

FOO508

<p>NOAA FORM 76-35A</p> <p>U. S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SURVEY</p> <p>DESCRIPTIVE REPORT</p>	
<p><i>Type of Survey:</i></p> <p><i>Registry Number:</i></p>	<p>Field Examination</p> <p>FOO508</p>
<p>LOCALITY</p> <p><i>State:</i> Massachusetts</p> <p><i>General Locality:</i> Gulf of Maine</p> <p><i>Sub-locality:</i> Approaches to Boston, MA</p>	
<p>2005</p> <p>CHIEF OF PARTY CAPT Emily B. Christman, NOAA</p>	
<p>DATE</p>	<p>LIBRARY & ARCHIVES</p>

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

REGISTRY NUMBER:

HYDROGRAPHIC TITLE SHEET**F00508**

INSTRUCTIONS: The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

State: **Massachusetts**

General Locality: **Gulf of Maine**

Sub-Locality: **Approaches to Boston**

Scale: **1:10,000** Date of Survey: **08/02/05 to 08/08/05**

Instructions Dated: **05/20/05** Project Number: **S-A902-TJ-05**

Vessel: **NOAA Ship THOMAS JEFFERSON, S-222**

Chief of Party: **CAPT Emily B. Christman, NOAA**

Surveyed by: **THOMAS JEFFERSON Personnel**

Soundings by: **Odom Echotrac DF3200 MK II vertical beam echosounder**
KongdbergSimrad EM1002 multibeam echosounder

Graphic record checked by: **N/A**

Protracted by: **N/A** Automated Plot: **N/A**

Verification by: **Atlantic Hydrographic Branch**

Soundings in: **Meters *feet* at MLLW**

Remarks:

- 1) *All Times are UTC.*
- 2) *This is a Special Field Examination Survey.*
- 3) *Projection is UTM Zone 19.*

Bold, Italic, Red notes in the Descriptive Report were made during office processing.

TABLE OF CONTENTS

A. AREA SURVEYED.....1

B. DATA ACQUISITION AND PROCESSING.....3

 EQUIPMENT.....3

 QUALITY CONTROL.....3

 CORRECTIONS TO ECHO SOUNDINGS.....4

C. VERTICAL AND HORIZONTAL CONTROL.....5

 VERTICAL CONTROL.....5

 HORIZONTAL CONTROL.....6

D. RESULTS AND RECOMMENDATIONS.....7

 CHART COMPARISON.....7

 ADDITIONAL RESULTS.....8

E. APPROVAL SHEET.....10

APPENDIX

DESCRIPTIVE REPORT

to accompany
FIELD EXAMINATION F00508

Scale of Survey: 1:10,000

Year of Survey: 2005

NOAA Ship THOMAS JEFFERSON
CAPT Emily B. Christman, Commanding

A. AREA SURVEYED

This hydrographic survey was conducted in accordance with Hydrographic Survey Letter Instructions for project S-A902-TJ-05*, Wildcat Knoll Mapping Project, Massachusetts. The original instructions are dated 20 May 2005.

Project S-A902-TJ-05 responds to a request from the National Marine Sanctuaries (NMS) office. The Wildcat Knoll area may be in need of marine protection in the future. Complete multibeam bathymetric coverage of the area will allow the NMS office to evaluate this need for marine protection and, if deemed necessary, also provide a basis for implementing protection for the area into the management plan of the Stellwagen Banks NMS.

Although this project area does not fall within any of NOAA's Hydrographic Survey Priorities, data from this ocean mapping project will be used to update the following NOS nautical charts: 5161, 13003, 13006, 13009, and 13200.

AWOIS items in the vicinity of the Wildcat Knoll survey area were investigated as opportunities allowed. This Descriptive Report pertains to those field examinations. The assigned field examination number for this survey is F00508, as prescribed in the Letter Instructions.

For complete survey limits, see the chartlet on the following page.

**Filed with original field records.*

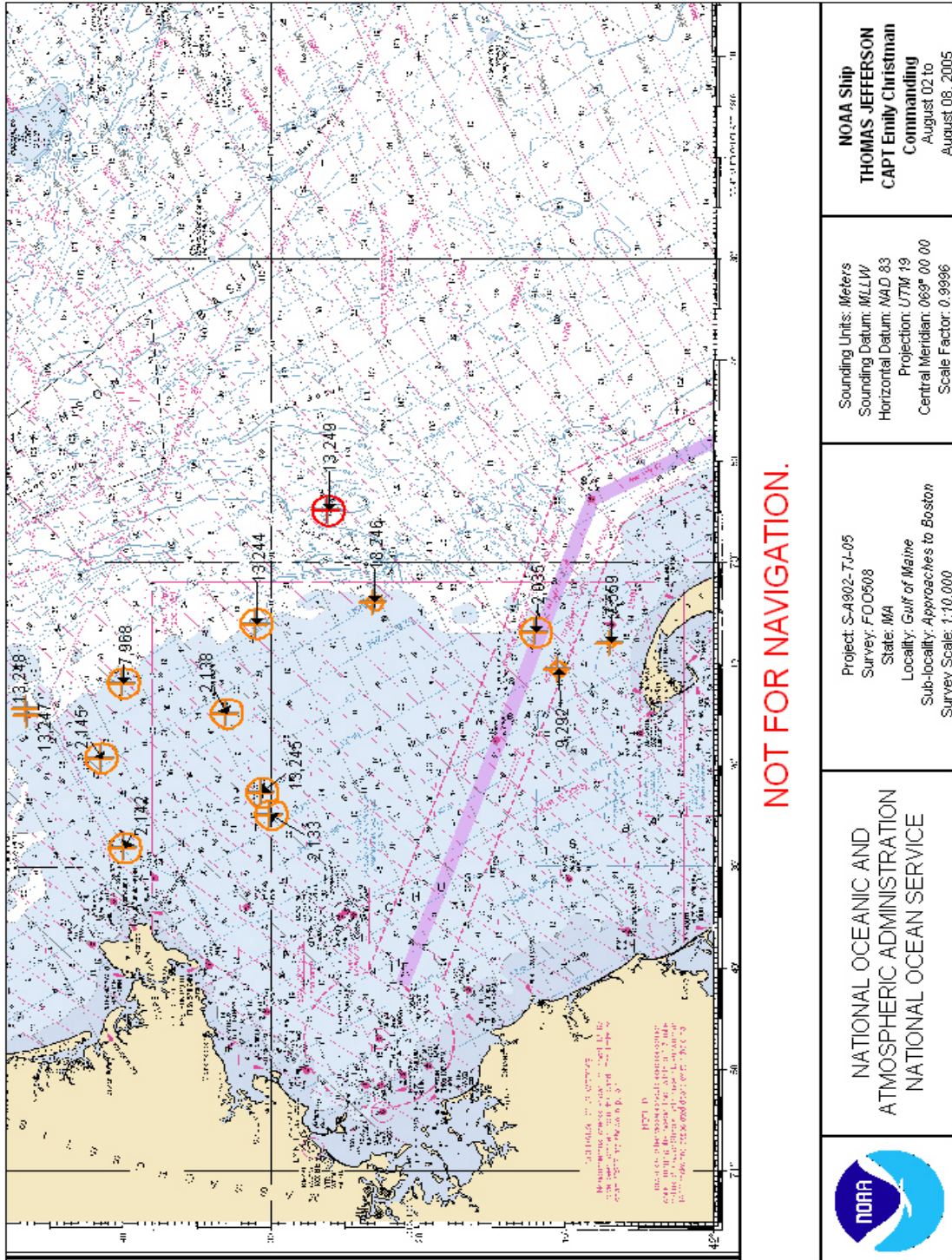


Figure 1: AWOIS Items for S-A902-TJ-05, Wildcat Knoll Mapping Project, MA

B. DATA ACQUISITION AND PROCESSING

EQUIPMENT

Data were acquired by NOAA Ship THOMAS JEFFERSON, which is a 63.4 meter hydrographic survey vessel with a typical draft of 4.51 meters. THOMAS JEFFERSON acquired sidescan sonar (SSS) imagery with a towed KLEIN 5000 sidescan sonar. Bathymetry to accompany the SSS imagery was acquired with an Odom Echotrac DF3200 MK II vertical beam echosounder (VBES) and/or a Kongsberg/Simrad EM1002 multibeam echosounder (MBES). Positioning and attitude were determined with a TSS POS/MV 320 GPS- aided inertial navigation system utilizing differential correctors broadcast from USCG differential beacons. Sound velocity profiles were determined by a Brooke Ocean Moving Vessel Profiler (MVP).

