

**H11076**

NOAA FORM 76-35A

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

**DESCRIPTIVE REPORT**

*Type of Survey:*            **Navigable Area**

*Registry Number:*        **H11076**

**LOCALITY**

*General Locality:*    Southern Coast of Massachusetts

*Sub-locality:*            Quicks Hole

**2004**

CHIEF OF PARTY  
**CDR Emily B. Christman, NOAA**

LIBRARY & ARCHIVES

DATE

**HYDROGRAPHIC TITLE SHEET**

**H11076**

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

General Locality: **Southern Coast of Massachusetts**

Sub-Locality: **Quicks Hole**

Scale: **1:5,000** Date of Survey: **08/10/04 to 09/01/04**

Instructions Dated: **06/17/04** Project Number: **B-904-TJ-04**

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

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

Surveyed by: **THOMAS JEFFERSON Personnel**

Soundings by: **Reson SeaBat 8101 multibeam echosounder**  
**Reson SeaBat 8125 multibeam echosounder**  
**Odom Echotrak MK II vertical beam echosounder**

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

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

Protracted by: **N/A** Automated Plot: **N/A**  
**Hewlett Packard Design Jet 2500 CP (office)**

Verification by: **Atlantic Hydrographic Branch Personnel**

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

Remarks: ***Red, bold, italic notes in descriptive report were made during office processing.***  
***1) All Times are UTC.***  
***2) This is a Navigable Area Hydrographic Survey.***  
***3) Projection is UTM Zone 19.***

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Appendix II – List of Geographic Names\*

Appendix III – Progress Sketch\*

Appendix IV – Tide and Water Levels\*

Appendix V – Supplemental Survey Records and Correspondences\*

*\*Data Filed with original field records.*

# **DESCRIPTIVE REPORT**

To accompany  
HYDROGRAPHIC SURVEY H11076

Scale of Survey: 1:5,000

Year of Survey: 2004

NOAA Ship THOMAS JEFFERSON  
CRD Emily B. Christman, Commanding

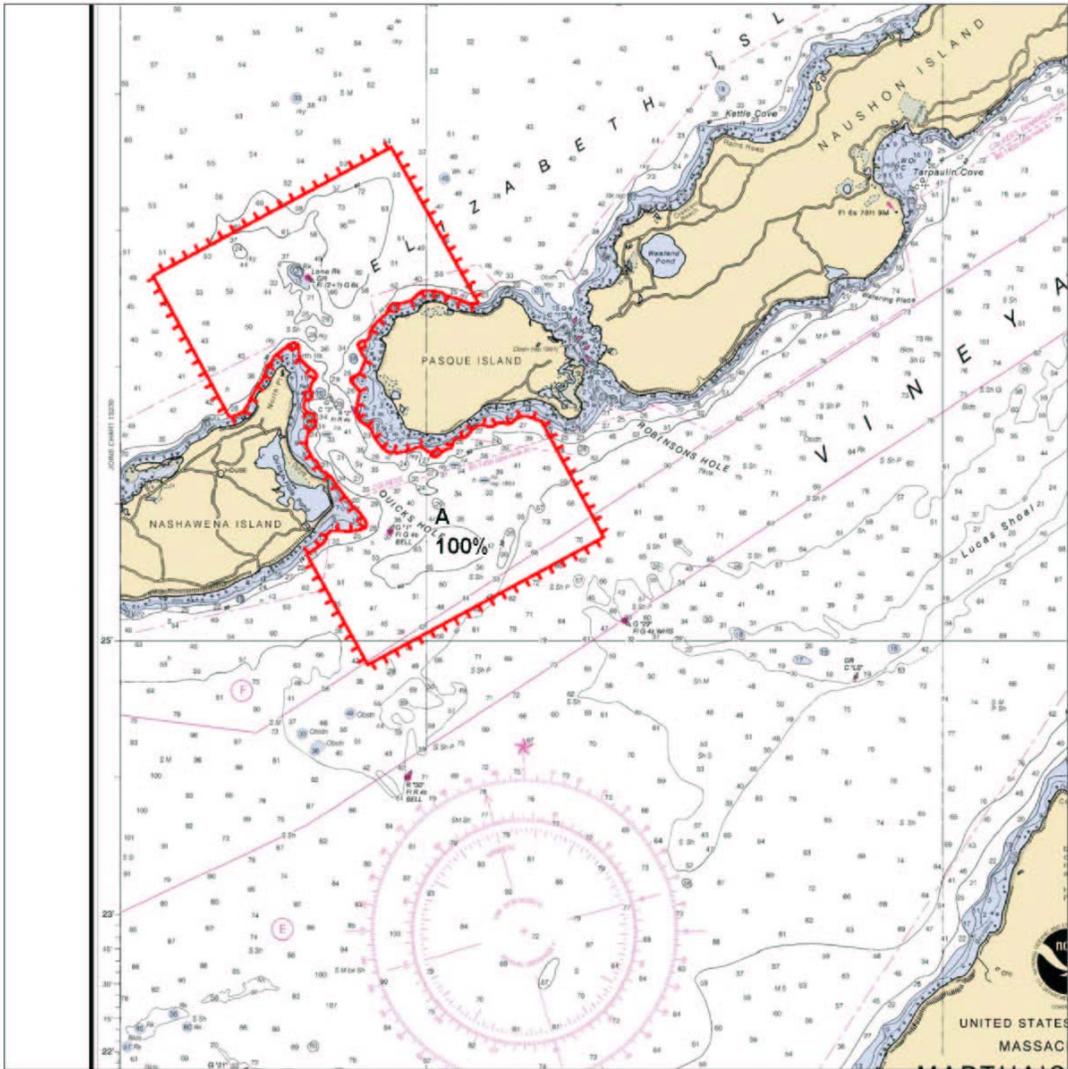
## **A. SURVEY AREA**

This hydrographic survey was conducted in accordance with Hydrographic Survey Letter Instructions\* for project S-B904-TJ-04, Southern Coast of Massachusetts, dated June 17<sup>th</sup>, 2004.

This Descriptive Report pertains to sheet "A" of project S-B904-TJ-04, which includes Quicks Hole. The assigned registry number for this sheet is H11076, as prescribed in the Letter Instruction.

This survey is conducted in response to a request by the U.S. Coast Guard for a modern hydrographic survey of Quicks Hole. Quicks Hole is the only passage between Vineyard Sound and Buzzards Bay east of Cuttyhunk available for vessels of over 10-foot draft. This passage is narrow, and tidal currents can approach 3 knots. The latest hydrographic survey was accomplished in this passage in 1976 (northern half).

*\*Data Filed with original field records.*



Project	Sheet_Letter	H_num	HQ_Est_SNM	CumIPercCompPrev	CumIPercCompCur	SNM_CompCur	CumSNMcom
S-B904-04	A	H11076	5	0	100	6	6

Project	Month	LNM_Hydr	LNM_MB	SV_Casts	Bottom_Sam	AWOIS_Items	Tide_Guage_Inst	DAS	DTime equip_H	DTime_Weather	D_Time_other
S.B904.0	August	412.00	697.50	72.00	0.00	3.00	2.00	21.00	40.00	32.00	0.00

**Progress Sketch S-B904-TJ-04**  
**August, 2004**

Figure 1: Project Progress Sketch

## **B. DATA ACQUISITION AND PROCESSING**

### **EQUIPMENT** *See also the Evaluation Report.*

Data were acquired by NOAA Launch 1005 and NOAA Launch 1014. Both launches are NOAA standard 8.5-meter aluminum Jensen vessels with a 0.5-meter transducer draft.

Launch 1005 acquired VBES data with an Odom MK II echosounder, SSS data with a hull-mounted KLEIN 5000 Towfish, and MBES data with a keel-mounted RESON Seabat 8101 shallow-water multibeam system.

Launch 1014 acquired VBES data with an Odom MK II echosounder and MBES bathymetry data with a RESON Seabat 8125 shallow-water multibeam system.

All platforms acquired positioning and attitude data with an on-board TSS POS/MV (version 3) GPS-aided inertial navigation system. Refer to the 2004 Fall Data Acquisition and Processing Report (DAPR\*) for details related to each individual vessel.

Sound velocity data were acquired by both platforms. Launches 1014 and 1005 each used a Sea-Bird SBE19+ SEACAT conductivity, temperature, and depth profiler.

There were no vessel configurations or changes to the Hips Vessel File (HVF) for this survey that are not included in the 2004 Fall DAPR. There were no survey-specific equipment problems on either survey launch. For all other acquisition or processing details related to this survey, refer to the 2004 Fall DAPR.

*\*Data Filed with original field records.*

### **QUALITY CONTROL**

#### **Side Scan Sonar Quality Control**

Daily confidence checks on the imagery system were performed. A good check consisted of distinguishing contacts across the entire range of the sidescan trace. Examples of such contacts in the survey area are anchor scour, boulders, and shipwrecks. There were no faults with the SSS equipment that affected data integrity. *Concur.*

#### **Multibeam Echosounder Quality Control**

There were no faults with either MBES system that affected data integrity. Refer to the 2004 Fall DAPR for detailed discussion of MBES system calibrations, data acquisition, and data processing. *Concur.*

## Crosslines

A total of 23 crosslines for 25.78 linear nautical miles (6% of acquisition LNM) were run by Launches 1005 and 1014. Quality controls built into CARIS HIPS 5.4 were used in lieu of a traditional checkline QC. A visual examination of the crossline-versus-mainscheme data was performed, and the hydrographer found the results satisfactory.

**Concur.**

## BASE Surface and Total Propagated Error

CARIS HIPS BASE (Bathymetry with Associated Statistical Error) surfaces for this survey were created at 1-meter resolution for large sections and 0.3m or 0.5m resolution for feature investigation. BASE surfaces were examined as follows:

1. Density: As per letter instructions, this survey required 100% SSS bottom coverage and 100% MBES coverage. During acquisition, daily coverage BASE grids were created and holiday line plans derived from these grids. This survey was designed to meet specs and deliverables. **Concur.**
2. Uncertainty: An examination of the uncertainty grid was performed and the high uncertainty areas were examined in CARIS subset editor.
3. Standard Deviation: Areas of high standard deviation were investigated and resolved. High standard deviation areas were investigated in CARIS subset editor. True fliers were examined and rejected. High standard deviation areas caused by natural geologic features or submerged anthropogenic objects were also investigated by the Hydrographer. **Concur.**

Five coverage BASE Surfaces, one combined BASE Surface, and six feature-investigation BASE Surfaces were generated as part of this project.

