey:

<u>Vessel</u>	<u>S/N</u>	<u>Dates Used (DN)</u>
2931	B050N	155
2932	C076	152, 159

The diver determined least depth on AWOIS 8902 was determined using a sounding pole marked in 1 foot increments.

G. CORRECTIONS TO SOUNDINGS

Sound velocity profiles of the water column were determined using a Seacat Conductivity, Temperature and Depth (CTD) profiler (model SBE-19, S/N 286). The profiler was calibrated on February 15, 1995, during WHITING's winter inport period and Data Quality Assurance tests were performed during each CTD cast.

After the CTD cast, programs *CAT 2.00* and *VELOCITY 2.11* were used to process the data, select significant data points, and create a corrector table. The velocity correctors were manually entered into an HDAPS velocity table. The correctors were reapplied to both high (100 kHz) and low (24 kHz) frequency beams following acquisition. Velocity profile data are in Separate IV submitted with this survey.*

One velocity cast was taken to generate a corrector table. The cast is summarized in the following table:

<u>DN</u>	<u>Vel.Table#</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Depth</u>
152 (1995)	28	31° 55' 49"N	080° 53' 18"W	5.9 m

Settlement and squat measurements for launch 1014 (Offset Table 2) were conducted and correctors determined on March 29, 1995. The settlement and squat correctors were applied to the sounding data in real time on each survey platform. Settlement and squat corrector tables are in Separate IV.*

WHITING installed a tide station at Tybee Marina (867-1029) for datum control of H-10576. Opening levels were run on March 30, 1995. The tide gauge continues to collect data beyond the data acquisition dates for this AWOIS investigation. A request for smooth tides was submitted to the Product and Services Branch, N/OES231, Datums Section, on July 14, 1995.
APPROVED TIDES APPLIED DURING OFFICE PROCESSING.

H. CONTROL STATIONS - SEE ALSO EVALUATION REPORT.

The horizontal datum for this project is the North American Datum of 1983 (NAD-83). The source of differential correctors was a HF Differential GPS station erected by WHITING personnel over a surveyed mark at Skidaway Institute of Oceanography. Additionally, WHITING used the forward range marker on Jones Island Range for performance checks. The adjusted NAD-83 position for Skidaway Institute (SKID) was provided by the Field Photogrammetry Section on March 6, 1995. The positions of SKID and Jones Island Front Range follow:

** DATA FILED WITH FIELD RECORDS.*

	<u>Latitude</u>	<u>Longitude</u>
SKID	31° 59' 19.22599" N	081° 01' 12.26294" W
Jones Island Range, Front	32° 02' 31.71243" N	080° 51' 10.09256" W

WHITING used *MONITOR* version 3.0 to verify the station position, and to check for multipath in the area.

I. HYDROGRAPHIC POSITION CONTROL

An HF Differential Global Positioning System (DGPS) was used as the navigation system for this AWOIS investigation. Launch 1014 used an Ashtech Sensor GPS receiver with an LRD-1 HF receiver supplying correctors for DGPS navigation. Ashtech receivers were initialized by HDAPS; LRD-1 radios were set to the appropriate frequency.

DGPS positioning was accomplished in accordance with the FPM, section 3.4. The Horizontal Dilution of Precision (HDOP) limit was computed as required in section 3.4.2 of the FPM and found to be 3.75. No position flyers were encountered. All suspect positions (high HDOP, DR'ed positions, high EPE) were examined for reliability.

The serial numbers of the Ashtech Sensor and MAXON radio-receivers used are as follows:

	<u>Device</u>	<u>Serial Number</u>
Launch 1014	Ashtech Sensor LRD-1	700417B1203 233
Launch 1015	Ashtech Sensor LRD-1	700417B1193 204

DGPS performance checks were done in two stages. The first stage was to send Launch 1014 to the Jones Island Front Range marker. The launch would take ten detached positions and compare them to the known position. All DGPS performance checks confirmed that the DGPS beacon was operating properly. Stage two was conducted with each launch securely housed in WHITING's davits. Simultaneous HDAPS positions were compared between WHITING and each launch; an offset in distance and azimuth was then applied between the ship and each launch. DGPS performance checks were submitted under separate cover to N/CG244.

J. SHORELINE

Not Applicable

K. CROSSLINES

Not Applicable

L. JUNCTIONS

Not Applicable

M. COMPARISONS WITH PRIOR SURVEYS - SEE ALSO EVALUATION REPORT.

Not Applicable

N. ITEM INVESTIGATIONS

The following summarizes the investigation of AWOIS item 8902.

