

**H12033**

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: H12033

**LOCALITY**

State: Rhode Island

General Locality: Block Island Sound

Sub-locality: W Shore of Block Island: Sandy Pt. to Bluff Head

**2009**

CHIEF OF PARTY  
CDR Shepard M. Smith  
NOAA

LIBRARY & ARCHIVES

DATE

**HYDROGRAPHIC TITLE SHEET**

**H12033**

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: **Rhode Island**

General Locality: **Block Island Sound**

Sub-Locality: **W Shore of Block Island: Sandy Pt. to Bluff Head**

Scale: **1:7,500** Date of Survey: **7 August 2009 to 21 August 2009**

Instructions Dated: **26 February 2009** Project Number: **OPR-B363-TJ-09**

Vessel: **NOAA Ship *Thomas Jefferson***

Chief of Party: **CDR Shepard M. Smith**

Surveyed by: ***Thomas Jefferson Personnel***

Soundings by: **Reson 8125 and 7125 multibeam echosounders.**

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

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

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

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

Soundings in: **Feet at MLLW**

Remarks:

- 1) All Times are in UTC.***
  - 2) This is a Navigable Area Hydrographic Survey.***
  - 3) Projection is NAD83, UTM Zone 19.***
- Bold italic red notes in the Descriptive Report were made during office processing.***

Table of Contents

---

A. AREA SURVEYED.....4

B. DATA ACQUISITION AND PROCESSING.....6

    B.1 EQUIPMENT AND VESSELS.....6

    B.2 QUALITY CONTROL.....6

        Sounding Coverage.....6

        Systematic Errors.....7

        Crosslines.....8

        Junctions and Prior Surveys.....9

    B.3 CORRECTION TO ECHO SOUNDINGS.....10

    B.4 DATA PROCESSING.....10

C. HORIZONTAL AND VERTICAL CONTROL.....11

D. RESULTS AND RECOMMENDATIONS.....12

    D.1 CHART COMPARISON.....12

    D.2 ADDITIONAL RESULTS.....13

E. APPROVAL SHEETS.....16

Appendix I DANGER TO NAVIGATION REPORTS

Appendix II SURVEY FEATURES REPORT

Appendix III FINAL PROGRESS SKETCH AND SURVEY OUTLINE

Appendix IV TIDES AND WATER LEVELS

Appendix V SUPPLEMENTAL SURVEY RECORDS AND CORRESPONDENCE

List of tables

Table 1 Hydrographic Survey Statistics.....4

Table 2 Dates of Multibeam Data Acquisition in Calendar and Julian Days.....6

Table 3 TPE Parameters.....11

Table 4 Fieldsheets.....11

Table 5 Charted Features.....13

Table 6 Dangers to Navigation.....14

List of figures

Figure 1 Survey Limits.....5

Figure 2 Area of low Density.....7

Figure 3 Density layer Subset.....7

Figure 4 8125 Rarification.....8

Figure 5 Standard Deviation Layer.....8

Figure 6 Standard Deviation Layer Subset.....8

Figure 7 H12012 Junction Surveys.....9

Figure 8 Final Tide Zoning.....10

**Descriptive Report to Accompany Hydrographic Survey  
H12033**

Project OPR-B363-TJ-09  
 Block Island Sound, RI  
 W Shore of Block Island: Sandy Pt. to Bluff Head  
 Scale 1:7,500  
 7 August – 21 August 2009  
**NOAA Ship *Thomas Jefferson***

**A. AREA SURVEYED**

This hydrographic survey was completed as specified by Hydrographic Survey Project Instructions OPR-B363-TJ-09, dated 26 February 2009.

Northern Limit	Southern Limit	Western Limit	Eastern Limit
41° 15' 42.84" N 071° 36' 29.52" W	41° 08' 52.8" N 071° 37' 12.36" W	41° 12' 33.12" N 071° 38' 16.44" W	41° 12' 56.16" N 071° 34' 36.84" W

Data acquisition was conducted from 7 August – 21 August 2009.

The purpose of this project is to update the nautical charts in the area. Most of the bathymetry is from surveys completed before 1940. This project responds, in part, to a request from the President of the Northeast Marine Pilots for new hydrographic survey to support deep draft (60') vessels carrying oil along the route the proceeds northwest from the precautionary area south of the Narragansett Bay and Buzzards Bay traffic lanes.

	<b>Linear Nautical Miles</b>
Single beam mainscheme only	N/A
Multibeam mainscheme only	542.99
Side Scan Sonar mainscheme only	7.48
Developments	0.07
Crosslines	27.72
Shoreline/nearshore investigations	0
Number of Bottom Samples	21
Number of AWOIS items investigated	4

**Table 1: Hydrographic Survey Statistics**

Survey limits of H12033 (Figure 1) are shown on the following page.