NAME	PURPOSE	RESOLUTION
<i>AWOIS_rocks</i>	<i>Feature ID</i>	<i>0.5m</i>
<i>AWOIS_wk1</i>	<i>Feature ID</i>	<i>0.5m</i>
<i>BASE_Combined</i>	<i>Combined</i>	<i>1m</i>
<i>LoneRock</i>	<i>Feature ID</i>	<i>0.5m</i>
<i>New_wk_2_hole</i>	<i>Feature ID</i>	<i>0.5m</i>
<i>NewWK1</i>	<i>Feature ID</i>	<i>0.3m</i>
<i>Old_AWOIS_wk</i>	<i>Feature ID</i>	<i>0.5m</i>
<i>QH_Hole</i>	<i>Coverage</i>	<i>1m</i>
<i>QH_NW_1</i>	<i>Coverage</i>	<i>1m</i>
<i>QH_NW_2</i>	<i>Coverage</i>	<i>1m</i>
<i>QH_SW_3</i>	<i>Coverage</i>	<i>1m</i>
<i>QH_SE_4</i>	<i>Coverage</i>	<i>1m</i>

## Junctions

There are no junctions to this survey. **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. *Filed with original field records.*

## C. VERTICAL AND HORIZONTAL CONTROL

### VERTICAL CONTROL

The tidal datum for this project is Mean Lower Low Water (MLLW). The primary operating stations at Nantucket, MA (844-9130) and Newport, RI (845-2660) served as control for datum determination. A 30-day subordinate water station installed at Quicks Hole, MA (844-8251) provides water level reducers for this project.

Tidal zoning for this survey is consistent with the Letter Instructions. The preliminary tidal zoning for this survey is as follows: *Concur.*

ZONE NAME	CORRECTOR (min)	RATIO	REFERENCE
SCM2	+12	x0.99	845-2660
SCM3	+12	x1/02	845-2660
SCM12	+6	x0.95	845-2660
SCM13	+6	x0.89	845-2660
SCM14	+6	x0.84	845-2660
SCM15	+6	x0.79	845-2660
SCM16	0	x0.81	845-2660
SCM17	+12	x0.81	845-2660
SCM22	+24	x0.76	845-2660
SCM23	+12	x0.76	845-2660
SCM24	+6	x0.78	845-2660

A Request for Approved Tides letter was sent to N/OPS1 on September 14th, 2004.

Verified tides for water stations 844-9130 and 845-2660 were downloaded from CO-OPS on September 28<sup>th</sup> and October 6<sup>th</sup>, respectively. These verified tides were applied to the digital data for BASE surface creation, under preliminary tidal zoning. *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.*

Horizontal position was determined using U.S. Coast Guard Differential Global Position System (DGPS) beacons at Acushnet, MA (freq. 306 kHz) and Moriches, NY (freq. 293 kHz). DGPS correctors were processed through the on-board TSS POS/MV v. 320 GPS-

aided inertial navigation system. No horizontal control stations were established for this survey. **Concur.**

Horizontal dilution of precision (HDOP) was monitored daily on both launches. While there were occasional spikes in the HDOP, survey operations continued so long as HDOP did not exceed 2.0 for more than one second.

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

##### **CHART COMPARISON**

There are three charts affected by this survey:

<b>CHART</b>	<b>EDITION</b>	<b>DATE</b>	<b>SCALE</b>
<i>13229SC</i>	<i>28</i>	<i>January 4, 2004</i>	<i>1:40,000</i>
<i>13230</i>	<i>47</i>	<i>December 1, 2003</i>	<i>1:40,000</i>
<i>13233</i>	<i>16</i>	<i>April 14, 2001</i>	<i>1:40,000</i>
<i>13230 (inset)</i>	<i>47</i>	<i>December 1, 2003</i>	<i>1:20,000</i>

##### **General Agreement with Charted soundings**

Except as noted below, soundings acquired as part of survey H11076 agree well with charted soundings. All soundings on current charts, except at the extreme south of the sheet, were acquired prior to 1980 and without differential GPS. MBES and VBES data acquired for this survey are adequate to supersede the charted soundings. **Concur.**

The region between Fox Point on Nashawena Island and Quicks Hole Green Buoy #1 shows evidence of shoaling, with least depths shoaler than 30 feet extending up to 250m seaward of the charted 30' contour. **Concur.**

The sand and rock shoal immediately surrounding Lone Rock appears to have propagated westward, with depths deeper than charted to the south and east and depths shoaler than charted to the west and northwest. **Concur.**

Lone Rock is charted at 3' foot depth, from a Whiting diver lead line least depth in 1977 (Appendix V). This survey located Lone Rock with SSS and RESON 8101 MBES and found the least depth to be 7'. The raw soundings for this least depth were corrected using verified tides and predicted tidal zoning. **Concur.**

A giant sand wave traverses the southern region of the survey area, running along a north-northeast axis. This sand wave appears to have propagated westward and southward, as the least depth of this sand wave is located 411m at a bearing of 211° from the charted least depth. This sand wave is discussed further in Appendix I. **Concur.**

Prior Surveys:

**H08903:** 1966, scale 1:10,000

**H08905:** 1966, scale 1:20,000

**H09615:** 1976, scale 1:20,000

**H09646:** 1976, scale 1:10,000

**H10654:** 1995, scale 1:10,000

**FE406:** 1994, scale 1:10,000

### **AWOIS Items and Significant Contacts**

There were three AWOIS items assigned for full investigation within the survey limits.

The three assigned AWOIS items are addressed in Appendix I. *Concur.*

In addition, there were three AWOIS items for information only outside the survey limits.

These items were investigated using SSS, and two items were found and surveyed with MBES. Further correspondence revealed that one AWOIS item is located well outside the survey area and thus no further action is required (Appendix V). AWOIS items 7243 and 7264 are discussed under the “Charted Features” section of Appendix I. *Concur.*

A total of 257 side scan sonar contacts and 115 bathymetry contacts were acquired during the survey. Of these contacts, 201 SSS contacts and 113 bathymetry contacts are considered significant to surface navigation. Significant charted and uncharted contacts will be discussed further in Appendix I. All other SSS contacts are listed in Separate II\*.

*\*Filed with original field records.*

### **Dangers to Navigation**

Dangers to Navigation (Dton) were reported by the Hydrographer to MCD on October 12, 2004. Digital copies of these Dtons are included in Appendix I. *Concur.*

### **Non-AWOIS Charted Features and Notes**

There were 5 non-AWOIS charted features identified in either the bathymetry or imagery for this survey. One is a charted boulder (Lone Rock), one is a giant sand wave, two are large solitary boulders in Quicks Hole, and one is a charted red channel marker buoy. These features are discussed in detail in Appendix I. *Concur w/clarification, the proper NOAA cartographically rounded depth value for Lone Rock is 8 ft.*

On September 13<sup>th</sup> 2004, a homemade wooden fishing boat exploded and sank to the north of Pasque Island. This incident occurred after completion of data acquisition for survey H11076, and was not reported to Office of Coast Survey until after removal of the water level station at Nashawena Island (844-8251). It is not expected that this wreck will pose a danger to surface navigation. More detailed information on the position and state of this wreck are contained in Appendix V. *Concur.*

## **Charting Recommendations**

On chart 13230\_2, a 1:20,000 inset to the larger Buzzards Bay chart, the area surrounding the northern entrance to Quicks Hole and Lone Rock is charted as having a sand and shale bottom. This area is in fact the site of a boulder field, and is thus poorly represented on the chart. The hydrographer recommends charting this area as rocky.

*Concur.*

There is evidence of shoaling between green channel buoy #1 and Fox Point on the southeast tip of Nashawena Island. A sand wave field is located south of Pasque Island. These sand waves range between 3-4 m in height and may be up to 800m long, from roughly 41°26'01" N 070° 49' 46" to 41° 26' 17" N 070° 49' 11" W. The direction of propagation runs parallel to the shore of Pasque Island. The hydrographer recommends deleting the "hard" bottom designation and charting "sand waves" in this area. *Concur.*

## **ADDITIONAL RESULTS**

### **Aids to Navigation and Other Detached Positions**

All of the aids to navigation for this survey are maintained by the USCG and are in the Light List. Detached positions were acquired for the Lone Rock preferred channel buoy, and the mooring block of Red Buoy "2" was resolved in the SSS imagery. The mooring block of Green Buoy "1" was resolved in MBES bathymetry data. No DPs or sonar resolution was acquired for Green Buoy "3", but this buoy appeared to be on station. The hydrographer has no recommendations as to placement of these aids to navigation.

*Concur. Defer final charting disposition of aids to navigation to Marine Chart Division (MCD), Nautical Data Branch (NDB), Source Information Unit (SIU).*

### **Bridges and Overhead Cables**

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

### **Ferry Routes**

A ferry from New Bedford, MA to Vineyard Haven, MA traverses the survey area. This ferry was observed by THOMAS JEFFERSON personnel during survey operations. This is an uncharted passenger-only ferry route, and the ferry passes through the buoyed, charted channel. The hydrographer has no recommendations for this ferry route.