N.1	AWOIS 8902
N.2	Contact 5017.59P

N.1	AWOIS 8902	GREAT WHITE
	Reported Latitude:	31° 55' 31.2" N
	Reported Longitude:	080° 54' 25.8" W
	Source:	LMN 41/93
	Name:	Great White
	Datum:	NAD 27
	Reported Depth:	4-5 feet
	Survey Requirements:	ES, BD, DI, SD

AWOIS item 8902 was found using side scan sonar. Divers investigated the wreck on two occasions without success due to low visibility and swift currents. On DN 171, divers made a third investigation attempt, this time during low tide. Due to the low tide, Launch 1014 was unable to approach within 150 meters of the target, causing the divers to enter the water and swim the remaining distance towards the target. At the wrecks location the divers found the steel hull under one foot of water. The least depth, measured with a sounding pole, was found to be 0.1 meters and the position of AWOIS 8902, determined on DN 159 was found to be 31° 55' 37.945"N, 080° 54' 33.318"W using an echo sounder DP. The least depth was referenced to MLLW using predicted tides. Differential GPS was used to determine the AWOIS position referenced to NAD 83. ^{APPROX}IT IS RECOMMENDED THAT A VISIBLE WRECK BE CHARTED IN LATITUDE 31°55'37.95"N, 80°54'33.32"W.

N.2 Contact 5017.59P

Divers investigated this side scan sonar contact and found nothing. *CONCUR*
DO NOT CHART

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

AWOIS 8902 is marked on chart 11512 as an exposed wreck at 31° 55' 32"N, 080° 54' 25.5"W. The true position for the wreck is 0.16 nautical miles, bearing 310° from the charted position.

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

This investigation is complete and of adequate quality to supersede all prior surveys of the area.

Q. AIDS TO NAVIGATION

Not Applicable

R. STATISTICS

Number of Positions	150
Investigation SSS Lines (Nautical Miles).....	19.5
Crosslines (Nautical Miles)	N/A
Square Nautical Miles Surveyed	N/A
Days of Production	3
Detached Positions	3
Bottom Samples	2
Tide Stations Installed	1
Current Stations	None
Number of CTD Casts	1
Magnetic Stations	None

S. MISCELLANEOUS

None

T. RECOMMENDATIONS - SEE ALSO SECTION P. OF THE EVALUATION REPORT.

None

U. REFERRAL TO OTHER REPORTS

None

Submitted By:

Maureen R. Kerry

Ensign Joel T. Michalski, NOAA
Junior Officer, NOAA Ship WHITING

HORIZONTAL CONTROL STATIONS

WHITING personnel erected a HF Differential GPS receiver/transmitter on the grounds of Skidaway Institute of Oceanography (station SKID). The position of the Skidaway mark was faxed from Field Photogrammetry Section to the WHITING on March 6, 1995. Confidence checks were performed using Jones Island Range, Front Light. The positions are as follows:

Station:	SKID
Latitude:	31° 59' 19.22599"
Longitude:	081° 01' 12.26294"
Ellipsoid Ht:	-29.858 meters

Station:	Jones Island Range, Front Light
Latitude:	32° 02' 31.71243" N
Longitude:	080° 51' 10.09256" W



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Office of NOAA Corps Operations
NOAA Ship WHITING S-329
439 W. York Street
Norfolk, VA 23510-1114

July 9, 1995

**ADVANCE
INFORMATION**

Commander, Seventh Coast Guard District
Brickell Plaza Federal Building Room 406
909 SE First Avenue
Miami, Florida 33131-3050

Dear Sir:

The NOAA Ship WHITING recently completed hydrographic survey operations near the entrance to Wassaw Sound and Wilmington River, Georgia. Enclosed is a report showing the new location of the wreck GREAT WHITE located in the survey area.

Differential GPS was used to determine survey positions. Positions are referenced to NAD 83. All depths are referenced to MLLW using predicted tides. Chart 11512 is the largest scale chart affected.

A copy of this letter and attachments have been forwarded to the following offices:

Chief, Nautical Charting Division, NOAA
Chief, AMC Operations Division, NOAA
Chief, Atlantic Hydrographic Section
Director, Defense Mapping Agency
Hydrographic/Topographic Center

Sincerely,

John D. Wilder
Commander, NOAA
Commanding Officer

Enclosures

cc: AMC1
N/CG2
N/CG244
DMAHTC



REPORT OF SUBMERGED FEATURE

Hydrographic Survey Registry Number: H-10576

State: Georgia

**ADVANCE
INFORMATION**

General Locality: Atlantic Ocean

Sublocality: Approach to Wassaw Sound

Project Number: OPR-G115-WH

The following feature was repositioned during hydrographic survey operations by NOAA Ship WHITING:

Changes to be made:

Delete the exposed wreck at position 31° 55' 31.2"N 080° 54' 25.8"W.