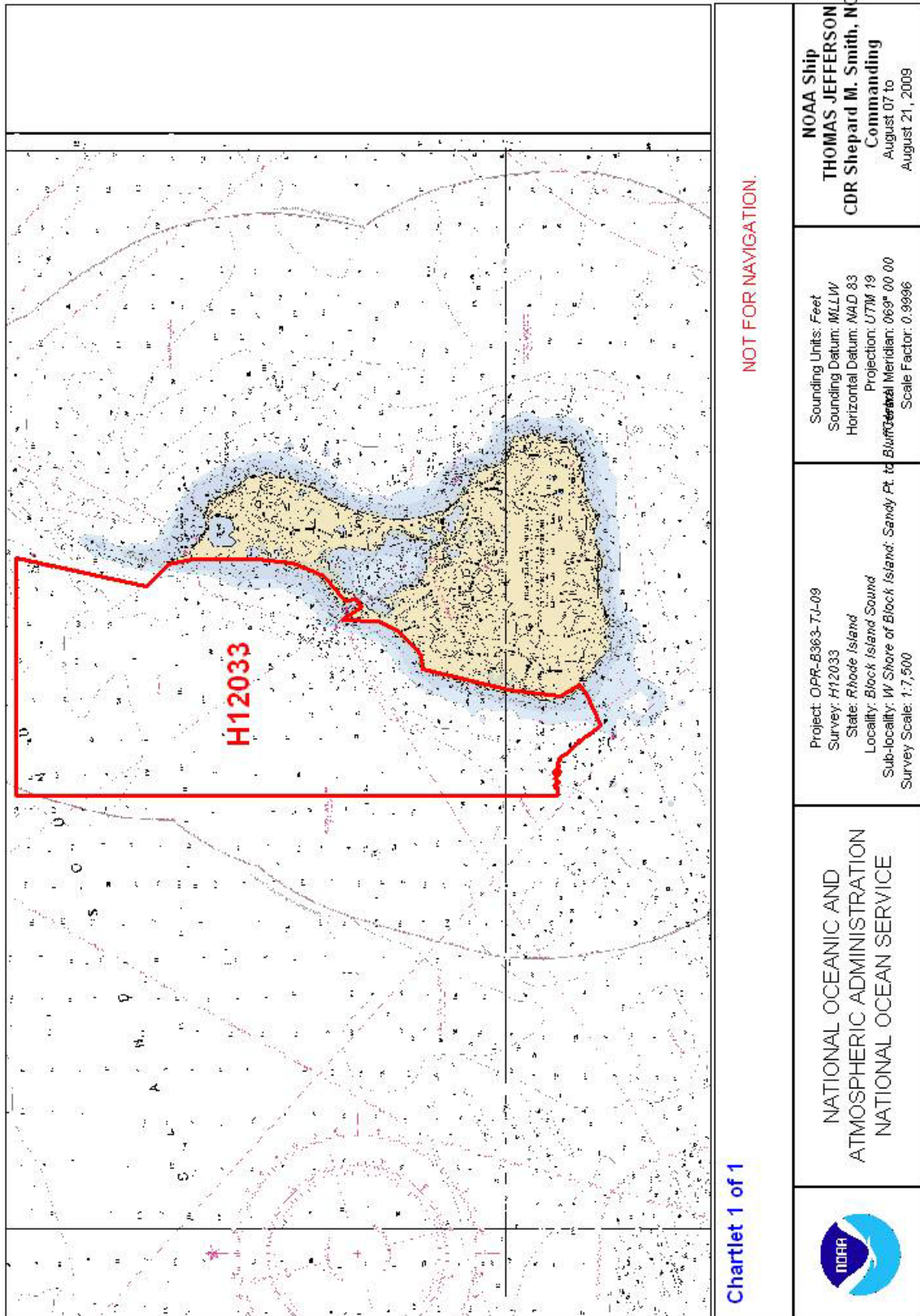


Figure 1: Survey Limits

Calendar Date	Julian Day
7 August 2009	219
8 August 2009	220
9 August 2009	221
10 August 2009	222
11 August 2009	223
12 August 2009	224
13 August 2009	225
18 August 2009	230
20 August 2009	232
21 August 2009	233

**Table 2: Dates of Multibeam Data Acquisition in Calendar and Julian Days**

## **B. DATA ACQUISITION AND PROCESSING** *See also the H-Cell Report.*

Refer to ***OPR-B363-TJ-09 Data Acquisition and Processing Report (DAPR)\**** for a complete description of data acquisition and processing systems, survey vessels, quality control procedures and data processing methods. Additional information to supplement sounding and survey data, and any deviations from the DAPR are included in this descriptive report. ***\*Included with survey deliverables.***

### **B 1. EQUIPMENT AND VESSELS**

Data were acquired by NOAA Ship *Thomas Jefferson* and Hydrographic Survey Launches 3101 and 3102. NOAA Ship *Thomas Jefferson* acquired Reson 7215 multibeam echosounder soundings and sound velocity profiles. Launch 3101 acquired Reson8125 multibeam echosounder soundings and sound velocity profiles. Launch 3102 acquired Reson7125 multibeam echosounder soundings, 200% Klein 5000 Side scan Sonar, bottom samples, and sound velocity profiles. ***Concur with clarification - Launch 3102 acquired 100% Klein 5000 Side Scan Sonar data in addition to the previous mentioned data.***

## **B 2. QUALITY CONTROL**

### **B 2.1 System Certification and Calibration**

Refer to NOAA Ship *Thomas Jefferson* DAPR\* and Hydrographic Systems Readiness Report (HSRR) for a complete description of system integration and initial calibration results for equipment and sensors used for this survey. ***\*Included with survey deliverables.***

### **B.2.2 Sounding Coverage**

As per the Letter Instructions, this survey was conducted using object detection multibeam in depths less than 20 meters. Complete multibeam was acquired in depths greater than 20 meters. Side scan sonar data was acquired over some features and rocky areas. Side scan sonar coverage was monitored by creation of 100% and 200% coverage mosaics, each with 1m resolution.