*Concur. Defer final charting disposition of ferry routes to Marine Chart Division (MCD), Nautical Data Branch (NDB), Source Information Unit (SIU).*

### **Submarine Cables and Pipelines**

There are no submarine cables or pipelines in the survey area. *See the Evaluation Report.*

## E. APPROVAL SHEET

**S-B904-TJ-04**  
**Southern Coast of Massachusetts**

**Quicks Hole**  
**Survey Registry No. H11076**

Field operations for this navigable area 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 including:

- Separates accompanying project S-B904-TJ-04
- 2004 Fall Data Acquisition and Processing Report (July-November 2004), dated (pending), submitted (pending)
- Horizontal and Vertical Control Report, dated (pending); submitted (pending)

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

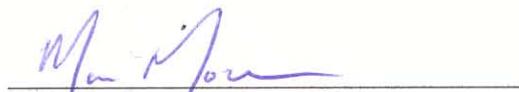
Respectfully,

Submitted:



ST Helen Stewart  
Hydrographer

Approved and Forwarded:



LTJG Marc S. Moser, NOAA  
Field Operations Officer



CDR Emily B. Christman, NOAA  
Commanding Officer

## **APPENDIX I**

### **ITEM INVESTIGATIONS AND CHARTED FEATURES**

Following are item investigation reports detailing the following groups of features:

1. Charted Features
2. New (Uncharted) Features
3. AWOIS Items
4. Dangers to Navigation

# H11076 DR Features Report

**Registry Number:** H11076  
**State:** Massachusetts  
**Locality:** Southern Coast of Massachusetts  
**Sub-locality:** Quicks Hole  
**Project Number:** S-B904-TJ-04  
**Survey Dates:** 08/10/2004 - 09/01/2004

## Charts Affected

Number	Version	Date	Scale
13229	28th Ed.	01/01/2004	1:40000
13230	47th Ed.	12/01/2003	1:40000
13233	16th Ed.	04/14/2001	1:40000
13218	38th Ed.	03/10/2001	1:80000
12300	43rd Ed.	03/01/2003	1:400000
13200	33rd Ed.	01/19/2002	1:400000
13009	30th Ed.	08/01/2002	1:500000
13006	31st Ed.	06/01/2003	1:675000
5161	13th Ed.	10/01/2003	1:1058400
13003	47th Ed.	06/01/2003	1:1200000

## Features

No.	Name	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	3493/139 - Charted 21 Rk	Rock	6.47 m	41° 27' 48.833" N	070° 51' 48.522" W	---
1.2	1765/156 - Charted 36 Rk	Rock	10.97 m	41° 27' 38.726" N	070° 50' 03.740" W	---
1.3	403/38 - Charted 19 Rk	Rock	5.96 m	41° 27' 22.367" N	070° 51' 09.305" W	---
1.4	2563/16 - Charted 29 Rk	Rock	8.94 m	41° 26' 03.171" N	070° 50' 27.666" W	---
1.5	749/154 - Charted 26 Rk	Rock	7.92 m	41° 27' 15.363" N	070° 51' 08.996" W	---
1.6	2502/101 - Charted dang. 29 Wk	Wreck	8.88 m	41° 26' 04.463" N	070° 49' 14.318" W	---
1.7	636/163 - Charted 30 Rk	Rock	9.28 m	41° 26' 10.448" N	070° 50' 19.437" W	---
1.8	971/240 - Charted 20 Rk	Rock	6.24 m	41° 26' 20.458" N	070° 50' 29.094" W	---
1.9	3157/84 - Charted 27 Rk	Rock	8.32 m	41° 25' 42.132" N	070° 50' 34.276" W	---

1.10	1537/203 - Charted 34 Rk	Rock	10.38 m	41° 26' 23.640" N	070° 48' 43.340" W	---
1.11	1510/232 - Charted 96 Wk	Wreck	29.25 m	41° 28' 02.579" N	070° 50' 48.872" W	7507
1.12	134/96 - Lone Rock - 8 Rk	Rock	2.38 m	41° 27' 41.879" N	070° 51' 15.079" W	---
1.13	79/228 - Charted dang. 45 Wk	Wreck	13.83 m	41° 28' 23.340" N	070° 49' 48.840" W	---
1.14	210/100 - Charted dangerous Wk PA - dang. 25 Wk	Wreck	7.62 m	41° 26' 12.206" N	070° 49' 28.237" W	11060
1.15	173/42 - Charted dangerous Wk PA - dang. 30 Wk	Wreck	9.30 m	41° 26' 34.359" N	070° 51' 03.499" W	7203
1.16	186/235 - charted Rks now 32 ft.	Rock	9.81 m	41° 28' 58.349" N	070° 51' 18.244" W	---
1.17	554/240 - Uncharted dang. 62 Wk	Wreck	18.84 m	41° 27' 45.828" N	070° 50' 56.022" W	---

## **1 - H11076 AHB Features**

**1.1) 3493/139 - Charted 21 Rk****DANGER TO NAVIGATION****Survey Summary**

**Survey Position:** 41° 27' 48.833" N, 070° 51' 48.522" W  
**Least Depth:** 6.47 m  
**Timestamp:** 2004-223.21:11:12.726 (08/10/2004)  
**Survey Line:** h11076 / 1014\_mb / 2004-223 / 409\_2059  
**Profile/Beam:** 3493/139  
**Charts Affected:** 13229\_9, 13230\_1, 13233\_1, 13218\_1, 12300\_1, 13200\_1, 13009\_1, 13006\_1, 5161\_1, 13003\_1

**Remarks:**

The feature is a least depth on a rock, imaged by KLEIN 5000 SSS and by RESON 8125 MBES.  
 Danger to Navigation, submitted 12 Oct 2004

**Feature Correlation**

Address	Feature	Range	Azimuth	Status
h11076/1014_mb/2004-223/409_2059	3493/139	0.00	000.0	Primary
h11076/1005_100/2004-223/229_1620	0002	5.21	229.7	Secondary
h11076/1005_200/2004-224/228_1542	0005	9.04	062.4	Secondary

**Hydrographer Recommendations**

Delete 24-ft sounding. Chart as per digital data.

**Cartographically-Rounded Depth (Affected Charts):**

21ft (13229\_9, 13230\_1, 13233\_1, 13218\_1)

3 ½fm (12300\_1, 13200\_1, 13009\_1, 13006\_1, 13003\_1)

6.4m (5161\_1)

**S-57 Data**

**Geo object 1:** Sounding (SOUNDG)

**Attributes:** INFORM - The feature is a least depth on a rock, imaged by KLEIN 5000 SSS and by RESON 8125 MBES. Danger to Navigation, submitted 12 Oct 2004

**Geo object 2:** Underwater rock / awash rock (UWTROC)

**Attributes:** INFORM - The feature is a least depth on a rock, imaged by KLEIN 5000 SSS and by RESON 8125 MBES. Danger to Navigation, submitted 12 Oct 2004

QUASOU - 6:least depth known

STATUS - 1:permanent

TECSOU - 3:found by multi-beam

VALSOU - 6.466 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

## Office Notes

Concur. DtoN has already been applied to the latest raster, no change in charting.

**1.2) 1765/156 - Charted 36 Rk****DANGER TO NAVIGATION****Survey Summary**

**Survey Position:** 41° 27' 38.726" N, 070° 50' 03.740" W  
**Least Depth:** 10.97 m  
**Timestamp:** 2004-226.14:32:32.573 (08/13/2004)  
**Survey Line:** h11076 / 1014\_mb / 2004-226 / 438\_1426  
**Profile/Beam:** 1765/156  
**Charts Affected:** 13230\_2, 13229\_9, 13230\_1, 13233\_1, 13218\_1, 12300\_1, 13200\_1, 13009\_1, 13006\_1, 5161\_1, 13003\_1

**Remarks:**

The feature is a rock imaged by RESON 8125 MBES.

Danger to Navigation, submitted 12 Oct 2004

**Feature Correlation**

Address	Feature	Range	Azimuth	Status
h11076/1014_mb/2004-226/438_1426	1765/156	0.00	000.0	Primary
h11076/1005_100/2004-223/159_2036	0001	38.90	077.1	Secondary (grouped)

**Hydrographer Recommendations**

Delete 40-ft charted depth. Chart as per digital data.

**Cartographically-Rounded Depth (Affected Charts):**

36ft (13230\_2, 13229\_9, 13230\_1, 13233\_1, 13218\_1)

6fm (12300\_1, 13200\_1, 13009\_1, 13006\_1, 13003\_1)

10.9m (5161\_1)

**S-57 Data**

**Geo object 1:** Sounding (SOUNDG)  
**Attributes:** INFORM - The feature is a rock imaged by RESON 8125 MBES. Danger to Navigation, submitted 12 Oct 2004  
**Geo object 2:** Underwater rock / awash rock (UWTROC)

**Attributes:**      INFORM - The feature is a rock imaged by RESON 8125 MBES. Danger to Navigation,  
                          submitted 12 Oct 2004

                          QUASOU - 6:least depth known

                          STATUS - 1:permanent

                          TECSOU - 3:found by multi-beam

                          VALSOU - 10.974 m

                          VERDAT - 12:Mean lower low water

                          WATLEV - 3:always under water/submerged

### **Office Notes**

Concur. DtoN has already been applied to the latest raster, no change in charting.

### 1.3) 403/38 - Charted 19 Rk

## DANGER TO NAVIGATION

### Survey Summary

**Survey Position:** 41° 27' 22.367" N, 070° 51' 09.305" W  
**Least Depth:** 5.96 m  
**Timestamp:** 2004-226.14:10:57.920 (08/13/2004)  
**Survey Line:** h11076 / 1014\_mb / 2004-226 / 469\_1409  
**Profile/Beam:** 403/38  
**Charts Affected:** 13230\_2, 13229\_9, 13230\_1, 13233\_1, 13218\_1, 12300\_1, 13200\_1, 13009\_1, 13006\_1, 5161\_1, 13003\_1

#### Remarks:

The feature is a group of boulders imaged by RESON 8125 MBES and KLEIN 5000 SSS.  
 Danger to Navigation, submitted 12 Oct 2004

### Feature Correlation

Address	Feature	Range	Azimuth	Status
h11076/1014_mb/2004-226/469_1409	403/38	0.00	000.0	Primary
h11076/1014_mb/2004-226/469_1409	387/176	15.48	208.0	Secondary (grouped)
h11076/1005_100/2004-223/155_2111	0005	17.88	209.4	Secondary (grouped)

### Hydrographer Recommendations

Delete charted 25-ft sounding. Chart as per digital data.

#### Cartographically-Rounded Depth (Affected Charts):

19ft (13230\_2, 13229\_9, 13230\_1, 13233\_1, 13218\_1)

3 ¼fm (12300\_1, 13200\_1, 13009\_1, 13006\_1, 13003\_1)

5.9m (5161\_1)

### S-57 Data

**Geo object 1:** Underwater rock / awash rock (UWTROC)

**Attributes:** INFORM - The feature is a group of boulders imaged by RESON 8125 MBES and KLEIN 5000 SSS. Danger to Navigation, submitted 12 Oct 2004

QUASOU - 1,6:depth known,least depth known

STATUS - 1:permanent

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

VALSOU - 5.962 m

WATLEV - 3:always under water/submerged

## **Office Notes**

Concur. DtoN has already been applied to the latest raster, no change in charting.