Add a submerged wreck at position 31° 55' 37.945"N 080° 54' 33.318"W with a least depth of 0.1 meters.

A sounding pole was used to measure the least depth on the wreck. All soundings have been corrected to MLLW with predicted tide correctors. The position was obtained using differential GPS.

Affected Nautical Charts:


<u>Chart Number</u>	<u>Edition No. Date</u>	<u>Reported Depth</u>	<u>Chart Datum</u>	<u>General Location</u>	
				<u>Latitude</u>	<u>Longitude</u>
11512	40 1/08/94	as noted	NAD 83	31° 52' 00"	080° 53' 00"
11509	24 08/27/94	as noted	NAD 83		

Questions Concerning this report should be directed to the Atlantic Hydrographic Section in Norfolk, Virginia, at telephone number (804) 441-6746.

**APPROVAL SHEET
DESCRIPTIVE REPORT FOR
AWOIS 8902 INVESTIGATION
OPR-G115-WH
1995
WH-10-10-95
FE-417**

The data for this AWOIS investigation were acquired and checked under my daily supervision. Position and sounding accuracy meet the requirements specified in the Field Project Instructions, Hydrographic Manual, Hydrographic Survey Guidelines and the Field Procedures Manual for Hydrographic Surveying. This survey is complete and adequate for the intended purpose of delineating bottom topography, determining depths and identifying all potential dangers to navigation. No final field sheets were prepared for this survey. The survey data and accompanying records are complete for the preparation of the smooth sheet.

Approved By:



Commander John D. Wilder, NOAA
Commanding Officer, NOAA Ship WHITING



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEANIC SERVICE
Office of Ocean and Earth Sciences
Silver Spring, Maryland 20910

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: October 25, 1995

HYDROGRAPHIC BRANCH: Atlantic

HYDROGRAPHIC PROJECT: OPR-G115-WH

HYDROGRAPHIC SHEET: H-10576*

LOCALITY: Approaches to Wassaw Sound

TIME PERIOD: June 1 - 20, 1995

TIDE STATION USED: 867-1029 Tybee Marina, Ga.
Lat. $31^{\circ} 59.8'N$ Lon. $80^{\circ} 51.3'W$

PLANE OF REFERENCE (MEAN LOWER LOW WATER): -0.05 ft.
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 6.8 ft.

REMARKS: RECOMMENDED ZONING

1. Northwest of a line between points $31^{\circ} 54.6'N$, $80^{\circ} 56.0'W$, and $31^{\circ} 56.0'N$, $80^{\circ} 55.0'W$, (Williamson Island to Wassaw Island), times are direct and apply a X1.05 range ratio to heights using Tybee Marina Ga. (867-1029)
2. Southeast of a line between points $31^{\circ} 54.6'N$, $80^{\circ} 56.0'W$, and $31^{\circ} 56.0'N$, $80^{\circ} 55.0'W$, (Williamson Island to Wassaw Island), apply a -10 minute time correction and a X1.03 range ratio to heights using Tybee Marina, Ga. (867-1029).

Notes: 1. Times are tabulated in Greenwich Mean Time.
2. Data for Tybee Marina, Ga. (867-1029) are temporarily stored on files #667-1029.

Caution: Tybee Marina, Ga. (867-1029) data are considered preliminary until vertical stability is verified with closing levels by the NOAA ship Whiting.

* NOTE: To be used for FE-417

William M. Hobbs
CHIEF, DATUMS SECTION



**ATLANTIC HYDROGRAPHIC BRANCH
EVALUATION REPORT FOR FE-417 (1995)**

This Evaluation Report has been written to supplement and/or clarify the original Descriptive Report. Sections in this report refer to the corresponding sections of the Descriptive Report.

D. AUTOMATED DATA ACQUISITION AND PROCESSING

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

Hydrographic Processing System
NADCON, version 2.10
AUTOCAD, Release 12
QUICKSURF, version 5.1
Microstation, version 5.0
I/RAS B, version

The smooth sheet was plotted using an ENCAD NovaJet III plotter.

H. CONTROL STATIONS

Horizontal control used for this survey during data acquisition is based upon the North American Datum of 1983 (NAD 83). Office processing of this survey is based on these values. The smooth sheet has been annotated with ticks showing the computed mean shift between the NAD 83 and the North American Datum of 1927 (NAD 27).