Bathymetry coverage was monitored by creating 0.5 meter resolution BASE surfaces in the object detection areas and 2 meter BASE surfaces over the complete multibeam areas. Numerous small holidays exist throughout the shallower areas of the survey. Northwest of Grace Cove several long holidays exist. These were covered with side scan sonar. The largest holiday occurs west of Bluff Head. *Concur.*

Due to numerous large rocks in the middle to southern end of the survey area it was decided to survey to the 18 foot curve. *Concur.*

An area of low density coverage exists in the vicinity of 41°12.93' N, 071° 36.06' W. This was caused by inadequate overlap in polygon acquisition. A decrease in the displayed swath angle reduced this problem in most areas of the survey. *Concur.*

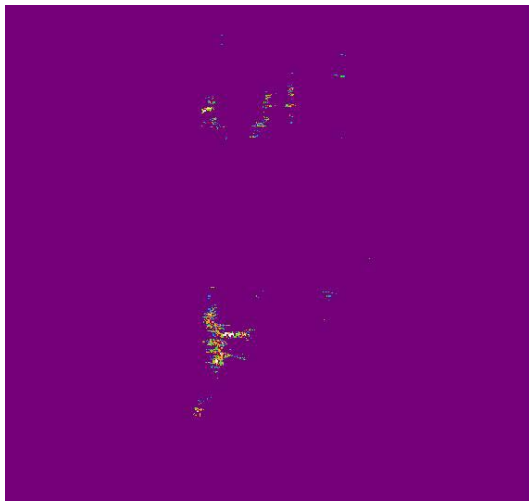


Figure 2: Area of low Density

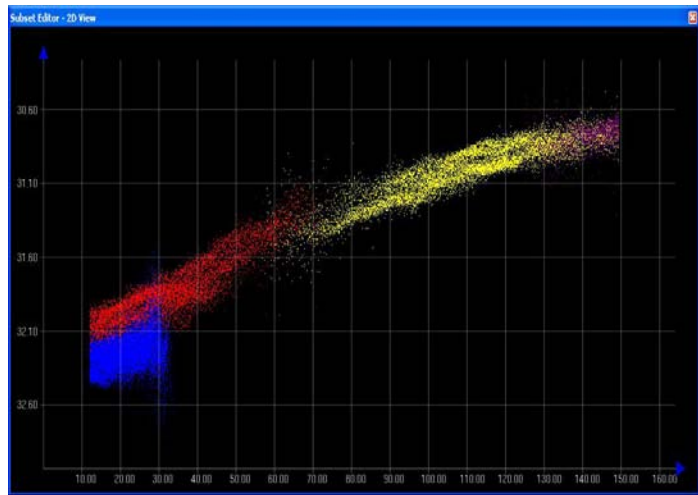


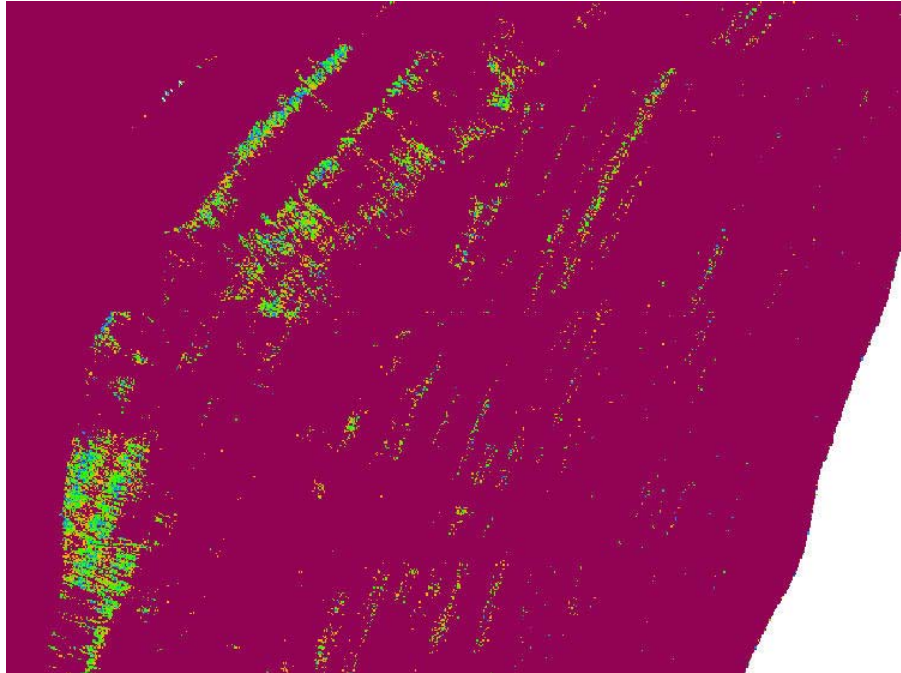
Figure 3: Density Layer Subset

### B.2.3 Systematic Errors

A sound velocity error is present in the ship multibeam data. This generally does not exceed 0.5 meters. *Concur with clarification - Sound velocity errors were examined and fixed during office processing.*