On DN214, during acquisition on H11421, the power supply on the Kongsberg EM1002 failed rendering the unit inoperable until repairs could be made. Acquisition on the field examinations beginning on DN214 utilized VBES instead of MBES as a result of this failure. On DN215 the power supply was repaired and MBES data acquisition on H11421 was resumed.

On DN220, during SSS acquisition, some of the .XTF data files generated by ISIS had corrupted header information which prevented proper conversion of SSS data and prevented the lines from opening in CARIS. To correct this problem, the AttachXTFFileHeader.py macro built into Pydro v5.9.4 was used to attach clean header files to the corrupted files. The .XTF files were renamed, converted, and processed as usual. **OK**

No additional unusual vessel configurations or problems were encountered during the survey. Refer to the Data Acquisition and Processing Report (DAPR) for detailed equipment and vessel configuration information. **OK. 2005 Spring DAPR is provided in submittal.**

QUALITY CONTROL

Side Scan Sonar Quality Control

Daily confidence checks were made by observing the outer ranges of the side scan sonar images. A good check consisted of distinguishing contacts or sand waves across the entire range of the side scan trace. No unusual problems were encountered.

Multibeam Echosounder Quality Control

There were no faults with the MBES system which affected data integrity. Refer to this project's DAPR for detailed discussion of MBES system calibrations, data acquisition, and data processing.

Crosslines

Due to the nature of this field examination, traditional crosslines were not incorporated into this survey *OK*

Junctions

No junction comparisons were incorporated into this field examination. *Concur.*

CORRECTIONS TO ECHO SOUNDING

All methods or instruments used were as described in the project DAPR. A table detailing all sound velocity casts is located in Separate III.

A Brooke Ocean Moving Vessel Profiler (MVP) was used during MBES acquisition to provide sound velocity profiles. The MVP required nadir depths to be input in order for the bottom avoidance feature to work properly. These depths were provided by the Odom Echotrac DF3200 MK II. In order to provide the proper nadir depths from the Odom, the transducer draft had to be added to generate corrected depths at nadir (depth below transducer + transducer draft = depth below water surface). Normally, when VBES data is processed, the transducer draft is added during post processing. During acquisition on this project when the MVP was not in use, the original transducer draft value of zero was re-entered into the Odom. However, on DN 219 and DN 220 there were times that the transducer draft value was not properly reset prior to VBES acquisition. During conversion and post processing in CARIS, the transducer draft was subsequently reapplied resulting in VBES data with soundings approximately 4.5 meters deeper than actual depths. To correct this, the vessel configuration file for the ship's VBES had to be modified. Time stamps were added to the vessel configuration file and the transducer draft was zeroed for all times when the improper draft was entered into the Odom. All VBES data were reconverted using CARIS Generic Data Parser and the updated vessel configuration file and were processed as usual. No residual effects on draft were noted.

OK. SVP Profiles were imported into PYDRO by reviewer.

The purpose of this survey was to locate and identify the current condition of the AWOIS items assigned to this field examination. The purpose was not to update charted soundings, and therefore, the soundings acquired during this survey are not adequate to supercede previously charted soundings except as noted for the Pydro PSS DR_Uncharted item. *Concur.*

C. VERTICAL AND HORIZONTAL CONTROL

VERTICAL CONTROL

Tidal zoning for this survey is consistent with the Letter Instructions. The zone used for this survey is as follows:

STATION	CORRECTOR (min)	RATIO	REFERENCE
NA177	-12	x0.87	844-3970
NA184	-12	x0.85	844-3970
NA185	-6	x0.85	844-3970

Table 1: Final Tide Zones and Correctors

A Request for Approved Tides letter was sent to N/OPS1 on August 16, 2005 (Appendix IV). Verified tides from the N/OPS1 CO-OPS website were downloaded on October 7th, 2005 and applied to all sounding data. *Concur.*

HORIZONTAL CONTROL

The horizontal datum used for this survey is the North American Datum of 1983 (NAD 83), projected using UTM zone 19. *Concur.*

Sounding positional control was determined using the Global Positioning System (GPS) corrected by U.S. Coast Guard differential GPS (DGPS) beacon stations. The primary and only DGPS beacon used for this survey was Acushnet, MA. The Site ID for the Acushnet DGPS beacon is 772. The beacon is located in position 41°44.6'N, 070°53.2'W and the transmit frequency is 306 KHz with a signal strength of 100µV/m at 240nm. No horizontal control stations were established for this survey. *OK*

Horizontal dilution of precision (HDOP) was monitored daily on THOMAS JEFFERSON. That value did not exceed 2.5, and adequate satellite coverage was maintained throughout the survey period. *Concur.*

D. RESULTS AND RECOMMENDATIONS

CHART COMPARISON

See the Pydro preliminary smooth sheet (PSS) for all charting information for this field examination.

Sounding Plots show that the current soundings are consistent with and follow the general trend of the charts. It is recommended that the charted soundings be retained.

AWOIS Items and Significant Contacts

There were ~~thirteen~~ *fourteen* AWOIS items for consideration in this field examination. Of the ~~thirteen~~ *fourteen* AWOIS items, four items were investigated. The search radii for AWOIS #7559 and #9292 were completely investigated and the items were not found and are therefore disproved.* The search radius for AWOIS #2035 was only partially completed due to time constraints. The item was not found in the partial area surveyed, but insufficient data exists to disprove the item. The search radius as listed in the MapInfo tables included with the project instructions for AWOIS #13244 was surveyed in its entirety and no item was found. However, it was later discovered that the position of AWOIS #13244 in the AWOIS data base differed from the position included in the MapInfo table. The geographic position listed in the AWOIS database corresponded with a non-dangerous wreck symbol on the chart, while the geographic position in the MapInfo table did not. Therefore, it is believed that the investigation was conducted in the wrong location.

**Do not concur. AWOIS search criteria called for either 200% SSS or 100% MB, neither of which was obtained on AWOIS #7559 and #9292. See evaluation report for further detail.*

Dangers to Navigation

No dangers to navigation were discovered during this field examination. *Concur.*

Charted Features

See the Pydro PSS that accompanies this field examination.

Charting Recommendations

The hydrographer recommends removing the two disproved AWOIS items from the chart. *Do not concur. See evaluation report.*

ADDITIONAL RESULTS**Aids to Navigation and Other Detached Positions**

No Aids to Navigation were positioned during this field examination. *OK*

Bridges and Overhead Cables

There were no bridges or overhead cables in the survey area. *Concur*

Submarine Cables and Pipelines

No submarine cables or pipelines were investigated during this field examination. *Concur*

E. APPROVAL SHEET

**S-A902-TJ-05
Gulf of Maine
Massachusetts**


**Approaches to Boston
Field Examination # FOO508**

Field operations for this field examination 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.