## 1.4) 2563/16 - Charted 29 Rk

### DANGER TO NAVIGATION

#### Survey Summary

**Survey Position:** 41° 26' 03.171" N, 070° 50' 27.666" W  
**Least Depth:** 8.94 m  
**Timestamp:** 2004-226.21:37:17.877 (08/13/2004)  
**Survey Line:** h11076 / 1005\_mb / 2004-226 / 342\_2132  
**Profile/Beam:** 2563/16  
**Charts Affected:** 13230\_2, 13229\_9, 13230\_1, 13233\_1, 13218\_1, 12300\_1, 13200\_1, 13009\_1, 13006\_1, 5161\_1, 13003\_1

#### Remarks:

The feature is a boulder imaged with RESON 8101 MBES and KLEIN 5000 SSS.  
 Danger to Navigation, submitted 12 Oct 2004

#### Feature Correlation

Address	Feature	Range	Azimuth	Status
h11076/1005_mb/2004-226/342_2132	2563/16	0.00	000.0	Primary
h11076/1005_100/2004-225/105_2052	0002	14.02	119.6	Secondary (grouped)
h11076/1005_100/2004-225/105_2052	0003	20.74	287.2	Secondary (grouped)

#### Hydrographer Recommendations

Chart as per digital data.

#### Cartographically-Rounded Depth (Affected Charts):

29ft (13230\_2, 13229\_9, 13230\_1, 13233\_1, 13218\_1)

4 ¾fm (12300\_1, 13200\_1, 13009\_1, 13006\_1, 13003\_1)

8.9m (5161\_1)

#### S-57 Data

**Geo object 1:** Underwater rock / awash rock (UWTROC)

**Attributes:** INFORM - The feature is a boulder imaged with RESON 8101 MBES and KLEIN 5000 SSS.  
Danger to Navigation, submitted 12 Oct 2004

QUASOU - 1,6:depth known,least depth known

STATUS - 1:permanent

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

VALSOU - 8.943 m

WATLEV - 3:always under water/submerged

## **Office Notes**

Concur. DtoN has already been applied to the latest raster, no change in charting.

## 1.5) 749/154 - Charted 26 Rk

### DANGER TO NAVIGATION

#### Survey Summary

**Survey Position:** 41° 27' 15.363" N, 070° 51' 08.996" W  
**Least Depth:** 7.92 m  
**Timestamp:** 2004-232.18:56:53.821 (08/19/2004)  
**Survey Line:** h11076 / 1014\_mb / 2004-232 / 511\_1854  
**Profile/Beam:** 749/154  
**Charts Affected:** 13230\_2, 13229\_9, 13230\_1, 13233\_1, 13218\_1, 12300\_1, 13200\_1, 13009\_1, 13006\_1, 5161\_1, 13003\_1

#### Remarks:

The feature is a rock located in a rocky area, imaged by RESON 8101 MBES and KLEIN 5000 SSS. This rock is the shoalest rock in the group.

Danger to Navigation, submitted 12 Oct 2004

#### Feature Correlation

Address	Feature	Range	Azimuth	Status
h11076/1014_mb/2004-232/511_1854	749/154	0.00	000.0	Primary
h11076/1005_100/2004-225/190_2106	0001	68.57	243.7	Secondary (grouped)
h11076/1014_mb/2004-232/511_1854	1030/219	186.92	245.3	Secondary (grouped)
h11076/1005_100/2004-223/159_2035	0006	191.82	246.1	Secondary (grouped)
h11076/1005_100/2004-223/157_2054	0003	213.51	236.1	Secondary (grouped)
h11076/1014_mb/2004-226/473_1422	238/50	227.23	234.0	Secondary (grouped)

#### Hydrographer Recommendations

Delete "S Sh" bottom description on charts 13230 and 13233. Chart area as "rky." Chart position of rock as per digital data.

#### Cartographically-Rounded Depth (Affected Charts):

26ft (13230\_2, 13229\_9, 13230\_1, 13233\_1, 13218\_1)

4 ¼fm (12300\_1, 13200\_1, 13009\_1, 13006\_1, 13003\_1)

7.9m (5161\_1)

## S-57 Data

**Geo object 1:** Sounding (SOUNDG)

**Attributes:** INFORM - The feature is a rock located in a rocky area, imaged by RESON 8101 MBES and KLEIN 5000 SSS. This rock is the shoalest rock in the group. Danger to Navigation, submitted 12 Oct 2004

**Geo object 2:** Underwater rock / awash rock (UWTROC)

**Attributes:** INFORM - The feature is a rock located in a rocky area, imaged by RESON 8101 MBES and KLEIN 5000 SSS. This rock is the shoalest rock in the group. Danger to Navigation, submitted 12 Oct 2004

QUASOU - 1,6:depth known,least depth known

STATUS - 1:permanent

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

VALSOU - 7.920 m

WATLEV - 3:always under water/submerged

## Office Notes

Concur. DtoN has already been applied to the latest raster, no change in charting.

## 1.6) 2502/101 - Charted dang. 29 Wk

### DANGER TO NAVIGATION

#### Survey Summary

**Survey Position:** 41° 26' 04.463" N, 070° 49' 14.318" W  
**Least Depth:** 8.88 m  
**Timestamp:** 2004-232.17:23:05.477 (08/19/2004)  
**Survey Line:** h11076 / 1005\_mb / 2004-232 / 306\_1718  
**Profile/Beam:** 2502/101  
**Charts Affected:** 13229\_9, 13230\_1, 13233\_1, 13218\_1, 12300\_1, 13200\_1, 13009\_1, 13006\_1, 5161\_1, 13003\_1

#### Remarks:

The feature is a dangerous wreck imaged by RESON 8101 MBES and KLEIN 5000 SSS. The wreck is mostly intact, and lying on its starboard side in about 40 feet of water.

Danger to Navigation, submitted 12 Oct 2004

#### Feature Correlation

Address	Feature	Range	Azimuth	Status
h11076/1005_mb/2004-232/306_1718	2502/101	0.00	000.0	Primary
h11076/1005_mb/2004-232/308_1750	2349/17	3.85	186.9	Secondary
h11076/1005_100/2004-225/126_1757	0001	4.52	263.7	Secondary

#### Hydrographer Recommendations

Chart dangerous wreck as per digital data. The hydrographer recommends diver investigation of this wreck.

#### Cartographically-Rounded Depth (Affected Charts):

29ft (13229\_9, 13230\_1, 13233\_1, 13218\_1)

4 ¾fm (12300\_1, 13200\_1, 13009\_1, 13006\_1, 13003\_1)

8.9m (5161\_1)

#### S-57 Data

**Geo object 1:** Wreck (WRECKS)

**Attributes:** CATWRK - 2:dangerous wreck

HEIGHT - 3.82 m

INFORM - The feature is a dangerous wreck imaged by RESON 8101 MBES and KLEIN 5000 SSS. The wreck is mostly intact, and lying on its starboard side in about 40 feet of water. Danger to Navigation, submitted 12 Oct 2004

STATUS - 1:permanent

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

VALSOU - 8.885 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

### **Office Notes**

Concur. DtoN has already been applied to the latest raster, no change in charting.

**1.7) 636/163 - Charted 30 Rk****DANGER TO NAVIGATION****Survey Summary**

**Survey Position:** 41° 26' 10.448" N, 070° 50' 19.437" W  
**Least Depth:** 9.28 m  
**Timestamp:** 2004-237.15:45:39.145 (08/24/2004)  
**Survey Line:** h11076 / 1014\_mb / 2004-237 / 354\_1543  
**Profile/Beam:** 636/163  
**Charts Affected:** 13230\_2, 13229\_9, 13230\_1, 13233\_1, 13218\_1, 12300\_1, 13200\_1, 13009\_1, 13006\_1, 5161\_1, 13003\_1

**Remarks:**

The feature is a boulder imaged by RESON 8101 MBES and KLEIN 5000 SSS.

Danger to Navigation, submitted 12 Oct 2004

**Feature Correlation**

Address	Feature	Range	Azimuth	Status
h11076/1014_mb/2004-237/354_1543	636/163	0.00	000.0	Primary
h11076/1005_mb/2004-232/354_1848	1188/19	1.97	006.3	Secondary
h11076/1005_100/2004-226/109_1318	0001	2.89	121.0	Secondary
h11076/1005_100/2004-226/144_1407	0001	4.58	243.0	Secondary (grouped)

**Hydrographer Recommendations**

Chart as per digital data.

**Cartographically-Rounded Depth (Affected Charts):**

30ft (13230\_2, 13229\_9, 13230\_1, 13233\_1, 13218\_1)

5fm (12300\_1, 13200\_1, 13009\_1, 13006\_1, 13003\_1)

9.3m (5161\_1)

**S-57 Data**

**Geo object 1:** Underwater rock / awash rock (UWTROC)

**Attributes:**      INFORM - The feature is a boulder imaged by RESON 8101 MBES and KLEIN 5000 SSS.  
                          Danger to Navigation, submitted 12 Oct 2004

                          QUASOU - 1,6:depth known,least depth known

                          STATUS - 1:permanent

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

                          VALSOU - 9.279 m

                          VERDAT - 12:Mean lower low water

                          WATLEV - 3:always under water/submerged

### **Office Notes**

Concur. DtoN has already been applied to the latest raster, no change in charting.

**1.8) 971/240 - Charted 20 Rk****DANGER TO NAVIGATION****Survey Summary**

**Survey Position:** 41° 26' 20.458" N, 070° 50' 29.094" W  
**Least Depth:** 6.24 m  
**Timestamp:** 2004-237.15:54:04.111 (08/24/2004)  
**Survey Line:** h11076 / 1014\_mb / 2004-237 / 355\_1550  
**Profile/Beam:** 971/240  
**Charts Affected:** 13230\_2, 13229\_9, 13230\_1, 13233\_1, 13218\_1, 12300\_1, 13200\_1, 13009\_1, 13006\_1, 5161\_1, 13003\_1

**Remarks:**

The feature is a rock imaged by RESON 8125 MBES and KLEIN 5000 SSS. Danger to Navigation submitted 22 October 2004.