To place this survey on the NAD 27, move the projection lines 0.785 seconds (24.170 meters or 2.42 mm at the scale of the survey) north in latitude, and 0.611 seconds (16.060 meters or 1.61 mm at the scale of the survey) east in longitude.

M. COMPARISON WITH PRIOR SURVEYS

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

O. COMPARISON WITH CHART 11512 (52nd Edition, JAN 8/94)

Hydrography

The charted hydrography originates with prior surveys and requires no further consideration. The hydrographer makes

adequate chart comparisons in sections N. and O. of the Descriptive Report.

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

Danger to Navigation

One Danger to Navigation report was submitted to Commander (oan), Seventh Coast Guard District, Miami, Florida for inclusion in the Local Notice to Mariners, and to the Marine Chart Division, N/CS3x1, Silver Spring, Maryland. A copy of the report is appended to this the report.

P. ADEQUACY OF SURVEY

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

S. MISCELLANEOUS

Chart compilation was done by Atlantic Hydrographic Branch personnel, in Norfolk, Virginia. Compilation data will be forwarded to Marine Chart Division, Silver Spring, Maryland.

WHITING Processing Team

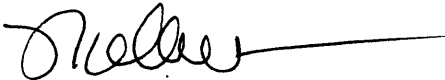
Robert Snow

Robert Snow
Cartographic Technician

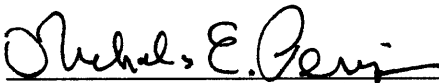
APPROVAL SHEET
FE-417

Initial Approvals:


The completed survey has been inspected with regard to survey coverage, delineation of depth curves, development of critical depths, cartographic symbolization, and verification or disproval of charted data. The digital data have been completed and all revisions and additions made to the smooth sheet during survey processing have been entered in the digital data for this survey. The survey records and digital data comply with NOS requirements except where noted in the Evaluation Report.


Date: 5 APR 96
Norris A. Wike
Cartographer
Atlantic Hydrographic Branch

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


Date: 5 April 1996
Nicholas E. Perugini
Commander, NOAA
Chief, Atlantic Hydrographic Branch

Final Approval:

Approved: 
Date: 5/2/96
Andrew A. Armstrong, III
Captain, NOAA
Chief, Hydrographic Surveys Division

80° 55' 00"

80° 54' 30"

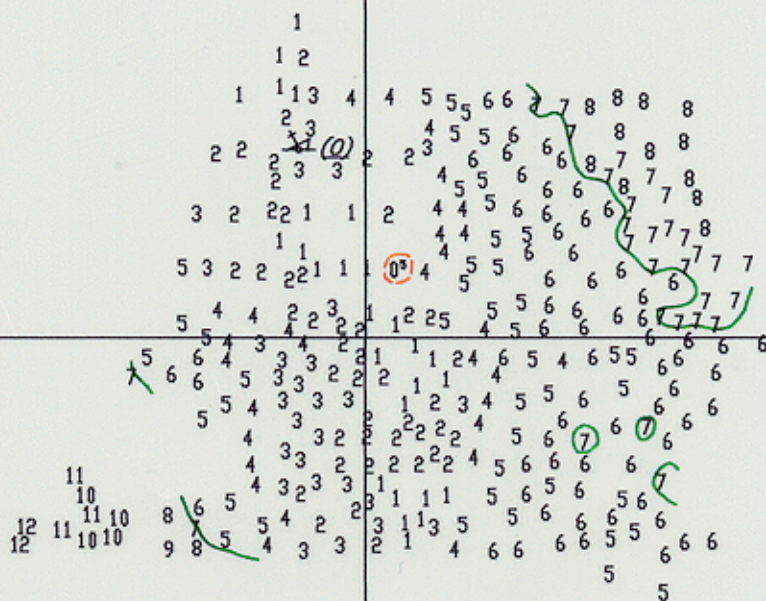
80° 54' 00"

80°54'30"W

NAD 27 31°56'00"N

31° 56' 00"

CHECKED BY:FLS
11/09/1995



31° 55' 30"

NORTH ATLANTIC OCEAN

FE-417
 GEORGIA
 NORTH ATLANTIC OCEAN
 1 NM EAST OF WASSAW SOUND
 JUNE 1 - JUNE 20, 1995
 1:10,000

31° 55' 00"