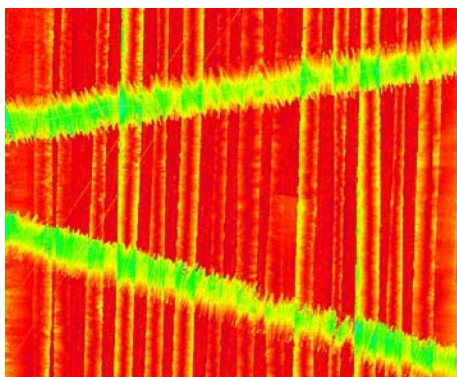
Areas of sounding ratification occur with the Reson 8125 in depths approaching the 60ft contour. As the vessel nears the deeper limit of the range scale, the survey vessel must slow down significantly to maintain adequate coverage (5 soundings per node). This was not achieved in some areas as indicated in Figure 4, which shows the Density layer of the BASE surface threshold to 4 soundings per node. Areas of light pixels are below the minimum 5 soundings per node. *Concur.*



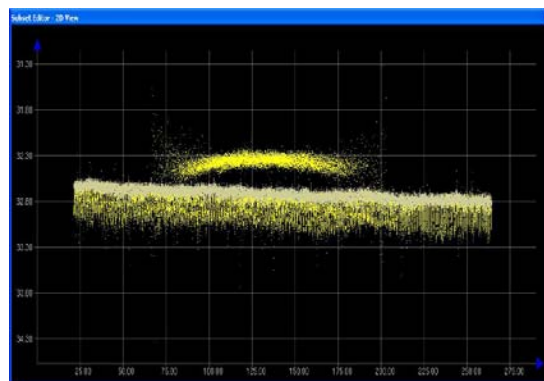


**Figure 4: 8125 Rarification**

Areas of high standard deviation occur where the Reason 8215 crosslines intersect with the ship data. The cause is unknown, but may be attributed to an error in static offsets with the two platforms. Generally these errors do not exceed 0.4 meters. *Concur with clarification - After office QC, it was determined that the crossline error was due to a strong ebb-flood current in the survey area that was not compensated for. Errors were examined and fixed during office processing.*



**Figure 5: Standard Deviation Layer**



**Figure 6: Standard Deviation Layer Subset**

Other areas of high standard deviation include rocks, slopes, and sand waves.



**B 2.4 Crosslines**

Multibeam echo sounder crosslines totaling 27.72 lineal nautical miles, comprising 5 percent of hydrography, were acquired during the course of the survey. A surface differencing between crosslines and mainscheme was performed and the resultant surface placed in the Descriptive Report/Separates/IV Crossline\_Comparison folder. *Concur.*

**B 2.4 Junctions and Prior Surveys** *See also the H-Cell Report.*

The following contemporary surveys junction with H12033:

<b>Registry #</b>	<b>Scale</b>	<b>Year</b>	<b>Field Party</b>	<b>Junction side</b>
H10795	1:10,000	1998	<i>Rude</i>	Southwest
H12010	1:7,500	2009	<i>Thomas Jefferson</i>	Northeast
H12139	1:20,000	2009	<i>Thomas Jefferson</i>	Northwest
H12137	1:20,000	2009	<i>Thomas Jefferson</i>	Southwest
H12011	1:7,500	2009	<i>Thomas Jefferson</i>	North

Survey H10795 junctions with H12033 in the Southwest. As this survey is older than five years, there is no contemporary data set to compare to. *Concur.*

Survey H12010 junctions with H12033 in the Northeast. The difference in soundings between the two surveys is no greater than one foot. *Concur.*

Survey H12139 junctions with H12033 in the Northwest. The difference in soundings between the two surveys is no greater than one foot. *Concur.*

Survey H12137 junctions with H12033 in the Southwest. The difference in soundings between the two surveys is no greater than one foot. *Concur.*

Survey H12011 junctions with H12033 in the North. The difference in soundings between the two surveys is no greater than one foot. *Concur.*