Also submitted in association with this descriptive report has been a series of reports and data:


- S-A902-TJ-05 Horizontal and Vertical Control Report (submission pending)
- August – November 2005 Data Acquisition and Processing Report (submission pending)

Respectfully submitted:

 LTJG / NOAA
LTJg Michael C. Davidson, NOAA
Junior Officer

Approved and Forwarded:

 LT NOAA
LT Marc S. Moser, NOAA
Field Operations Officer


CAPT Emily B. Christman, NOAA
Commanding Officer

APPENDIX I

ITEM INVESTIGATIONS AND CHARTED FEATURES

The following are item investigation reports detailing two groups of features:

1. AWOIS Items
2. Significant Uncharted Features

F00508 Features

Registry Number: F00508
State: Massachusetts
Locality: Gulf Of Maine
Sub-locality: Approaches to Boston, MA
Project Number: A902-TJ-05
Survey Dates: 08/08/2005 - 11/03/2005

Charts Affected

Number	Version	Date	Scale
13246	37th Ed.	06/01/2003	1:80000
13267	32nd Ed.	12/01/2004	1:80000
13278	25th Ed.	12/09/2000	1:80000
13260	39th Ed.	06/01/2003	1:378838
13200	33rd Ed.	01/19/2002	1:400000
13009	31st Ed.	10/01/2004	1:500000
13006	32nd Ed.	02/01/2005	1:675000
5161	13th Ed.	10/01/2003	1:1058400
13003	48th Ed.	10/01/2004	1:1200000

Features

No.	Name	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	Rocks	Rock	33.98 m	42° 06' 41.028" N	070° 07' 35.711" W	---
2.1	#2035 PORTLAND	Sounding	57.16 m	42° 12' 00.322" N	070° 06' 58.011" W	2035
2.2	#7559 - CAPTAIN BILL	Sounding	40.13 m	42° 06' 54.309" N	070° 07' 58.177" W	7559
2.3	#9292 - THREE GIRLS	Sounding	38.73 m	42° 10' 30.354" N	070° 10' 35.344" W	9292
2.4	#2133 RESTLESS	Wreck	[None]	42° 30' 00.418" N	070° 24' 58.130" W	2133
2.5	#2138 - NATALIE HAMMOND	Wreck	[None]	42° 33' 00.418" N	070° 14' 58.120" W	2138
2.6	#2142 - UNKNOWN	GP	[None]	42° 39' 54.408" N	070° 28' 16.140" W	2142
2.7	#2145 - ALDEN	GP	[None]	42° 41' 30.543" N	070° 19' 22.130" W	2145
2.8	#7968 - VILLANOVA	GP	[None]	42° 40' 00.407" N	070° 11' 58.211" W	7968
2.9	#13244 - UNKNOWN	GP	[None]	42° 31' 00.000" N	070° 06' 05.909" W	13244

2.10	#13245 - UNKNOWN	GP	[None]	42° 30' 36.933" N	070° 22' 49.000" W	13245
2.11	#13246 - UNKNOWN	GP	[None]	42° 23' 00.000" N	070° 04' 00.000" W	13246
2.12	#13247 - SOUNDING	GP	[None]	42° 46' 24.930" N	070° 15' 09.212" W	13247
2.13	#13248 - SOUNDING	GP	[None]	42° 46' 32.340" N	070° 14' 25.430" W	13248
2.14	#13249 - UNKNOWN	GP	[None]	42° 26' 08.573" N	069° 54' 55.160" W	13249

1 - New Features

1.1) Rocks

Survey Summary

Survey Position: 42° 06' 41.028" N, 070° 07' 35.711" W
Least Depth: 33.98 m
Timestamp: 2005-220.04:12:08.241 (08/08/2005)
Survey Line: a902_tj_05_f00508 / s222_mb / 2005-220 / 0001_20050808_041033_s222
Profile/Beam: 414/89
Charts Affected: 13246_1, 13267_1, 13260_1, 13200_1, 13009_1, 13006_1, 5161_1, 13003_1

Remarks:

During the search for AWOIS #7559 Captain Bill, a cluster of rocks with significant SSS shadow heights were discovered. The area over the feature was imaged with 100% SSS imagery from a KLEIN 5000 and a least depth sounding was acquired by a Kongsberg/Simrad EM1002 MBES. The charted depth of the area is 120 feet. The least depth on the cluster of rocks is 111.47 feet.

Feature Correlation

Address	Feature	Range	Azimuth	Status
a902_tj_05_f00508/s222_mb/2005-220/0001_20050808_041033_s222	414/89	0.00	000.0	Primary
a902_tj_05_f00508/s222_100/2005-219/298_2033	0001	12.98	339.7	Secondary
a902_tj_05_f00508/s222_100/2005-219/216_2134	0002	13.07	144.9	Secondary
a902_tj_05_f00508/s222_100/2005-219/298_2033	0002	18.07	317.2	Secondary
a902_tj_05_f00508/s222_100/2005-219/214_2115	0001	22.41	016.3	Secondary

Hydrographer Recommendations

The hydrographer recommends to chart feature as per digital data.

S-57 Data

Geo object 1: Obstruction (OBSTRN)
Attributes: QUASOU - 6:least depth known
 SORDAT - 20050808
 SORIND - US,US,SURVE,F00508
 TECSOU - 3:found by multi-beam
 VALSOU - 33.976 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Geo object 2: Sounding (SOUNDG)

Attributes: EXPSOU - 2:shoaler than range of depth of the surrounding depth area

QUASOU - 6:least depth known

STATUS - 1:permanent

TECSOU - 2,3:found by side scan sonar,found by multi-beam

VERDAT - 12:Mean lower low water

Office Notes

Concur with following caveat - Chart non-dangerous obstrn with least depth of 111 ft. at surveyed location.

2 - AWOIS Features

2.1) #2035 PORTLAND

Primary Feature for AWOIS Item #2035

Search Position: 42° 12' 00.360" N, 070° 06' 58.090" W
Historical Depth: [None]
Search Radius: 2000
Search Technique: MB, S2, SD
Technique Notes: [None]

History Notes:

[None]

Survey Summary

Survey Position: 42° 12' 00.322" N, 070° 06' 58.011" W
Least Depth: 57.16 m
Timestamp: 2005-220.11:51:15.702 (08/08/2005)
Survey Line: a902_tj_05_f00508 / s222_mb / 2005-220 / 0017_20050808_113730_s222
Profile/Beam: 1437/107
Charts Affected: 13267_1, 13260_1, 13200_1, 13009_1, 13006_1, 5161_1, 13003_1

Remarks:

An investigation of the search radius for AWOIS#2035 was conducted using KLEIN 5000 SSS and Kongsberg/Simrad EM1002 MBES. Due to operational time constraints, the entire search radius was not surveyed. No wreck was located in the portion of the search radius that was investigated.

Feature Correlation

Address	Feature	Range	Azimuth	Status
a902_tj_05_f00508/s222_mb/2005-220/0017_20050808_113730_s222	1437/107	0.00	000.0	Primary
S-A902-TJ-05_AWOIS	AWOIS # 2035	2.17	122.9	Secondary
ChartGPs - Digitized	4	2.17	123.1	Secondary (grouped)

Hydrographer Recommendations

The hydrographer recommends retaining #2035 PORTLAND as listed in the AWOIS database.

S-57 Data

[None]

Office Notes

Concur.

2.2) #7559 - CAPTAIN BILL

Primary Feature for AWOIS Item #7559

Search Position: 42° 06' 54.360" N, 070° 07' 58.090" W
Historical Depth: 40.23 m
Search Radius: 500
Search Technique: MB, S2, SD
Technique Notes: [None]

History Notes:

LNM11/78--THE FISHING VESSEL CAPTAIN BILL HAS BEEN REPORTED SUNK IN 22 FATHOMS OF WATER IN POS. LAT.42-06.9N, LONG.70-08.0W. (ENTERED 2/90 MCR)

Survey Summary

Survey Position: 42° 06' 54.309" N, 070° 07' 58.177" W
Least Depth: 40.13 m
Timestamp: 2005-220.05:28:50.349 (08/08/2005)
Survey Line: a902_tj_05_f00508 / s222_mb / 2005-220 / 0005_20050808_052331_s222
Profile/Beam: 892/30
Charts Affected: 13246_1, 13267_1, 13260_1, 13200_1, 13009_1, 13006_1, 5161_1, 13003_1

Remarks:

The entire AWOIS search radius of AWOIS #7559 was covered with 100% SSS imagery from a KLEIN 5000. Bathymetry for the area was acquired with ODOM Echotrack DF3200 MKII VBES with additional bathymetry from Kongsberg/Simrad EM1002 MBES. The AWOIS item was not found within the search radius.