**Feature Correlation**

Address	Feature	Range	Azimuth	Status
h11076/1014_mb/2004-237/355_1550	971/240	0.00	000.0	Primary
h11076/1005_100/2004-226/109_1318	0002	1.36	241.6	Secondary
h11076/1005_100/2004-226/153_1425	0001	7.83	292.2	Secondary (grouped)

**Hydrographer Recommendations**

Delete charted 26-foot sounding. Chart as per digital data.

**Cartographically-Rounded Depth (Affected Charts):**

20ft (13230\_2, 13229\_9, 13230\_1, 13233\_1, 13218\_1)

3 ¼fm (12300\_1, 13200\_1, 13009\_1, 13006\_1, 13003\_1)

6.2m (5161\_1)

**S-57 Data**

**Geo object 1:** Underwater rock / awash rock (UWTROC)

**Attributes:** INFORM - The feature is a rock imaged by RESON 8125 MBES and KLEIN 5000 SSS. Danger to Navigation submitted 22 October 2004.

QUASOU - 1,6:depth known,least depth known

STATUS - 1:permanent

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

VALSOU - 6.241 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

## Office Notes

Concur. DtoN has already been applied to the latest raster, no change in charting.

**1.9) 3157/84 - Charted 27 Rk****DANGER TO NAVIGATION****Survey Summary**

**Survey Position:** 41° 25' 42.132" N, 070° 50' 34.276" W  
**Least Depth:** 8.32 m  
**Timestamp:** 2004-238.18:08:52.278 (08/25/2004)  
**Survey Line:** h11076 / 1005\_mb / 2004-238 / 487\_1804  
**Profile/Beam:** 3157/84  
**Charts Affected:** 13230\_2, 13229\_9, 13230\_1, 13233\_1, 13218\_1, 12300\_1, 13200\_1, 13009\_1, 13006\_1, 5161\_1, 13003\_1

**Remarks:**

The feature is the shoalest rock in a rock field, imaged by RESON 8101 MBES and KLEIN 5000 SSS.  
 Danger to Navigation, submitted 12 Oct 2004

**Feature Correlation**

Address	Feature	Range	Azimuth	Status
h11076/1005_mb/2004-238/487_1804	3157/84	0.00	000.0	Primary
h11076/1005_100/2004-225/130_1841	0002	40.62	323.2	Secondary (grouped)
h11076/1005_100/2004-225/130_1841	0003	147.90	025.9	Secondary (grouped)
h11076/1005_100/2004-225/130_1841	0001	189.02	049.6	Secondary (grouped)

**Hydrographer Recommendations**

Delete charted "h" and replace with "rky." Delete charted 35-foot sounding. Chart position of rocks as per digital data.

**Cartographically-Rounded Depth (Affected Charts):**

27ft (13230\_2, 13229\_9, 13230\_1, 13233\_1, 13218\_1)  
 4 ½fm (12300\_1, 13200\_1, 13009\_1, 13006\_1, 13003\_1)  
 8.3m (5161\_1)

## S-57 Data

**Geo object 1:** Underwater rock / awash rock (UWTROC)

**Attributes:** INFORM - The feature is the shoalest rock in a rock field, imaged by RESON 8101 MBES and KLEIN 5000 SSS. Danger to Navigation, submitted 12 Oct 2004

QUASOU - 1,6:depth known,least depth known

STATUS - 1:permanent

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

VALSOU - 8.323 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

## Office Notes

Concur. DtoN has already been applied to the latest raster, no change in charting.

**1.10) 1537/203 - Charted 34 Rk****DANGER TO NAVIGATION****Survey Summary**

**Survey Position:** 41° 26' 23.640" N, 070° 48' 43.340" W  
**Least Depth:** 10.38 m  
**Timestamp:** 2004-237.18:43:56.688 (08/24/2004)  
**Survey Line:** h11076 / 1014\_mb / 2004-237 / 902\_1838  
**Profile/Beam:** 1537/203  
**Charts Affected:** 13229\_9, 13230\_1, 13233\_1, 13218\_1, 12300\_1, 13200\_1, 13009\_1, 13006\_1, 5161\_1, 13003\_1

**Remarks:**

The feature is a large rock imaged by KLEIN 5000 SSS and RESON 8125 MBES.  
 Danger to Navigation, submitted 12 Oct 2004

**Feature Correlation**

Address	Feature	Range	Azimuth	Status
h11076/1014_mb/2004-237/902_1838	1537/203	0.00	000.0	Primary
h11076/1005_100/2004-225/130_1843	0001	4.79	286.2	Secondary (grouped)
h11076/1005_100/2004-225/130_1843	0002	39.68	266.1	Secondary (grouped)

**Hydrographer Recommendations**

Delete charted 48-foot sounding. Chart as per digital data.

**Cartographically-Rounded Depth (Affected Charts):**

34ft (13229\_9, 13230\_1, 13233\_1, 13218\_1)

5 ½fm (12300\_1, 13200\_1, 13009\_1, 13006\_1, 13003\_1)

10.4m (5161\_1)

**S-57 Data**

**Geo object 1:** Underwater rock / awash rock (UWTROC)

**Attributes:** INFORM - The feature is a large rock imaged by KLEIN 5000 SSS and RESON 8125 MBES.  
 Danger to Navigation, submitted 12 Oct 2004

QUASOU - 1,6:depth known,least depth known

STATUS - 1:permanent

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

VALSOU - 10.376 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

## **Office Notes**

Concur. DtoN has already been applied to the latest raster, no change in charting.

## 1.11) 1510/232 - Charted 96 Wk

### Primary Feature for AWOIS Item #7507

**Search Position:** 41° 28' 01.880" N, 070° 50' 48.610" W  
**Historical Depth:** 28.96 m  
**Search Radius:** 0  
**Search Technique:** [None]  
**Technique Notes:** [None]

#### History Notes:

HISTORY NM49/67 (12/9/67)--1ST CGD; (FORMERLY PSI 12) BARGE REPORTED SUNK AT APPROX. POS. LAT 41-27-54N, LONG 70-50-49.8W IN 126FT OF WATER. H9646/76-77--UNREVIEWED; INDICATIONS OF NONDANGEROUS SUNKEN WRECK FOUND AT LAT 41-28-02.02N, LONG 70-50-50.75W. ECHO SOUNDER DEPTH OVER WRECK DETERMINED TO BE 96 FEET. WEATHER CONDITIONS PRECLUDED DIVER INVESTIGATION. HYDRO RECOMMENDS CHARTING OF NONDANGEROUS WRECK AT LEAST DEPTH LOCATION. (ENT 10/89 GM) FE406/94--RU; NON DANG. WRECK (SUBM 95FT AT MLLW), POSITION GIVEN IN LAT 41-28-01.88N, LONG 70-50-48.61W(NAD83). (UPDATED 18/95 RWD)

### Survey Summary

**Survey Position:** 41° 28' 02.579" N, 070° 50' 48.872" W  
**Least Depth:** 29.25 m  
**Timestamp:** 2004-225.13:15:58.811 (08/12/2004)  
**Survey Line:** h11076 / 1014\_mb / 2004-225 / 416\_1310  
**Profile/Beam:** 1510/232  
**Charts Affected:** 13229\_9, 13230\_1, 13233\_1, 13218\_1, 12300\_1, 13200\_1, 13009\_1, 13006\_1, 5161\_1, 13003\_1

#### Remarks:

The feature is the shoalest point of the wreck of an overturned barge, imaged with RESON 8125 MBES and KLEIN 5000. This wreck does not pose a danger to surface navigation.

### Feature Correlation

Address	Feature	Range	Azimuth	Status
h11076/1014_mb/2004-225/416_1310	1510/232	0.00	000.0	Primary
h11076/1005_200/2004-224/226_1556	0001	21.74	346.1	Secondary (grouped)
B904-04_awois	AWOIS # 7507	22.47	344.2	Secondary (grouped)
h11076/1005_200/2004-224/146_1746	0001	40.26	004.5	Secondary (grouped)

h11076/1014_mb/2004-225/416_1310	1529/142	40.80	353.4	Secondary (grouped)
h11076/1005_100/2004-223/225_1701	0001	51.12	354.0	Secondary (grouped)

## Hydrographer Recommendations

Chart as per digital data.

### Cartographically-Rounded Depth (Affected Charts):

96ft (13229\_9, 13230\_1, 13233\_1, 13218\_1)

16fm (12300\_1, 13200\_1, 13009\_1, 13006\_1, 13003\_1)

29m (5161\_1)

## S-57 Data

**Geo object 1:** Wreck (WRECKS)

**Attributes:** CATWRK - 1:non-dangerous wreck

HEIGHT - 2.25 m

INFORM - The feature is the shoalest point of the wreck of an overturned barge, imaged with RESON 8125 MBES and KLEIN 5000. This wreck does not pose a danger to surface navigation.

STATUS - 1:permanent

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

VALSOU - 29.248 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

## Office Notes

Concur, chart a wreck with a depth of 96 ft. in Latitude 41:28:02.58N, Longitude 70:50:48.87W.

## 1.12) 134/96 - Lone Rock - 8 Rk

### Survey Summary

**Survey Position:** 41° 27' 41.879" N, 070° 51' 15.079" W  
**Least Depth:** 2.38 m  
**Timestamp:** 2004-245.13:34:39.691 (09/01/2004)  
**Survey Line:** h11076 / 1005\_mb / 2004-245 / 507\_1334  
**Profile/Beam:** 134/96  
**Charts Affected:** 13230\_2, 13229\_9, 13230\_1, 13233\_1, 13218\_1, 12300\_1, 13200\_1, 13009\_1, 13006\_1, 5161\_1, 13003\_1

#### Remarks:

The feature is charted Lone Rock, imaged by RESON 8101 MBES and KLEIN 5000 SSS.

### Feature Correlation

Address	Feature	Range	Azimuth	Status
h11076/1005_mb/2004-245/507_1334	134/96	0.00	000.0	Primary
ChartGPs - Digitized	3	0.59	021.3	Secondary (grouped)
h11076/1005_200/2004-224/145_1832	0003	3.37	207.6	Secondary
h11076/1005_100/2004-223/167_1733	0003	3.73	080.2	Secondary (grouped)
h11076/1005_200/2004-224/144_1820	0001	6.07	352.9	Secondary
h11076/1005_200/2004-224/144_1820	0002	6.17	352.3	Secondary

### Hydrographer Recommendations

Chart as per digital data. Also see correspondance in Appendix V of the Descriptive Report.