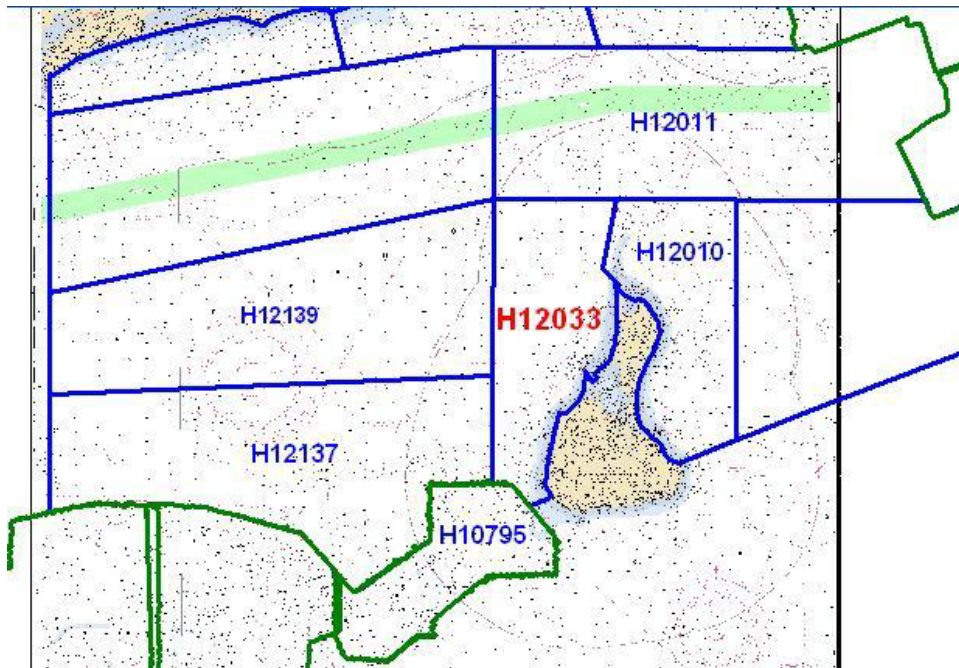


Figure 7: H12033 Junction Surveys

### B 3. CORRECTIONS TO ECHO SOUNDING

HDGS sounding data were reduced to mean lower-low water (MLLW) using verified water levels from New London, CT (8461490), Newport, RI (8452660), and Montauk, NY (8510560) adjusted for tidal constituents and residuals provided by CO-OPS as specified in the Project Instructions and illustrated in Figure 7. *Concur.*

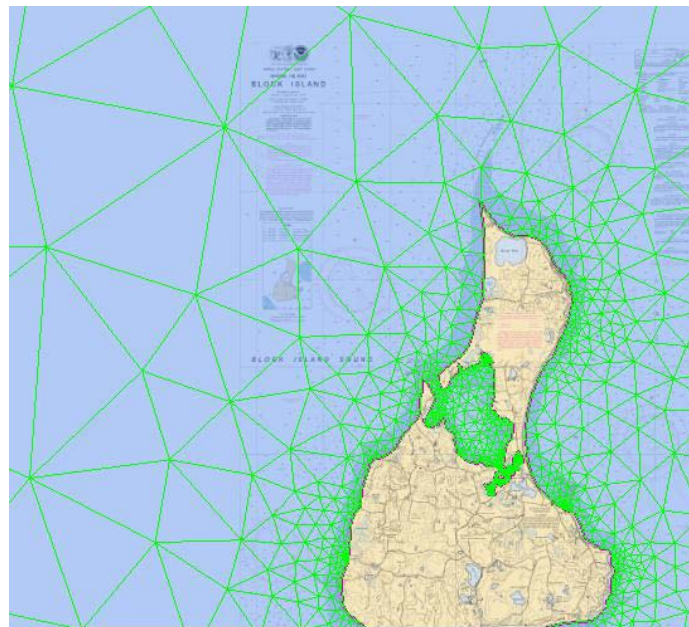


Figure 8: Final Tide Zoning

All other datum reduction procedures conform to those outlined in the *DAPR\**.

All methods and instruments used for sound velocity correction were as described in the *DAPR\**. A table detailing all sound velocity casts is located in Separate II of this Descriptive Report. *\*Included with survey deliverables.*

**B 4. DATA PROCESSING** *See also the H-Cell Report.*

**B 4.1 Total Propagated Error**

For the 2009 field season, Total Propagated Error (TPE) parameters for sound speed and tides are calculated separately for each project. The project-specific parameters for OPR-B363-TJ-09, Survey H12033 are as follows:

Vessel	Tide Values		Sound Speed Values	
	Measured	Zoning	Measured	Surface
S222	TCARI	TCARI	1	0.2
3101	TCARI	TCARI	4	0.2
3102	TCARI	TCARI	4	0.2

**Table 3: TPE Parameters**

These values were calculated for all MBES data immediately following CARIS Merge. *Concur.*

**B 4.2 BASE Surfaces and Mosaics**

The following table describes all BASE Surfaces and Mosaics submitted as part of Survey H12033:

Name of Surfaces and/or Mosaics	Resolution	Type	Purpose
H12033_1_CUBE_NOAA_2m_Final	2.0 meter	CUBE	Sounding Coverage
H12033_2_CUBE_NOAA_2m_Final	2.0 meter	CUBE	Sounding Coverage
H12033_3_CUBE_NOAA_2m_Final	2.0 meter	CUBE	Sounding Coverage
H12033_1_CUBE_NOAA_50cm_Final	0.5 meter	CUBE	Sounding Coverage
H12033_2_CUBE_NOAA_50cm_Final	0.5 meter	CUBE	Sounding Coverage
H12033_3_CUBE_NOAA_50cm_Final	0.5 meter	CUBE	Sounding Coverage
H12033_4_CUBE_NOAA_50cm_Final	0.5 meter	CUBE	Sounding Coverage
H12033_5_CUBE_NOAA_50cm_Final	0.5 meter	CUBE	Sounding Coverage
H12033_6_CUBE_NOAA_50cm_Final	0.5 meter	CUBE	Sounding Coverage
H12033_7_CUBE_NOAA_50cm_Final	0.5 meter	CUBE	Sounding Coverage
H12033_Combined_2m	2.0 meter	CUBE	Sounding Coverage All
H12033_SSS_Mosaic_100	1.0 meter	SSS Mosaic	100% Side Scan Coverage
H12033_SSS_Mosaic_200	1.0 meter	SSS Mosaic	200% Side Scan Coverage

**Table 4: Fieldsheets**

This survey was processed using the Combined Uncertainty and Bathymetry Estimator (CUBE) algorithm. The CUBE configuration was set to NOAA\_0.5m for the 0.5 meter coverage surfaces and NOAA\_2m for the 2 meter coverage surfaces. The Finalized surfaces were depth thresholded using values of 0.00 to 20.0 meters for the 0.5 meter grids and 18.0 to 200.0 meters for the 2 meter grids. Refer to the 2009 Data Acquisition and Processing Report\*, 2007 Field

Procedures Manual, and CARIS HIPS/SIPS 6.1 manual for further discussion. *\*Included with survey deliverables.*

### **B 4.3 Data cleaning**

The survey data was cleaned using the swath and subset editor tools in CARIS. All areas of the BASE surface that indicated a high standard deviation were examined and cleaned as required such that no residual errors exist in the surface that exceed the IHO order 1 depth accuracy requirements. *Concur.*

### **C. HORIZONTAL AND VERTICAL CONTROL** *See also the H-Cell Report.*

As per FPM section 5.2.3.2.3 a HVCR report was not filed as no horizontal and vertical control stations were established by the field party for this survey. A summary of horizontal and vertical control for this survey follows. *Concur.*

#### **C 1.1 Horizontal Control**

The horizontal datum for this project is the North American Datum of 1983 (NAD83). Differential GPS (DGPS) was the sole method of positioning. Differential corrections from U.S. Coast Guard beacons at Moriches, NY (293 kHz), and Acushnet, MA (306 kHz), were used during this survey.

No horizontal control stations were established by the field party for this survey. *Concur.*

#### **C 1.2 Vertical Control**

The vertical datum for this project is Mean Lower-Low Water (MLLW). The operating National Water Level Observation Network (NWLON) stations at New London, CT (8461490), Newport, RI (8452660), and Montauk, NY (8510560) served as datum control for H12033. Verified tides with final TCARI constituents and residuals were applied to all sounding data.

A request for delivery of final approved (verified) tides for this survey was forwarded to N/OPS1 on 23 August, 2009 in accordance with the FPM and project letter instructions. Final smooth tide letter was received 4 September 2009, and states TCARI grid B363TJ2009-TCARI-Revised should be used as final. *Concur – Approved tides and zoning were applied during field processing.*

### **D. RESULTS AND RECOMMENDATIONS** *See also the H-Cell Report.*

#### **D.1 Chart Comparison**

Survey H12033 was compared with chart 13215 (18<sup>th</sup> Ed.; August 2004, 1:40,000), chart 13217 (15<sup>th</sup> Ed.; November 2006, 1:15,000), chart 13218 (40<sup>th</sup> Ed.; February 2008, 1:80,000), chart 13003 (49<sup>th</sup> Ed.; April 2007, 1:1,200,000), chart 13006 (35<sup>th</sup> Ed.; April 2009, 1:1,675,000), chart 5161 (13<sup>th</sup> Ed.; October 2003, 1:1,058,400) and ENC's US4CN21M, USMA23M, US3NY01M,

and US2EC03M. Chart comparisons were performed in CARIS Base Editor and Pydro using survey-scale excessed soundings. *Concur.*

#### **D.1.1 Chart 13215 Comparison**

In general the soundings agree within 2 feet. South of Dories Cove there are differences of up to 4 feet where it has become more shoal. *Concur.*

#### **D.1.2 Chart 13217 Comparison**

In general the soundings agree within 2 feet. South of Dories Cove there are differences of up to 5 feet where it has become more shoal. North of Grace Cove there are differences of up to 4 feet where it has become more shoal. *Concur.*

#### **D.1.3 Chart 13218 Comparison**

In general the soundings agree within 3 feet. Where there are differences they tend to be deeper. *Concur.*

#### **D.1.4 Chart 13003 Comparison**

None of the depths on chart 13003 fall within the limits of H12033. *Concur.*

#### **D.1.5 Chart 13006 Comparison**

None of the depths on chart 13006 fall within the limits of H12033. *Concur.*

#### **D.1.6 Chart 5161 Comparison**

None of the depths on chart 5161 fall within the limits of H12033. *Concur.*

#### **D.1.7 ENC US4CN21M Comparison**

In general the soundings agree within 1 meter. Where there are differences they tend to be deeper. *Concur*