Feature Correlation

Address	Feature	Range	Azimuth	Status
a902_tj_05_f00508/s222_mb/2005-220/0005_20050808_052331_s222	892/30	0.00	000.0	Primary
S-A902-TJ-05_AWOIS	AWOIS # 7559	2.54	232.1	Secondary

Hydrographer Recommendations

The hydrographer recommends removing the non-dangerous wreck symbol associated with AWOIS #7559.

S-57 Data

[None]

Office Notes

Do not concur. Full AWOIS radius not investigated. Retain as charted.

2.3) #9292 - THREE GIRLS

Primary Feature for AWOIS Item #9292

Search Position: 42° 10' 30.360" N, 070° 10' 35.100" W
Historical Depth: [None]
Search Radius: 1000
Search Technique: MB, S2, SD
Technique Notes: [None]

History Notes:

LN09/90-- ADD SYMBOL FOR SUBMERGED WRECK IN PA LAT. 42-10-30.0N, LONG. 70-10-37.0W. DESCRIPTION **** RADIO MESSAGE, COGARD STA PROVINCETOWN MA TO COMCOGARDGRU WOODS HOLE MA INFO COGARD ONE BOSTON MA, DATED 2/27/90; F/V THREE GIRLS REPORTED SUNK IN APPROX. LAT. 42-01.5N (SIC), LONG. 70-10.37W IN 108 FEET; LIGHT SHEEN 100 X 65 FEET OBSERVED EMANATING FROM WASH; 45 FEET LONG, WOODEN CONSTRUCTION, WESTERN (STERN) RIG, BLUE HULL, WHITE SUPERSTRUCTURE; OWNER: SHAWN (SIC) E. ARSENAULT, 476 COMMERCIAL STREET, PROVINCETOWN, MA; TEL. 508-487-4426; VESSEL SANK WHILE BEING TOWED BY THE F/V SHIRLEY AND ROLAND ALLEGEDLY ENROUTE NEW BEDFORD, MA; OWNER STATES FUEL TANKS PUMPED OUT BY HAND; CRANKCASE HOLDS 3 GAL. LUBE OIL; NO HYDRAULIC LINES OR FLUID ON BOARD; SOME PROPANE LEFT IN CYLINDER ON BOARD; SHEEN RAPIDLY DISSIPATING; NO NAVIGATIONAL HAZARD AT PRESENT BUT MAY BREAK UP AND CAUSE HAZARDOUS DEBRIS; TRAWLERS MAY LOSE GEAR ON WRECK. (ENT 10/20/94, SJV)

Survey Summary

Survey Position: 42° 10' 30.354" N, 070° 10' 35.344" W
Least Depth: 38.73 m
Timestamp: 2005-220.01:24:55.463 (08/08/2005)
Survey Line: a902_tj_05_f00508 / s222_vb / 2005-220 / 281_0118
Profile/Beam: 1895/1
Charts Affected: 13267_1, 13260_1, 13200_1, 13009_1, 13006_1, 5161_1, 13003_1

Remarks:

The entire AWOIS search radius of AWOIS #9292 was covered with 100% SSS imagery from a KLEIN 5000. Bathymetry for the area was acquired with ODOM Echotrack DF3200 MKII VBES. The AWOIS item was not found within the search radius.

Feature Correlation

Address	Feature	Range	Azimuth	Status
a902_tj_05_f00508/s222_vb/2005-220/281_0118	1895/1	0.00	000.0	Primary

S-A902-TJ-05_AWOIS	AWOIS # 9292	5.62	268.0	Secondary
--------------------	--------------	------	-------	-----------

Hydrographer Recommendations

The hydrographer recommends removing the non-dangerous wreck symbol associated with AWOIS #9292.

S-57 Data

[None]

Office Notes

Do not concur. Search criteria called for 200% SSS or 100% MB coverage.

2.4) #2133 RESTLESS

Primary Feature for AWOIS Item #2133

Search Position: 42° 30' 00.350" N, 070° 24' 58.130" W
Historical Depth: [None]
Search Radius: 2000
Search Technique: MB, S2, SD
Technique Notes: [None]

History Notes:

DESCRIPTION 24 NO.224; TRAWLER; SUNK 10/4/42 BY SUBMARINE; POSITION ACCURACY 1-3 MILES; REPORTED THROUGH FIRST NAVAL DISTRICT HEADQUARTERS 10/5/42. 27 NO.548; SUNK 10/4/42.

Survey Summary

Survey Position: 42° 30' 00.418" N, 070° 24' 58.130" W
Least Depth: [None]
Timestamp: 2005-307.01:42:53 (11/03/2005)
GP Dataset: ChartGPs - Digitized
GP No.: 1
Charts Affected: 13267_1, 13260_1, 13200_1, 13009_1, 13006_1, 5161_1, 13003_1

Remarks:

Due to time constraints the search radius for AWOIS #2133 was not investigated.

Feature Correlation

Address	Feature	Range	Azimuth	Status
ChartGPs - Digitized	1	0.00	000.0	Primary
S-A902-TJ-05_AWOIS	AWOIS # 2133	2.10	000.0	Secondary (grouped)

Hydrographer Recommendations

The hydrographer recommends retaining AWOIS #2133 as listed in the AWOIS database and as charted.

S-57 Data

[None]

Office Notes

Concur.

2.5) #2138 - NATALIE HAMMOND

Primary Feature for AWOIS Item #2138

Search Position: 42° 33' 00.350" N, 070° 14' 58.120" W
Historical Depth: [None]
Search Radius: 2000
Search Technique: MB, S2, SD
Technique Notes: [None]

History Notes:

DESCRIPTION 24 NO.207; SCHOONER, SUNK 7/29/37; POS. ACCURACY 1-3 MILES; REPORTED THROUGH OLD COAST GUARD RECORDS. 27 NO.137; 110 NT SUNK 7/29/37.

Survey Summary

Survey Position: 42° 33' 00.418" N, 070° 14' 58.120" W
Least Depth: [None]
Timestamp: 2005-307.01:56:39 (11/03/2005)
GP Dataset: ChartGPs - Digitized
GP No.: 2
Charts Affected: 13267_1, 13260_1, 13200_1, 13009_1, 13006_1, 5161_1, 13003_1

Remarks:

Due to time constraints the search radius for AWOIS #2138 was not investigated.

Feature Correlation

Address	Feature	Range	Azimuth	Status
ChartGPs - Digitized	2	0.00	000.0	Primary
S-A902-TJ-05_AWOIS	AWOIS # 2138	2.10	000.0	Secondary (grouped)

Hydrographer Recommendations

The hydrographer recommends retaining AWOIS #2138 as listed in the AWOIS database and as charted.

S-57 Data

[None]

Office Notes

Concur.

2.6) #2142 - UNKNOWN

Primary Feature for AWOIS Item #2142

Search Position: 42° 39' 54.340" N, 070° 28' 16.140" W
Historical Depth: [None]
Search Radius: 2000
Search Technique: MB, S2, SD
Technique Notes: [None]

History Notes:

HISTORY NM DATED 4/4/49 DESCRIPTION 24 NO.545; TRAWLER; SUNK 1949 BY MARINE CASUALTY; POSITION ACCURACY WITHIN 1 MILE.