#### Cartographically-Rounded Depth (Affected Charts):

8ft (13230\_2, 13229\_9, 13230\_1, 13233\_1, 13218\_1)

1 ¼fm (12300\_1, 13200\_1, 13009\_1, 13006\_1, 13003\_1)

2.4m (5161\_1)

### S-57 Data

**Geo object 1:** Underwater rock / awash rock (UWTROC)

**Attributes:** INFORM - The feature is charted Lone Rock, imaged by RESON 8101 MBES and KLEIN 5000 SSS.

QUASOU - 1,6:depth known,least depth known

STATUS - 1:permanent

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

VALSOU - 2.376 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

## Office Notes

Concur, w/clarification. Lone Rock is verified, revise the blue tinted shoal and revise Lone Rock with a depth of 8 ft. in Latitude 41:27:41.88N, Longitude 70:51:15.08W.

## 1.13) 79/228 - Charted dang. 45 Wk

### Survey Summary

**Survey Position:** 41° 28' 23.340" N, 070° 49' 48.840" W  
**Least Depth:** 13.83 m  
**Timestamp:** 2004-244.18:37:49.842 (08/31/2004)  
**Survey Line:** h11076 / 1014\_mb / 2004-244 / 176\_1837  
**Profile/Beam:** 79/228  
**Charts Affected:** 13229\_9, 13230\_1, 13233\_1, 13218\_1, 12300\_1, 13200\_1, 13009\_1, 13006\_1, 5161\_1, 13003\_1

#### Remarks:

The feature is AWOIS item #7243, imaged by RESON 8125 MBES and KLEIN 5000 side scan sonar. This item is an old wreck that is highly scattered and almost completely disintegrated. The shoalest point of this feature is approximately 1m above the water bottom.

### Feature Correlation

Address	Feature	Range	Azimuth	Status
h11076/1014_mb/2004-244/176_1837	79/228	0.00	000.0	Primary
h11076/1005_200/2004-224/216_1700	0001	4.35	066.3	Secondary (grouped)
ChartGPs - Digitized	6	4.59	063.1	Secondary (grouped)

### Hydrographer Recommendations

Chart as per digital data.

#### Cartographically-Rounded Depth (Affected Charts):

45ft (13229\_9, 13230\_1, 13233\_1, 13218\_1)

7 ½fm (12300\_1, 13200\_1, 13009\_1, 13006\_1, 13003\_1)

13.8m (5161\_1)

### S-57 Data

**Geo object 1:** Wreck (WRECKS)  
**Attributes:** CATWRK - 3:distributed remains of wreck  
 HEIGHT - 1.10 m

INFORM - The feature is AWOIS item #7243, imaged by RESON 8125 MBES and KLEIN 5000 side scan sonar. This item is an old wreck that is highly scattered and almost completely disintegrated. The shoalest point of this feature is approximately 1m above the water bottom.

STATUS - 1:permanent

TECSOU - 1:found by echo-sounder

VALSOU - 13.828 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

## Office Notes

Concur, retain wreck as charted.

## 1.14) 210/100 - Charted dangerous Wk PA - dang. 25 Wk

### Primary Feature for AWOIS Item #11060

**Search Position:** 41° 26' 10.200" N, 070° 49' 25.800" W  
**Historical Depth:** [None]  
**Search Radius:** 500  
**Search Technique:** SD, S2, SWMB, DI  
**Technique Notes:** [None]

#### History Notes:

HISTORY LNM48/94--MARTHAS VINEYARD TO BLOCK ISLAND; ADD SYMBOL FOR DANGEROUS WRECK (PA) (NOV 1994) IN LAT. 41-26-17.0N, LONG. 70-49-43.0. LNM51/94--MARTHAS VINEYARD TO BLOCK ISLAND; RELOCATE SYMBOL FOR DANGEROUS SUBMERGED WRECK FROM LAT. 41-26-17, LONG. 70-49-43 TO LAT. 41-26-10.2N, LONG. 70-49-25.8W. SUPERCEDES LNM48/94. NOTE: WRECK SYMBOL ORIGINALLY CHARTED FROM LNM48/94 HAS NOT BEEN DELETED. SEE PRESENT EDITION OF CHART 13233, APRIL 14, 2001, (ENT 8/6/01, SJV) NOTE: WRECK CHARTED FROM LNM48/94 HAS BEEN DELETED FROM THE 16TH EDITION (4/14/01) OF CHART 13233. UP 4/15/04, SJV)

### Survey Summary

**Survey Position:** 41° 26' 12.206" N, 070° 49' 28.237" W  
**Least Depth:** 7.62 m  
**Timestamp:** 2004-237.16:14:46.618 (08/24/2004)  
**Survey Line:** h11076 / 1005\_mb / 2004-237 / 305\_1614  
**Profile/Beam:** 210/100  
**Charts Affected:** 13229\_9, 13230\_1, 13233\_1, 13218\_1, 12300\_1, 13200\_1, 13009\_1, 13006\_1, 5161\_1, 13003\_1

#### Remarks:

The feature, AWOIS item #11060, is a wreck imaged by RESON 8101 MBES and KLEIN 5000 side scan sonar. The wreck is intact and lying on its starboard side in approximately 40 feet of water. Diver investigation was attempted on this wreck, but owing to extremely strong currents at the time of the dive, the divers were unable to survey the wreck.

### Feature Correlation

Address	Feature	Range	Azimuth	Status
h11076/1005_mb/2004-237/305_1614	210/100	0.00	000.0	Primary
h11076/1005_100/2004-225/132_1859	0001	10.17	033.8	Secondary
B904-04_awois	AWOIS # 11060	84.14	317.5	Secondary

## Hydrographer Recommendations

Delete dangerous wreck PA rep 1994 at 41/26/10.2, -070/49/25.8. Chart dangerous wreck as per digital data.

### Cartographically-Rounded Depth (Affected Charts):

25ft (13229\_9, 13230\_1, 13233\_1, 13218\_1)

4fm (12300\_1, 13200\_1, 13009\_1, 13006\_1, 13003\_1)

7.6m (5161\_1)

## S-57 Data

**Geo object 1:** Wreck (WRECKS)

**Attributes:** CATWRK - 2:dangerous wreck

HEIGHT - 4.5 m

INFORM - The feature, AWOIS item #11060, is a wreck imaged by RESON 8101 MBES and KLEIN 5000 side scan sonar. The wreck is intact and lying on its starboard side in approximately 40 feet of water. Diver investigation was attempted on this wreck, but owing to extremely strong currents at the time of the dive, the divers were unable to survey the wreck.

STATUS - 1:permanent

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

VALSOU - 7.615 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

## Office Notes

Concur. Delete the charted dangerous wreck PA in Latitude 41:26:10.40N, Longitude 70:49:26.28W and chart a dangerous wreck with a depth of 25 ft. in Latitude 41:26:12.21N, Longitude 70:49:28.19W.

## 1.15) 173/42 - Charted dangerous Wk PA - dang. 30 Wk

### Primary Feature for AWOIS Item #7203

**Search Position:** 41° 26' 30.390" N, 070° 50' 58.110" W  
**Historical Depth:** [None]  
**Search Radius:** 500  
**Search Technique:** SD, S2, SWMB, DI \*  
**Technique Notes:** \* SEARCH RADIUS WILL BE RESTRICTED BY SHOAL WATER ON THE WEST. SEARCH NOT REQUIRED INSIDE THE 4-METER DEPTH CURVE.

#### History Notes:

HISTORY LNM47/85(11/19/85)-- 32-FT PLEASURE CRAFT HAS SUNK IN PA LAT 41-26-30N, iLONG 70-51-00W IN 46 FT. OF WATER. (ENTERED MSM 3/89) H8904/66--32-34FT DEPTHS EXIST IN VICINITY. (UPDATED 11/91 iRWD)

### Survey Summary

**Survey Position:** 41° 26' 34.359" N, 070° 51' 03.499" W  
**Least Depth:** 9.30 m  
**Timestamp:** 2004-237.21:21:01.941 (08/24/2004)  
**Survey Line:** h11076 / 1014\_mb / 2004-237 / 550\_2120  
**Profile/Beam:** 173/42  
**Charts Affected:** 13230\_2, 13229\_9, 13230\_1, 13233\_1, 13218\_1, 12300\_1, 13200\_1, 13009\_1, 13006\_1, 5161\_1, 13003\_1

#### Remarks:

The feature is a possible wreck, imaged by RESON 8125 MBES and KLEIN 5000 SSS. The bathymetry contact does not obviously resemble a wreck, but the sidescan image has a distinct cross shape unlike any other rocks in the area. There are no other features in the search radius that resemble a wreck in any form.

### Feature Correlation

Address	Feature	Range	Azimuth	Status
h11076/1014_mb/2004-237/550_2120	173/42	0.00	000.0	Primary
h11076/1005_100/2004-225/113_2039	0003	8.34	040.4	Secondary
B904-04_awois	AWOIS # 7203	175.72	314.3	Secondary

## Hydrographer Recommendations

The hydrographer recommends diver investigation. The hydrographer recommends deleting the charted wreck PA and charting dangerous wreck as per digital data.

### Cartographically-Rounded Depth (Affected Charts):

30ft (13230\_2, 13229\_9, 13230\_1, 13233\_1, 13218\_1)

5fm (12300\_1, 13200\_1, 13009\_1, 13006\_1, 13003\_1)

9.3m (5161\_1)

## S-57 Data

**Geo object 1:** Wreck (WRECKS)

**Attributes:** CATWRK - 2:dangerous wreck

INFORM - The feature is a possible wreck, imaged by RESON 8125 MBES and KLEIN 5000 SSS. The bathymetry contact does not obviously resemble a wreck, but the sidescan image has a distinct cross shape unlike any other rocks in the area. There are no other features in the search radius that resemble a wreck in any form.