#### **D.1.8 ENC USMA23M Comparison**

None of the depths on ENC USMA23M fall within the limits of H12033. *Concur*

#### **D.1.9 ENC US3NY01M Comparison**

None of the depths on ENC US3NY01M fall within the limits of H12033. *Concur*

#### **D.1.10 ENC US2EC03M Comparison**

None of the depths on ENC US2EC03M fall within the limits of H12033. *Concur*

## D.2 Additional Results

### D.2.1 Automated Wreck and Obstruction Information Service (AWOIS) Items

A total of 15 assigned AWOIS items were located within the limits of H12033. Only 4 were investigated during this survey. AWOIS items were investigated with complete multibeam and 200% side scan sonar over the search radius. The investigated AWOIS items are described in detail in Appendix II of this report. The 11 maritime boundary AWOIS items were not investigated due to not having a shoal draft, inshore maneuverable survey boat. *See Appendix II for final charting recommendations of AWOIS items investigated.*

### D.2.2 Shoreline

Shoreline was not investigated due to numerous large rocks near the shoreline. *Concur.*

### D.2.3 Charted Features

The following features are located as charted and their representation on the chart is adequate. The hydrographer recommends retaining the following feature as charted:

Description of Feature	Charted Latitude	Charted Longitude	Least Depth
Charted Boulder	41° 11' 39.293" N	071° 35' 47.762"W	18.32 feet

*See Appendix II for final charting recommendation.*

**Table 5: Charted Features**

All other charted features and item investigations are described in detail in Appendix II of this report. *Concur with clarification – See Appendix II for final charting recommendations of charted features.*

### D.2.4 Charted Pipelines and Cables

There are no pipelines that run through the survey area.

Two charted cable areas are located in the survey area. The cables are not visible in the multibeam data. The Hydrographer has no recommendations regarding these cables. *Concur.*

### D.2.5 Bridges, Ferry Routes, and Overhead Cables

The Viking Fleet Ferries go from Montauk, NY to Great Salt Pond Block Island. There is a ferry from New London, CT and a high speed ferry that goes into Great Salt Pond. Defer charting of these routes to Marine Chart Division.

There are no bridges or overhead cable crossings within the limits of the survey. *Concur.*



**D.3 Dangers to Navigation and Shoals**

**D 3.1 Dangers to Navigation**

Nine dangers to navigation were found and reported to the NOAA’s Office of Coast Survey, Marine Chart Division (MCD) for verification and final submission. A copy of each Danger to Navigation Report is included in Appendix I, and a copy of each DTON email to MCD is located in Appendix V of this Descriptive Report.

A table of all Dangers to Navigation identified in this survey, with their submission date to MCD, is included below.

<b>DTON Number</b>	<b>Description</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Date Submitted</b>
1	Rock	41°12'08.095"N	071°35'25.665"W	18 September 2009*
2	Rock	41°11'13.191"N	071°36'18.989"W	18 September 2009*
3	Rock	41°10'05.021"N	071°36'57.503"W	18 September 2009*
4	Rock	41°10'36.600"N	071°36'44.455"W	18 September 2009*
5	Rock	41°09'00.415"N	071°36'59.668"W	18 September 2009*
6	Rock	41°12'00.978"N	071°35'25.243"W	18 September 2009*
7	Rock	41°12'56.040"N	071°35'01.874"W	18 September 2009*
8	Rock	41°10'12.470"N	071°36'49.930"W	18 September 2009*
9	Rock	41°10'00.775"N	071°36'49.953"W	18 September 2009*

*See Appendix I for final charting recommendations of DTONs.*

**Table 6: Dangers to Navigation**

**D 3.2 Shoals**

South of Dories Cove there are some four foot differences where it has become more shoal.

*Concur*



North of Grace Cove there are some five foot differences where it has become more shoal.

*Concur*

#### **D.4 Aids to Navigation**

There are six charted Aids to Navigation (ATONs) within the limits of H12033.

All Aids to Navigation were found to be on station and serving their intended purpose. The Hydrographer has no recommendations regarding these ATONs. *Concur.*

#### **D.5 Coast Pilot Information**

The Hydrographer has no recommendations for changes or addenda to the Coast Pilot. *Concur.*

#### **D.6 Miscellaneous *See also the H-Cell Report.***

#### **Bottom Samples**

Bottom samples were collected throughout the survey area. A total of 21 bottom samples were acquired. A list of bottom samples is contained in Appendix V. *Concur.*

#### **D.8 Adequacy of Survey *See also the H-Cell Report.***

This survey is considered complete and adequate to supersede charted depths within the common area as per requirements specified in the Project Letter Instructions. *Concur*

**E. APPROVAL**

As Lead Hydrographer, I have ensured that standard field surveying and processing procedures were followed in producing this examination in accordance with the Office of Coast Survey Hydrographic Surveys Division's *Field Procedures Manual*, and NOS *Hydrographic Surveys Specifications and Deliverables*. Field operations for this basic hydrographic survey were conducted under my daily supervision with frequent checks of progress and adequacy.

All field sheets, this Descriptive Report, and all accompanying records and data are approved. All records are forwarded for final review and processing to N/CS33, Atlantic Hydrographic Branch.