Survey Summary

Survey Position: 42° 39' 54.408" N, 070° 28' 16.140" W
Least Depth: [None]
Timestamp: 2005-307.02:48:10 (11/03/2005)
GP Dataset: ChartGPs - Digitized
GP No.: 3
Charts Affected: 13278_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

Due to time constraints the search radius for AWOIS #2142 was not investigated.

Feature Correlation

Address	Feature	Range	Azimuth	Status
ChartGPs - Digitized	3	0.00	000.0	Primary
S-A902-TJ-05_AWOIS	AWOIS # 2142	2.09	000.0	Secondary (grouped)

Hydrographer Recommendations

The hydrographer recommends retaining AWOIS #2142 as listed in the AWOIS database and as charted.

S-57 Data

[None]

Office Notes

Concur.

2.7) #2145 - ALDEN

Primary Feature for AWOIS Item #2145

Search Position: 42° 41' 30.340" N, 070° 19' 22.130" W
Historical Depth: [None]
Search Radius: 2000
Search Technique: MB, S2, SD
Technique Notes: [None]

History Notes:

DESCRIPTION 24 NO.8638; TRAWLER; SUNK 1957; DEMOLISHED; POSITION ACCURACY WITHIN 1 MILE; REPORTED THROUGH H.O. FILE DOCUMENT DATED 2/25/57.

Survey Summary

Survey Position: 42° 41' 30.543" N, 070° 19' 22.130" W
Least Depth: [None]
Timestamp: 2005-307.02:51:15 (11/03/2005)
GP Dataset: ChartGPs - Digitized
GP No.: 5
Charts Affected: 13278_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

Due to time constraints the search radius for AWOIS #2145 was not investigated.

Feature Correlation

Address	Feature	Range	Azimuth	Status
ChartGPs - Digitized	5	0.00	000.0	Primary
S-A902-TJ-05_AWOIS	AWOIS # 2145	6.28	000.0	Secondary (grouped)

Hydrographer Recommendations

The hydrographer recommends retaining AWOIS #2145 as listed in the AWOIS database and as charted.

S-57 Data

[None]

Office Notes

Concur.

2.8) #7968 - VILLANOVA

Primary Feature for AWOIS Item #7968

Search Position: 42° 40' 00.340" N, 070° 11' 58.120" W
Historical Depth: [None]
Search Radius: 2000
Search Technique: MB, S2, SD
Technique Notes: [None]

History Notes:

CL669/69--5/8/69; DOI, BUREAU OF COMMERCIAL FISHERIES, SAFETY OFFICE; LIST OF COMMERCIAL FISHING VESSELS LOST AT SEA OVER THE PREVIOUS FEW YEARS WITH APPROXIMATE POSITION AND LORAN A COORDINATES; F/V VILLANOVA LOCATED IN LAT 42-40N, LONG 70-12W; CHARTED ON WRECK CHART ONLY AND AS NONDANGEROUS WRECK. (ENTERED MSD 6/91)

Survey Summary

Survey Position: 42° 40' 00.407" N, 070° 11' 58.211" W
Least Depth: [None]
Timestamp: 2005-307.02:53:17 (11/03/2005)
GP Dataset: ChartGPs - Digitized
GP No.: 6
Charts Affected: 13278_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

Due to time constraints the search radius for AWOIS #7968 was not investigated.

Feature Correlation

Address	Feature	Range	Azimuth	Status
ChartGPs - Digitized	6	0.00	000.0	Primary
S-A902-TJ-05_AWOIS	AWOIS # 7968	2.93	315.4	Secondary (grouped)

Hydrographer Recommendations

The hydrographer recommends retaining AWOIS #7968 as listed in the AWOIS database and as charted.

S-57 Data

[None]

Office Notes

Concur.

2.9) #13244 - UNKNOWN

Primary Feature for AWOIS Item #13244

Search Position: 42° 31' 00.000" N, 070° 06' 06.000" W
Historical Depth: [None]
Search Radius: 2000
Search Technique: MB, S2, SD
Technique Notes: [None]

History Notes:

LNM 04/90 (1/24/90) -- SUBMERGED NON-DANGEROUS WRECK PA REPORTED IN THE FOLLOWING POSITION: 42/31/00 N, 70/26/06 W (NAD83). UPDATED 5/17/2005 JCM.

Survey Summary

Survey Position: 42° 31' 00.000" N, 070° 06' 05.909" W
Least Depth: [None]
Timestamp: 2005-307.03:00:44 (11/03/2005)
GP Dataset: ChartGPs - Digitized
GP No.: 8
Charts Affected: 13267_1, 13260_1, 13200_1, 13009_1, 13006_1, 5161_1, 13003_1

Remarks:

The mapinfo tables included with the project instructions and the AWOIS Access database listed different positions for #13244. There is a charted non-dangerous wreck in the position listed in the Access database. The erroneous position in the mapinfo tables was not discovered until after survey on FOO508 had concluded.

Feature Correlation

Address	Feature	Range	Azimuth	Status
ChartGPs - Digitized	8	0.00	000.0	Primary
ChartGPs - Digitized	7	2.06	090.0	Secondary (grouped)
S-A902-TJ-05_AWOIS	AWOIS # 13244	2.06	089.7	Secondary (grouped)

Hydrographer Recommendations

Retain as charted.

S-57 Data

[None]

Office Notes

Area investigated is wrong position. Retain as charted.

2.10) #13245 - UNKNOWN

Primary Feature for AWOIS Item #13245

Search Position: 42° 30' 37.000" N, 070° 22' 49.000" W
Historical Depth: [None]
Search Radius: 2000
Search Technique: MB, S2, SD
Technique Notes: [None]

History Notes:

LNM 41/92 (10/7/92) -- SUBMERGED NON-DANGEROUS WRECK PA REPORTED IN THE FOLLOWING POSITION: 42/30/37 N, 70/22/47 W (NAD83). UPDATED 5/17/2005 JCM.

Survey Summary

Survey Position: 42° 30' 36.933" N, 070° 22' 49.000" W
Least Depth: [None]
Timestamp: 2005-307.03:04:13 (11/03/2005)
GP Dataset: ChartGPs - Digitized
GP No.: 9
Charts Affected: 13267_1, 13260_1, 13200_1, 13009_1, 13006_1, 5161_1, 13003_1

Remarks:

Due to time constraints the search radius for AWOIS #13245 was not investigated.

Feature Correlation

Address	Feature	Range	Azimuth	Status
ChartGPs - Digitized	9	0.00	000.0	Primary
S-A902-TJ-05_AWOIS	AWOIS # 13245	2.07	180.0	Secondary (grouped)

Hydrographer Recommendations

The hydrographer recommends retaining AWOIS #13245 as listed in the AWOIS database and as charted.

S-57 Data

[None]

Office Notes

Concur.

2.11) #13246 - UNKNOWN

Primary Feature for AWOIS Item #13246

Search Position: 42° 22' 60.000" N, 070° 04' 00.000" W
Historical Depth: [None]
Search Radius: 1000
Search Technique: MB, S2, SD
Technique Notes: [None]

History Notes:

LNM 40/98 (10/6/98) -- NON-DANGEROUS SUNKEN WRECK PA REPORTED IN POSITION 42/23/00 N, 070/04/00 W (NAD83). UPDATED 5/17/2005 JCM.

Survey Summary

Survey Position: 42° 23' 00.000" N, 070° 04' 00.000" W
Least Depth: [None]
Timestamp: 2005-307.03:08:28 (11/03/2005)
GP Dataset: ChartGPs - Digitized
GP No.: 10
Charts Affected: 13267_1, 13260_1, 13200_1, 13009_1, 13006_1, 5161_1, 13003_1

Remarks:

Due to time constraints the search radius for AWOIS #13246 was not investigated.

Feature Correlation

Address	Feature	Range	Azimuth	Status
ChartGPs - Digitized	10	0.00	000.0	Primary
S-A902-TJ-05_AWOIS	AWOIS # 13246	0.00	000.0	Secondary (grouped)

Hydrographer Recommendations

The hydrographer recommends retaining AWOIS #13246 as listed in the AWOIS database and as charted.