STATUS - 1:permanent

TECSOU - 3:found by multi-beam

VALSOU - 9.297 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

## Office Notes

Concur. Delete the dangerous wreck PA in Latitude 41:26:29.80N, Longitude 70:50:56.67W and chart a dangerous wreck with a depth of 30 ft. in Latitude 41:26:34.36N, Longitude 70:51:03.50W.

## 1.16) 186/235 - charted Rks now 32 ft.

### Survey Summary

**Survey Position:** 41° 28' 58.349" N, 070° 51' 18.244" W  
**Least Depth:** 9.81 m  
**Timestamp:** 2004-244.18:59:31.315 (08/31/2004)  
**Survey Line:** h11076 / 1014\_mb / 2004-244 / 180\_1858  
**Profile/Beam:** 186/235  
**Charts Affected:** 13229\_9, 13230\_1, 13233\_1, 13218\_1, 12300\_1, 13200\_1, 13009\_1, 13006\_1, 5161\_1, 13003\_1

#### Remarks:

The feature is the shoalest depth of a rocky outcrop imaged with RESON 8101 MBES and KLEIN 5000 SSS. These rocks are listed as AWOIS item #7264.

### Feature Correlation

Address	Feature	Range	Azimuth	Status
h11076/1014_mb/2004-244/180_1858	186/235	0.00	000.0	Primary
ChartGPs - Digitized	7	63.19	273.2	Secondary (grouped)
h11076/1005_100/2004-224/205_1304	0003	74.54	350.4	Secondary (grouped)
h11076/1005_100/2004-224/205_1304	0004	84.11	267.4	Secondary (grouped)
h11076/1005_100/2004-224/205_1304	0001	94.03	286.0	Secondary (grouped)
h11076/1005_100/2004-224/205_1304	0002	170.69	072.1	Secondary (grouped)
h11076/1005_200/2004-224/211_1347	0001	291.55	243.7	Secondary (grouped)
h11076/1005_200/2004-224/213_1340	0001	309.89	134.0	Secondary (grouped)
h11076/1005_100/2004-224/214_1318	0001	310.98	134.6	Secondary (grouped)
h11076/1005_100/2004-224/212_1311	0001	331.99	103.9	Secondary (grouped)
h11076/1005_200/2004-224/211_1347	0002	332.65	235.4	Secondary (grouped)

### Hydrographer Recommendations

Chart as per digital data. Update AWOIS database to reflect changes in least depth.

#### Cartographically-Rounded Depth (Affected Charts):

32ft (13229\_9, 13230\_1, 13233\_1, 13218\_1)

5 ¼fm (12300\_1, 13200\_1, 13009\_1, 13006\_1, 13003\_1)

9.8m (5161\_1)

### **S-57 Data**

**Geo object 1:** Underwater rock / awash rock (UWTROC)

**Attributes:** INFORM - The feature is the shoalest depth of a rocky outcrop imaged with RESON 8101 MBES and KLEIN 5000 SSS. These rocks are listed as AWOIS item #7264.

QUASOU - 1,6:depth known,least depth known

STATUS - 1:permanent

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

VALSOU - 9.811 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

### **Office Notes**

Concur, revise dangerous 33 Rks to dangerous 32 Rks and retain rky note as charted.

## 1.17) 554/240 - Uncharted dang. 62 Wk

### Survey Summary

**Survey Position:** 41° 27' 45.828" N, 070° 50' 56.022" W  
**Least Depth:** 18.84 m  
**Timestamp:** 2004-225.17:14:50.804 (08/12/2004)  
**Survey Line:** h11076 / 1014\_mb / 2004-225 / 422\_1713  
**Profile/Beam:** 554/240  
**Charts Affected:** 13230\_2, 13229\_9, 13230\_1, 13233\_1, 13218\_1, 12300\_1, 13200\_1, 13009\_1, 13006\_1, 5161\_1, 13003\_1

#### Remarks:

The feature is a shipwreck imaged by RESON 8125 MBES. The wreck is lying on its side and appears to be intact. Owing to its depth, this wreck will not pose danger to surface navigation.

### Feature Correlation

Address	Feature	Range	Azimuth	Status
h11076/1014_mb/2004-225/422_1713	554/240	0.00	000.0	Primary
h11076/1005_100/2004-223/165_1822	0001	10.78	273.0	Secondary (grouped)
h11076/1014_mb/2004-225/423_1701	2386/230	12.22	149.8	Secondary (grouped)
h11076/1005_100/2004-223/118_1934	0001	12.28	175.9	Secondary (grouped)
h11076/1005_100/2004-223/161_1811	0001	12.28	175.9	Secondary (grouped)

### Hydrographer Recommendations

Chart as per digital data.

#### Cartographically-Rounded Depth (Affected Charts):

62ft (13230\_2, 13229\_9, 13230\_1, 13233\_1, 13218\_1)  
 10 ¼fm (12300\_1, 13200\_1, 13009\_1, 13006\_1, 13003\_1)  
 18.8m (5161\_1)

### S-57 Data

**Geo object 1:** Wreck (WRECKS)  
**Attributes:** CATWRK - 1:non-dangerous wreck  
 HEIGHT - 10 m

STATUS - 1:permanent

TECSOU - 3:found by multi-beam

VALSOU - 18.841 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

## Office Notes

Concur, chart a wreck with a depth of 62 ft. in Latitude 41:27:45.83N, Longitude 70:50:56.02W.



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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: March 1, 2005

HYDROGRAPHIC BRANCH: Atlantic  
HYDROGRAPHIC PROJECT: S-B904-TJ-2004  
HYDROGRAPHIC SHEET: H11076

LOCALITY: Quicks Hole, MA  
TIME PERIOD: August 9 - September 1, 2004

TIDE STATION USED: 844-8251 Quick's Hole, MA  
Lat.  $41^{\circ} 26.9'N$  Lon.  $70^{\circ} 51.4'W$

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters  
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 0.941 meters

TIDE STATION USED: 845-2660 Newport, RI  
Lat.  $41^{\circ} 30.3'N$  Lon.  $71^{\circ} 19.6'W$

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters  
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 1.099 meters

REMARKS: RECOMMENDED ZONING

Use zone(s) identified as: SCM2, SCM3, SCM12, SCM13, SCM14, SCM15, SCM16, SCM17, SCM18, SCM19, SCM23, SCM24 & SCM33

Refer to attachments for zoning information.

Note 1: Provided time series data are tabulated in metric units (meters), relative to MLLW and on Greenwich Mean Time on the new 1983-2001 National Tidal Datum Epoch (NTDE).

Note 2: Use tide data from the appropriate station with applicable zoning correctors for each zone according to the order in which they are listed in the Tidezone corrector file (.ZDF). For example, tide station one(TS1) would be the first choice for an applicable zone followed by TS2, etc. when data are not available.

*Thomas V. Mero* 3/8/05  
-----  
CHIEF, REQUIREMENTS AND DEVELOPMENT DIVISION



Printed on Recycled Paper



**ATLANTIC HYDROGRAPHIC BRANCH  
EVALUATION REPORT FOR H11076 (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.

**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 6.0 service pack 2
- CARIS BASE Editor 1.0
- CARIS HOM 3.3 service pack 3
- PYDRO, version 6.2.9
- dKart Inspector 5.0 build 707

**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 covering the entire survey area for chart 13230 at a 1:20,000 chart scale (chart 13230 has a 1:20000 scale inset that partially covers the survey area, chart 13230 is a 1:40000 scale chart).

H-cell layers in CARIS HOM are organized as follows:

- |           |                                |
|-----------|--------------------------------|
| Layer 20  | Sounding Objects, survey scale |
| Layer 200 | Skin of the Earth              |
| Layer 300 | Rocks                          |
| Layer 325 | Wreck                          |
| Layer 400 | Seabed area (rocky areas)      |
| Layer 500 | Sand Waves                     |
| Layer 600 | Metadata Objects               |

Attributes:

Inform: H11076, S-B904-TJ-04, NOAA Ship Thomas Jefferson, CDR Emily B. Christman  
SorDat: 20040901  
SorInd: US,US,surve,H11076 (features) and US,US,nsurf,H11076 (soundings).

In the office, using CARIS HIPS, a 5m combined finalized BASE surface was created from the multibeam and singlebeam data at the 1:5000 survey scale. The survey scale sounding data set was extracted from the survey scale product surface with a sounding spacing of 5m at 1:3500 scale using a defined radius of 5m. Shoal biased chart scale sounding compilation was accomplished through the CARIS HOM sounding suppression routine using the table (0,999, 30m). Soundings were then checked for conflicts, corrected to remove conflicts, and edited to allow for proper sounding compilation placement with respect to existing charted depths outside the survey area.

**Contour and Depth Area Feature Objects**

Charted curve values, listed below, were specified in a metric depth contour list of standard feet curve-equivalents found in OCS H-Cell Specifications. Upon completion of H-Cell compilation, and prior to conversion to chart units, false values replace the generalized metric values, such that, upon conversion, standard NOAA chart equivalents will result, as indicated below. These values are the metric equivalent of the standard NOAA chart contour values.

H-Cell Depth Contours		(standard metric curve values)	(NOAA chart contour values)
Depth Curve	Created at:	(m =*.75 ft)	(m =*.0 ft)
0	0.75	0.229	0.000
6	6.75	2.057	1.829
12	12.75	3.886	3.658
18	18.75	5.715	5.486
30	30.75	9.373	9.144

Depth areas were created based on these contour values and depth limits.

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) and VALDCO attributes (for the contours) from the metric equivalent values to the

standard NOAA chart contour values to accommodate NOAA traditional rounding standards on charts. This renaming convention assures all soundings fall on the shoal side of the properly charted contour.

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, ENC\_SS.000 and ENC\_features.000) with all values measured in feet.

**dKart Inspector**

The final ENC\_CU.000 file was examined using dKart Inspector. Warnings received were all inconsequential. The DSPM.HUNI and DSPM.DUNI were reported to have illegal values, but these errors were expected as originating during ENC conversion to NOAA chart values, so they also can be ignored. Seven rocks generated the warning “shallower than the enclosing depth areas”, and two wrecks generated the error “shallower than the enclosing depth areas”. The shallower than enclosing depth area warnings/errors were expected and can be ignored.