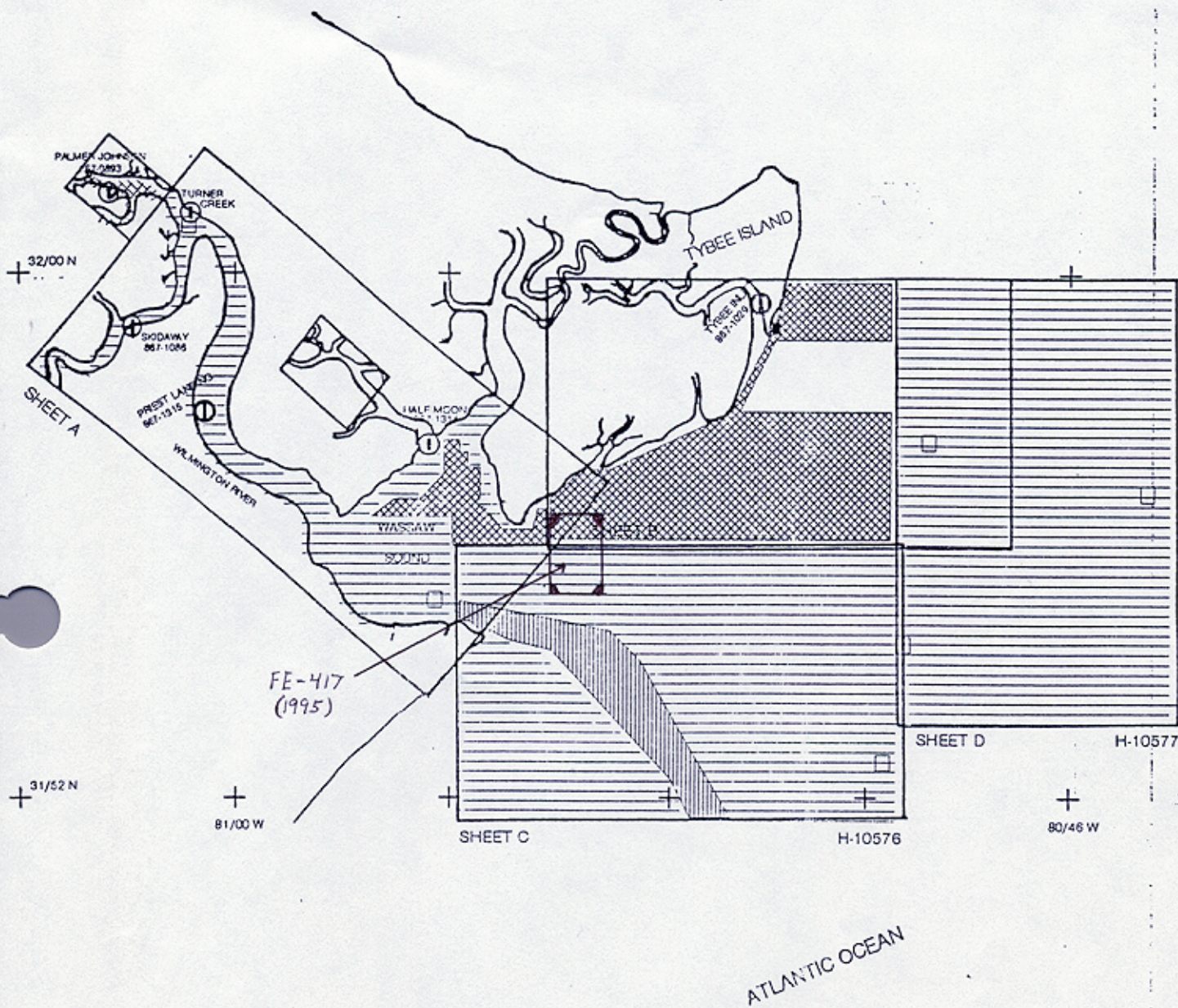
SOUNDINGS IN FEET AT MLLW
 HORIZONTAL DATUM: NAD 83
 SHEET 1 OF 1
 AWOIS ITEM #8902

80° 55' 00"

80° 54' 30"

80° 54' 00"

PROGRESS SKETCH
 OPR - G115 - WH
 HYDROGRAPHIC SURVEY
 WASSAW SOUND AND
 WILMINGTON RIVER, GEORGIA
 SEPTEMBER - NOVEMBER 1994



SEPT	OCT	NOV
2	63	9
51	1746	478
0	7	13
37	67	181
1	10	7
2	4	0
1	0	0
5	25	13

SQ NM SOUNDINGS
 LNM SOUNDINGS
 ITEM INVESTIGATIONS
 BOTTOM SAMPLES
 VELOCITY CASTS □
 TIDE GAUGES INSTALLED ⊕
 CONTROL STATION INSTALLATIONS ■
 DAYS AT SEA
 HYDROGRAPHY

NOAA SHIP WHITING
 JOHN D. WILDER, CDR
 COMMANDING

SCALE OF CHART 11512