S-57 Data

[None]

Office Notes

Concur.

2.12) #13247 - SOUNDING

Primary Feature for AWOIS Item #13247

Search Position: 42° 46' 24.930" N, 070° 15' 09.120" W
Historical Depth: 28.65 m
Search Radius: 100
Search Technique: MB, S2
Technique Notes: [None]

History Notes:

OPR-A397-TJ-03 -- FEATURE IS THE LEAST DEPTH ON A SHOAL LOCATED WITH AN EM 1000 IN POSITION: 42°46'24.93" N 070°15'09.12" W. THE SHOAL WAS INCOMPLETELY DEVELOPED BY MBES BUT THE LEAST DEPTH ACQUIRED IS SHOALER THAN THE CHARTED DEPTH. UPDATED 5/17/2005 JCM.

Survey Summary

Survey Position: 42° 46' 24.930" N, 070° 15' 09.212" W
Least Depth: [None]
Timestamp: 2005-307.03:12:15 (11/03/2005)
GP Dataset: ChartGPs - Digitized
GP No.: 11
Charts Affected: 13278_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

Due to time constraints the search radius for AWOIS #13247 was not investigated.

Feature Correlation

Address	Feature	Range	Azimuth	Status
ChartGPs - Digitized	11	0.00	000.0	Primary
S-A902-TJ-05_AWOIS	AWOIS # 13247	2.07	270.3	Secondary (grouped)

Hydrographer Recommendations

The hydrographer recommends retaining AWOIS #13247 as listed in the AWOIS database and as charted.

S-57 Data

[None]

Office Notes

Concur.

2.13) #13248 - SOUNDING

Primary Feature for AWOIS Item #13248

Search Position: 42° 46' 32.340" N, 070° 14' 25.430" W
Historical Depth: 35.05 m
Search Radius: 100
Search Technique: MB, S2
Technique Notes: [None]

History Notes:

OPR-A397-TJ-03 -- FEATURE IS THE LEAST DEPTH ON A SHOAL LOCATED WITH AN EM 1000 IN POSITION: 42°46'32.34" N 070°14'25.43" W. THE SHOAL WAS INCOMPLETELY DEVELOPED BY MBES BUT THE LEAST DEPTH ACQUIRED IS SHOALER THAN THE CHARTED DEPTH. UPDATED 5/17/2005 JCM.

Survey Summary

Survey Position: 42° 46' 32.340" N, 070° 14' 25.430" W
Least Depth: [None]
Timestamp: 2005-307.03:14:02 (11/03/2005)
GP Dataset: ChartGPs - Digitized
GP No.: 12
Charts Affected: 13278_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

Due to time constraints the search radius for AWOIS #13248 was not investigated.

Feature Correlation

Address	Feature	Range	Azimuth	Status
ChartGPs - Digitized	12	0.00	000.0	Primary
S-A902-TJ-05_AWOIS	AWOIS # 13248	0.00	000.0	Secondary (grouped)

Hydrographer Recommendations

The hydrographer recommends retaining AWOIS #13248 as listed in the AWOIS database and as charted.

S-57 Data

[None]

Office Notes

Concur.

2.14) #13249 - UNKNOWN

Primary Feature for AWOIS Item #13249

Search Position: 42° 26' 08.640" N, 069° 54' 55.160" W
Historical Depth: [None]
Search Radius: 2000
Search Technique: MB, S2, SD
Technique Notes: [None]

History Notes:

[SOURCE UNKNOWN] -- NON-DANGEROUS SUNKEN WRECK PA NOW CHARTED IN POSITION 42°26'08.64" N 069°54'55.16" W (NAD83). UPDATED 5/17/2005 JCM.

Survey Summary

Survey Position: 42° 26' 08.573" N, 069° 54' 55.160" W
Least Depth: [None]
Timestamp: 2005-307.03:17:00 (11/03/2005)
GP Dataset: ChartGPs - Digitized
GP No.: 13
Charts Affected: 13260_1, 13200_1, 13009_1, 13006_1, 5161_1, 13003_1

Remarks:

Due to time constraints the search radius for AWOIS #13249 was not investigated.

Feature Correlation

Address	Feature	Range	Azimuth	Status
ChartGPs - Digitized	13	0.00	000.0	Primary
S-A902-TJ-05_AWOIS	AWOIS # 13249	2.08	180.0	Secondary (grouped)

Hydrographer Recommendations

The hydrographer recommends retaining AWOIS #13249 as listed in the AWOIS database and as charted.

S-57 Data

[None]

Office Notes

Concur.

APPENDIX II

LIST OF GEOGRAPHIC NAMES

A complete investigation of geographic names will be conducted at the Atlantic Hydrographic Branch.