**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.

**D. RESULTS AND RECOMMENDATIONS**

**D.1. CHART COMPARISONS**

13230 48<sup>th</sup> Ed., Oct. /05  
Corrected through NM Oct. 15/05  
Corrected through LNM Oct. 4/05  
13233 17<sup>th</sup> Ed., Sep. /05  
Corrected through NM Sep. 24/05  
Corrected through LNM Sep. 13/05

**Hydrography**

The charted hydrography originates with prior surveys and requires no further consideration. The hydrographer makes adequate chart comparisons in Section D. of the Descriptive Report. The following should be noted:

**Charted And Uncharted Features**

- 1) It is recommended a dangerous rock be charted in the following locations:

	<u>Latitude</u>	<u>Longitude</u>	<u>Least Depth (ft)</u>
1)	41°26'39.47" N	70°51'10.27" W	13
2)	41°27'38.24" N	70°51'22.25" W	23
3)	41°27'45.42" N	70°51'20.40" W	22
4)	41°27'36.57" N	70°51'12.37" W	14
5)	41°26'30.05" N	70°50'45.10" W	37
6)	41°27'09.97" N	70°50'51.37" W	31
7)	41°26'52.50" N	70°50'53.08" W	27
8)	41°26'42.82" N	70°50'52.10" W	30
9)	41°26'34.91" N	70°49'11.03" W	12
10)	41°26'17.20" N	70°49'50.81" W	25
11)	41°27'28.73" N	70°50'14.05" W	18
12)	41°27'16.12" N	70°50'34.29" W	22
13)	41°26'59.20" N	70°51'07.36" W	10
14)	41°26'39.71" N	70°51'54.57" W	21
15)	41°25'43.83" N	70°50'25.71" W	30
16)	41°26'22.46" N	70°49'49.57" W	17
17)	41°27'06.54" N	70°50'43.95" W	18
18)	41°26'30.57" N	70°48'51.18" W	21
19)	41°27'02.37" N	70°50'56.76" W	30
20)	41°26'33.87" N	70°49'05.99" W	18
21)	41°26'44.32" N	70°51'44.47" W	16
22)	41°27'03.78" N	70°51'28.45" W	14
23)	41°26'29.38" N	70°49'38.44" W	12
24)	41°27'08.07" N	70°51'17.70" W	13
25)	41°26'12.82" N	70°49'49.92" W	27

- 2) Seabed areas were digitized as area objects from the final survey combined BASE surface. One seabed area – sand waves – covers much of the southern section of the survey area. There are four seabed areas – rocky – that cover much of the center of the survey area. Below are screen grabs of the digitized seabed areas:

*Sandwave seabed area –*

Layers

- US511076\_cu
  - Unique Feature Acronyms
    - DEPARE
    - DEPCNT
    - M\_COVR
    - M\_NSYS
    - M\_QUAL
    - SBDARE
    - SNDWAV
    - SOUNDG
    - LWTROC
    - WRECKS
- H11076\_AHB\_Combined\_5m
  - Depth
  - Density
  - Std\_Dev
  - Mean
  - Shoal
  - Deep

Properties

General

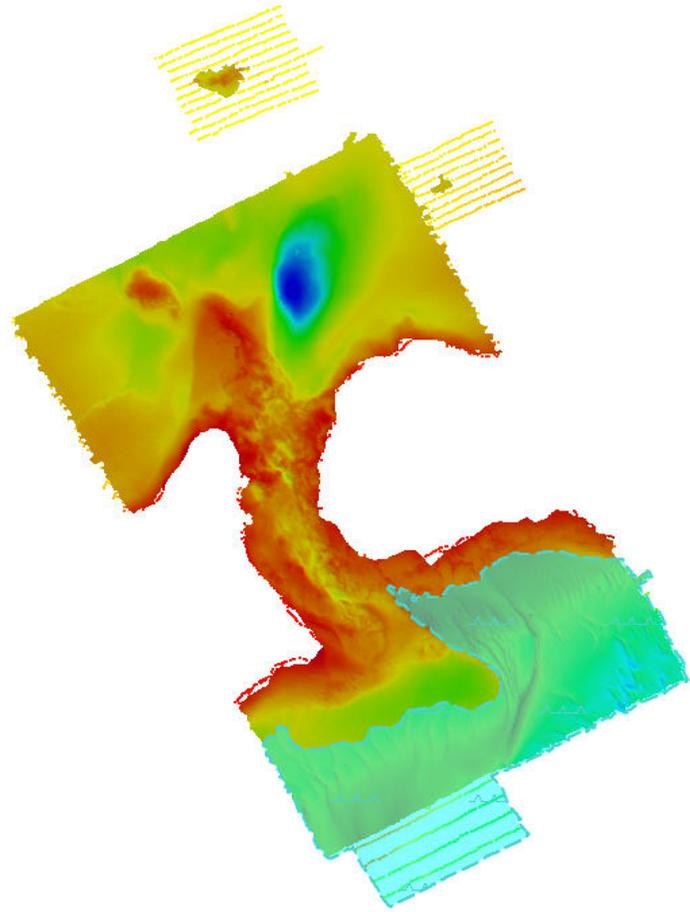
Feature Count	1
Override Colour	Black
Show End Nodes	False
Transparency	0
Symbolization Scale	Fixed
Presentation	

Soundings

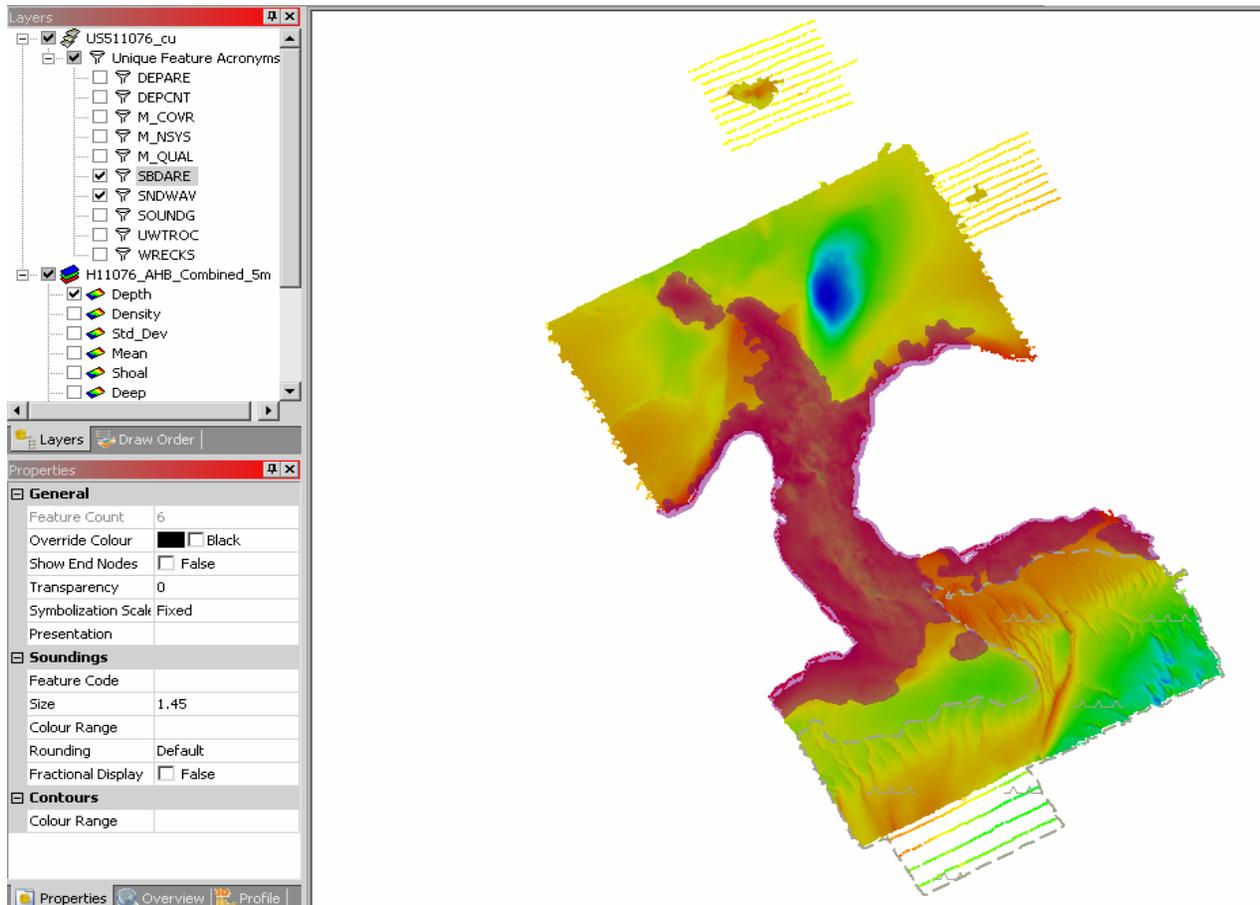
Feature Code	
Size	1.45
Colour Range	
Rounding	Default
Fractional Display	False

Contours

Colour Range	
--------------	--



## Rocky seabed areas –



## 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.

## Junctions

There were no surveys to junction with H11076.

## Adequacy of Survey

Except as noted above, the present survey is adequate to supersede the charted hydrography within the common area. This is an adequate hydrographic/multibeam/side scan sonar survey. No additional field work is recommended.

*Bryan Chauveau*

---

Bryan Chauveau  
Physical Scientist  
Verification of Data  
Evaluation and Analysis Report

**APPROVAL SHEET**  
**H11076**

The completed survey has been inspected with regard to survey coverage, delineation of depth curves, development of critical depths, cartographic symbolization, and verification or disapproval of charted data. All revisions and additions made to the H-Cell files 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.

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Bryan Chauveau  
Physical Scientist,  
Atlantic Hydrographic Branch

All final products have undergone a comprehensive review as per the Atlantic Hydrographic Branch Processing Manual and are verified to be accurate and complete except where noted in the Evaluation Report.

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Helen Stewart  
Physical Scientist,  
Atlantic Hydrographic Branch

I have reviewed the Base Cell files, accompanying data, and reports. This survey and accompanying Marine Chart Division deliverables meet or exceed NOS requirements and standards for products in support of nautical charting except where noted in the Evaluation Report.

Approved: \_\_\_\_\_

Lt. Commander Shepard M. Smith, NOAA  
Chief, Atlantic Hydrographic Branch