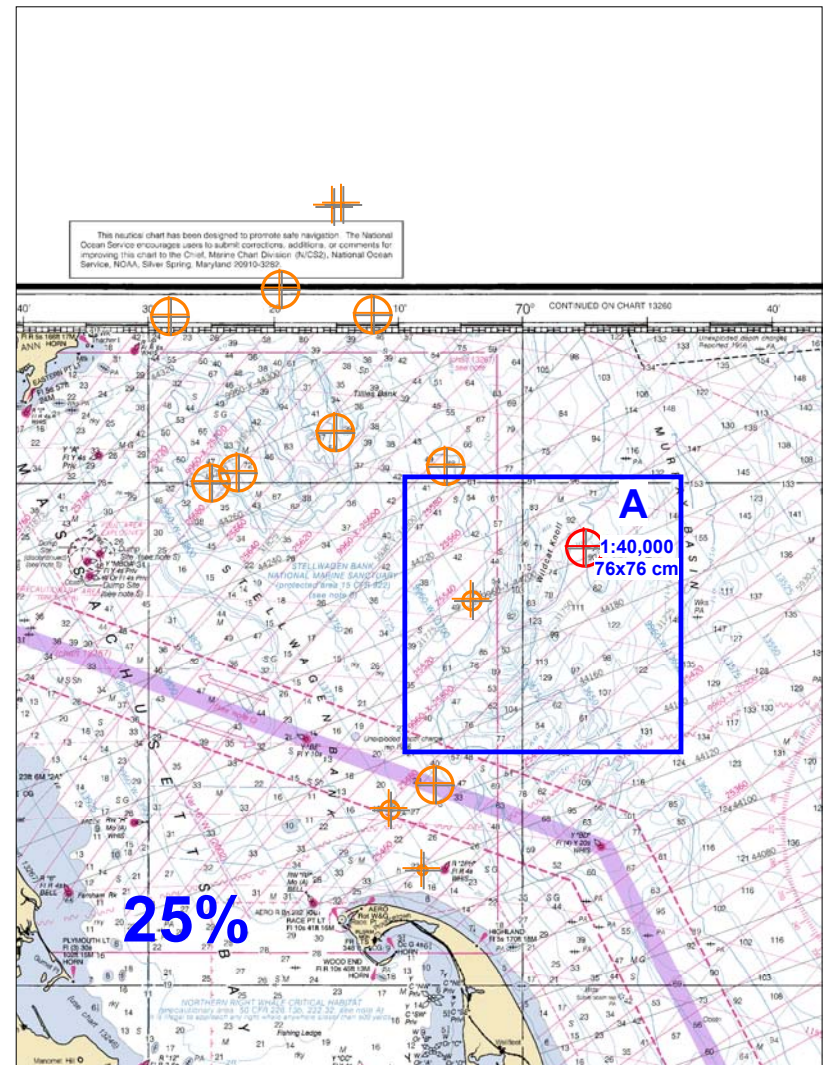
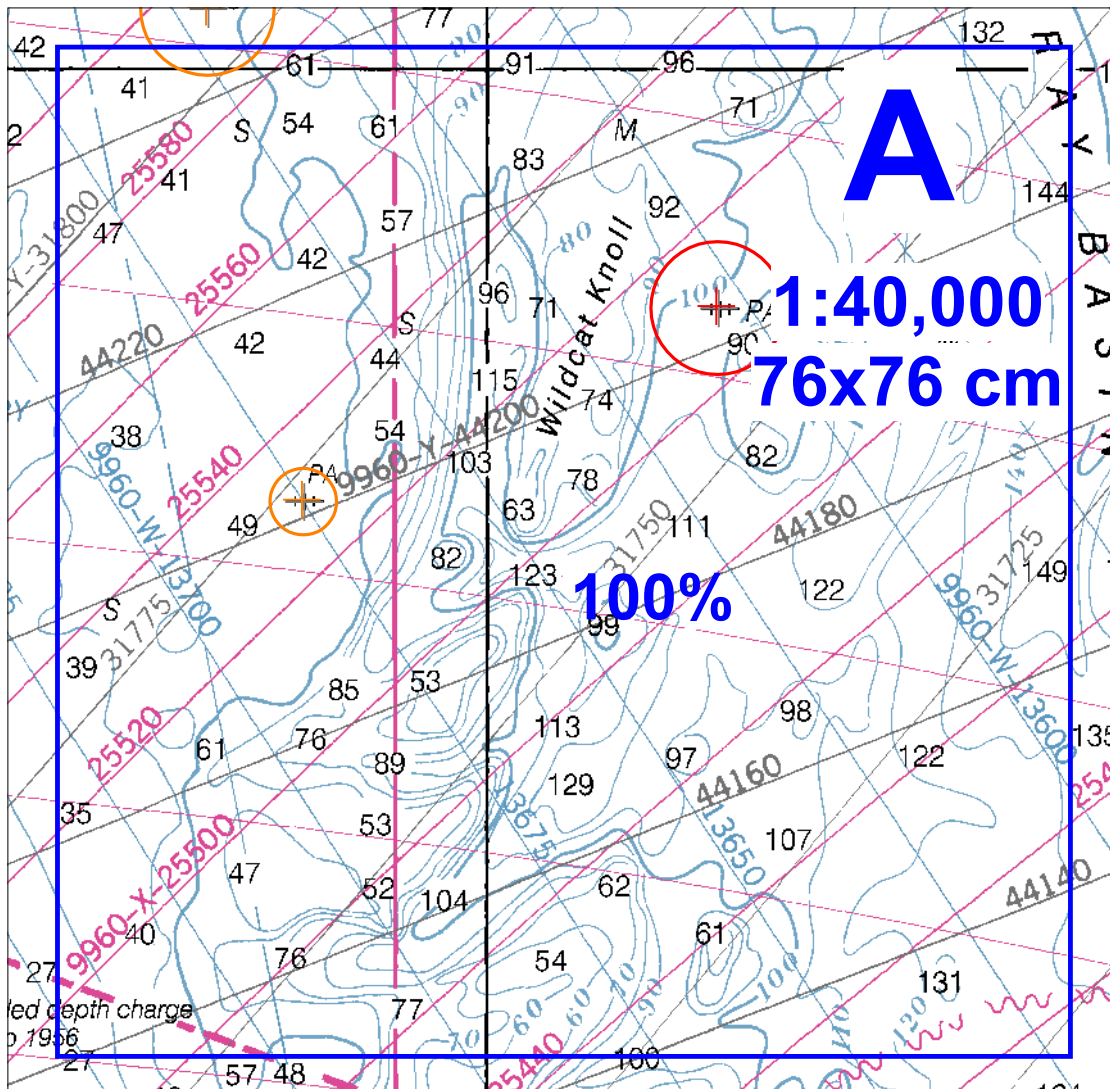
S-A902-TJ-05

FOO508

November 17, 2005

APPENDIX III

PROGRESS SKETCH



Project	Sheet_Letter	H_num	HQ_Est_SNM	CumIPercCompPrevMor	CumIPercCompCurMon	SNM_CompCurMon	CumSNMcomp
A902	A	H11421	75	3	100	83	86
A902	no	F00508	0	0	25	6	6

Project	Month	LNM_Hydro	LNM_MB	SV_Casts	Bottom_Samp	AWOIS_Items	Tide_Gauge_Inst	DAS	DTime equip_H	DTime_Weather_†	D_Time_other_H
A902	July	0.00	19.00	22.00	0.00	0.00	0.00	6.00	36.00	0.00	0.00
A902	August	108.30	661.20	211.00	0.00	5.00	0.00	12.00	52.00	0.00	0.00

Progress Sketch S-A902-TJ-05 August, 2005

APPENDIX IV

TIDES AND WATER LEVELS

5.0. **TIDES**

5.1. **Purpose:** All tide requirements in these instructions are in direct support of hydrographic survey operations.

5.2 through 5.6. : Refer to SI

5.7. **Vertical Datums:** Refer to SI

5.7.1. The operating National Water Level Observation Network (NWLON) stations at Boston, MA (844-3970) and Fort Point, NH (842-3898) will serve as datum control for the survey area. Therefore, it is critical that these stations remain in operation during all periods of hydrography.

5.7.1.1. **Water level data acquisition monitoring:** Refer to SI.

5.7.1.2. **Water level station operation and maintenance:** Refer to SI.

5.7.1.3. No leveling is required at Boston, MA (844-3970) or Fort Point, NH (842-3898) by NOAA Ship Thomas Jefferson personnel.

5.8. **Water Level Station Requirements:** The operating water level stations at Boston, MA (844-3970) and Fort Point, NH (842-3898) will also provide water level reducers for this project, reiterating the importance of their operation during all periods of hydrography. See Sections 5.7.1.1. and 5.7.1.2. concerning responsibilities.

5.8.1. There are no subordinate water level stations required for this project.

5.8.1.2. **This section is not applicable for this project.**

5.8.1.3 **Tide Component Error Estimation:** The estimated tidal error contribution to the total survey error budget in the vicinity of Wildcat Knoll, MA can not be computed due to a lack of available water-level time-series data.

5.9. **Zoning:** For hydrography in the area of Wildcat Knoll, Boston, MA (844-3970) and Fort Point, NH (842-3898) are the reference stations for predicted tides. Predictions may be retrieved in one month increments over the Internet from the CO-OPS Home Page at <http://www.co-ops.nos.noaa.gov/> and then clicking on “Predictions.” Predictions are six-minute time series data relative to MLLW in metric units on Greenwich Mean Time. Apply the following time and height correctors to the predicted tides at Boston, MA (844-3970) and Fort Point, NH (842-3898) during the acquisition and preliminary processing phases of this project for correcting all sounding data.

<u>Zone</u>	<u>Time</u>	<u>Range</u>	<u>Predicted</u>
<u>Name</u>	<u>Corrector(mins)</u>	<u>Ratio</u>	<u>Reference</u>
NA155	-24	x0.99	842-3898

NA156	-12	x0.99	842-3898
NA169	0	x1.01	842-3898
NA169A	+6	x1.02	842-3898
NA169B	+12	x1.05	842-3898
NA169C	+18	x1.06	842-3898
NA169D	0	x0.93	844-3970
NA170	0	x0.94	844-3970
NA174	-6	x0.94	844-3970
NA175	-6	x0.92	844-3970
NA175A	0	x0.93	844-3970
NA176	-12	x0.90	844-3970
NA177	-12	x0.87	844-3970
NA178	-30	x0.87	844-3970
NA183	-30	x0.85	844-3970
NA184	-12	x0.85	844-3970
NA185	-6	x0.85	844-3970
NA186	-6	x0.87	844-3970
NA187	-6	x0.90	844-3970
NA188	-6	x0.92	844-3970
NA189	-6	x0.94	844-3970
NA190	+6	x0.96	844-3970
NA191	+6	x0.98	844-3970
NA192	+18	x1.04	844-3970
NA193	+12	x1.02	844-3970
NA194	+6	x1.00	844-3970
NA195	+12	x1.03	844-3970
NA196	+12,	x0.98	844-3970
NA196A	+12	x0.96	844-3970
NA197	+18	x0.99	844-3970
NA199	-6	x0.83	844-3970
NA200	-12	x0.83	844-3970
NA201	-30	x0.83	844-3970
NA207	-12	x0.81	844-3970
NA208	-6	x0.81	844-3970
NA209	0	x0.79	844-3970

NOTE: The tide corrector values referenced to Boston, MA (844-3970) and Fort Point, NH (842-3898) are provided in the zoning file “A902TJ2005CORP” for this project and are in the fourth set of correctors designated as TS4. Longitude and latitude coordinates are in decimal degrees. Negative (-) longitude is a MapInfo representation of west longitude.

NOTE: For time corrections, a negative (-) time correction indicates that the time of tide in that zone is earlier than (before) the predicted tides at the reference station, whereas, a positive (+) time correction indicates that the time of tide in that zone is later than (after) the predicted tides at the reference station. For height corrections, the water level heights

relative to MLLW at the reference station are multiplied by the range ratio to estimate the water level heights relative to MLLW in the applicable zone.

5.9.1. A zoning diagram, created in MapInfo, is to assist with the zoning provided in Section 5.9.

5.9.2. Preliminary six minute water level time series data may be retrieve from the CO-OPS database via TideBot. TideBot delivers timely preliminary tidal and Great Lakes six minute water level observations via email to users on a scheduled, recurring basis. To access TideBot through an email account, send an email to TideBot@noaa.gov with the word “help” as the subject. An email reply will be sent with instructions on how to subscribe to TideBot for time series data retrieval.

5.10. Tidal Records: Refer to Standing Instructions on what data records, reports and requests to submit to CO-OPS and the address where these documents should be submitted too.

August 16, 2005

MEMORANDUM FOR: Chief, Requirements and Development Division, N/OPS1

FROM: CO Christman, NOAA Ship THOMAS JEFFERSON

SUBJECT: Request for Approved Tides/Water Levels

Please provide the following data:

1. Tide Note
2. Final zoning in MapInfo and .MIX format
3. Six Minute Water Level data (Co-ops web site)

Transmit data to:

NOAA/NOS/Atlantic Hydrographic Branch
N/CS33, Building #2
439 West York Street
Norfolk, VA 23510
ATTN: Chief AHB

These data are required for the processing of the following hydrographic survey:

Project No.: S-A902-TJ-05
Registry No.: F00508
State: Massachusetts
Locality: Gulf of Maine
Sublocality: Approaches to Boston, MA

Attachments containing:

- 1) an Abstract of Times of Hydrography,
- 2) digital MID MIF files of the track lines from pydro on CD/diskette

cc: N/CS33

Year_DOY	Min Time	Max Time
2005_214	17:26:38	23:54:22
2005_215	00:22:02	11:39:03
2005_219	12:02:51	23:59:57
2005_220	00:00:02	12:25:13

APPENDIX V

SUPPLEMENTAL SURVEY RECORDS AND CORRESPONDENCES

V.1. COAST PILOT REPORT, NOAA FORM 77-6

No Coast Pilot Report accompanies this field examination.

V.2. BOTTOM SAMPLE, NOAA FORM 75-44

No bottom samples were taken during this field examination.

V.3. AIDS TO NAVIGATION, NOAA FORM 76-40

No Aids to Navigation were positioned during this field examination.

ATLANTIC HYDROGRAPHIC BRANCH EVALUATION REPORT FOR F00508 (2007)

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 and review data at the Atlantic Hydrographic Branch (AHB):

CARIS HIPS/SIPS version 6.1 service pack 1
CARIS BathyDataBASE 2.1.0.0
CARIS HOM ENC 3.3 Service Pack 3
PYDRO, version 7.3 (r2239)
dKart Inspector (Service Pack 1) 5.0 build 732

B.2 HOM Processing

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

H-Cells

One H-cell was created to define one feature.

Contour and Depth Area Feature Objects

This was an item investigation only survey. No bathymetry is included for charting. One new feature item with its associated least depth was found. Surveyed soundings are consistent with the chart and it is recommended that charted soundings be retained.

Before the HOM file was exported to S-57 format, the file was converted from metric to NOAA chart values. This conversion renames the DRVAL1 and DRVAL2 attributes (for depth areas) from the metric equivalent values to the standard NOAA chart values to accommodate NOAA traditional rounding standards on charts.

Soundings during HOM processing were selected with the CARIS GIS Environmental Variable set to a metric scale (-1,-1,T) to accommodate millimeter precision of the sounding value. This

environmental variable was reset to NOAA standard charting values (0,0,N) to convert the metric sounding values to whole feet.

The completed H-Cell was exported as a Base Cell File (ENC.000) in S-57 format with all values in metric units. The metric equivalent ENC.000 file was then converted to NOAA chart values (ENC_CU.000) with all values measured in feet.

dKart Inspector

The final US400508_CU.000 file was examined using dKart Inspector with no errors or warnings.

C. VERTICAL AND HORIZONTAL CONTROL

Office processing of this survey as an ENC required translating the datum to meet S-57 ENC requirements. During CARIS HOM processing the horizontal geodetic datum was translated from the survey datum (NAD83, UTM Zone 19) to Latitude and Longitude (LLDG) World Geodetic System-84 (WGS-84) prior to exporting the HOM file to the S-57 format. The S-57 ENC format serves as the exchange file submitted to the Marine Chart Division.

Preliminary zoning was accepted by CO-OPS as final zoning. Verified tides and final zoning were applied to the survey.

D. RESULTS AND RECOMMENDATIONS

D.1. CHART COMPARISONS

Raster: 13267 34th Ed., May /07
ENC: US4MA13M
US3EC10M

Hydrography

This was an item investigation only survey. No bathymetry is included for charting. Upon review however, current soundings are consistent with the chart and it is recommended that charted soundings be retained. One new feature item with its associated least depth was found. Crosslines were not run. However, a sounding grid is provided with this submission.

Investigation Items

Fourteen AWOIS items were assigned to this project and were to be addressed as time allowed. Of these fourteen, four investigations were attempted. None of the four met the search radius criteria for disapproval (see table below).

Item	Search Radius	Reason for non-compliance
AWOIS #2035	2000	Incomplete due to operational time constraints.
AWOIS #7559	500	Only 100% SSS was obtained with less than 100% MB coverage.
AWOIS #9292	1000	Only 100% SSS was obtained.
AWOIS #13244	2000	Position Discrepancy between AWOIS database and survey.

AWOIS #13244 Database reads "Position: 42/31/00 N, 70/26/06 W." Surveyed position was 42/31/00 N, 70/06/06 W. This disparity was discovered after conclusion of survey.

Junctions

Not Applicable.

Adequacy of Survey

Data submitted with this survey is useable, however, the intent of this survey was not met. If time is an issue, it is suggested that in the case of item investigations, one item at a time be fully investigated before moving on to the next item. One line running perpendicular to "mainscheme" investigative lines would give a look from a different direction of the object being addressed and could also be used as a crossline check with minimum detriment to operational time.

APPROVAL SHEET
F00508

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 survey records and digital data comply with NOS requirements except where noted in the Evaluation Report.

_____ Date: _____
Wesley Kitt
Physical Scientist
Atlantic Hydrographic Branch

I have reviewed the ENC exchange file (*.000), accompanying data, and reports. This survey and accompanying digital data meet or exceed NOS requirements and standards for products in support of nautical charting except where noted in the Evaluation Report.

Approved: _____ Date: _____
Shep Smith
Lieutenant Commander, NOAA
Chief, Atlantic Hydrographic Branch