Listed below are supplemental reports submitted separately that contain additional information relevant to this survey:

The Data Acquisition and Processing Report for OPR-B363-TJ-09 is submitted separately and contains additional information relevant to this survey.

Approved and Forwarded:

 Jasper Schaer  
2009.09.30  
08:50:43 -04'00'

LT Jasper D. Schaer, NOAA  
Field Operations Officer

 Digitally signed by  
Shepard Smith  
Date: 2009.09.30 09:32:39  
-04'00'

CDR Shepard M. Smith, NOAA  
Commanding Officer

In addition, the following individuals were also responsible for overseeing data acquisition and processing of this survey:

Survey Manager:  Kim Glomb  
2009.09.30  
08:51:36 -04'00'

Kimberly Glomb  
Survey Technician, NOAA

# **Appendix I**

## **Dangers to Navigation**

**-9**

# DTON

**Registry Number:** H12033  
**State:** Rhode Island  
**Locality:** Block Island Sound  
**Sub-locality:** W Shore of Block Island: Sandy Pt. to Bluff Head  
**Project Number:** OPR-B363-TJ-09  
**Survey Dates:** 7 August 2009 - 21 August 2009

## Charts Affected

Number	Edition	Date	Scale (RNC)	RNC Correction(s)*
13217	15th	11/01/2006	1:15,000 (13217_1)	USCG LNM: 12/30/2008 (06/23/2009) CHS NTM: None (04/24/2009) NGA NTM: None (06/27/2009)
13215	19th	12/01/2009	1:40,000 (13215_1)	USCG LNM: 12/08/2009 (02/16/2010) CHS NTM: None (12/25/2009) NGA NTM: None (02/27/2010)
13205	38th	02/01/2007	1:80,000 (13205_1)	[L]NTM: ?
12300	47th	05/01/2008	1:400,000 (12300_1)	[L]NTM: ?
13006	34th	05/01/2007	1:675,000 (13006_1)	[L]NTM: ?
5161	13th	10/01/2003	1:1,058,400 (5161_1)	[L]NTM: ?
13003	49th	04/01/2007	1:1,200,000 (13003_1)	[L]NTM: ?

\* Correction(s) - source: last correction applied (last correction reviewed--"cleared date")

## Features

No.	Name	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	DTON 1	Shoal	4.41 m	41° 12' 08.1" N	071° 35' 25.7" W	---
1.2	DTON 2	Shoal	5.16 m	41° 11' 13.2" N	071° 36' 19.0" W	---
1.3	DTON 3	Shoal	6.62 m	41° 10' 05.0" N	071° 36' 57.5" W	---
1.4	DTON 4	Rock	5.44 m	41° 10' 36.6" N	071° 36' 44.5" W	---
1.5	DTON 5	Shoal	6.11 m	41° 09' 00.4" N	071° 36' 59.7" W	---
1.6	DTON 6	Shoal	2.96 m	41° 12' 01.0" N	071° 35' 25.2" W	---
1.7	DTON 7	Shoal	6.00 m	41° 12' 56.0" N	071° 35' 01.9" W	---
1.8	DTON 8	Shoal	4.80 m	41° 10' 12.5" N	071° 36' 49.9" W	---

1.9	DTON 9	Shoal	3.23 m	41° 10' 00.8" N	071° 36' 50.0" W	---
-----	--------	-------	--------	-----------------	------------------	-----

**1 - DR\_DToN**

## 1.1) Profile/Beam - 2489/390 from h12033 / tj\_3102\_reson7125\_mb / 2009-222 / 032\_1310

### DANGER TO NAVIGATION

#### Survey Summary

**Survey Position:** 41° 12' 08.1" N, 071° 35' 25.7" W  
**Least Depth:** 4.41 m (= 14.48 ft = 2.413 fm = 2 fm 2.48 ft)  
**TPU ( $\pm 1.96\sigma$ ):** **THU (TPEh)**  $\pm 1.000$  m ; **TVU (TPEv)**  $\pm 0.284$  m  
**Timestamp:** 2009-222.13:13:23.080 (08/10/2009)  
**Survey Line:** h12033 / tj\_3102\_reson7125\_mb / 2009-222 / 032\_1310  
**Profile/Beam:** 2489/390  
**Charts Affected:** 13217\_1, 13215\_1, 13205\_1, 12300\_1, 13006\_1, 5161\_1, 13003\_1

#### Remarks:

DTON found with Reson 7125 multibeam. Verified tides were applied with final TCARI zoning.

#### Feature Correlation

Address	Feature	Range	Azimuth	Status
h12033/tj_3102_reson7125_mb/2009-222/032_1310	2489/390	0.00	000.0	Primary

#### Hydrographer Recommendations

[None]

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

14ft (13217\_1, 13215\_1, 13205\_1)  
 2 ¼fm (12300\_1, 13006\_1, 13003\_1)  
 4.4m (5161\_1)

#### S-57 Data

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



## Office Notes

Charted 14 rock was determined during office processing to be a sounding in a rky seabed area. Delete 14 Rk and danger curve. Chart present survey depths.

### Feature Images

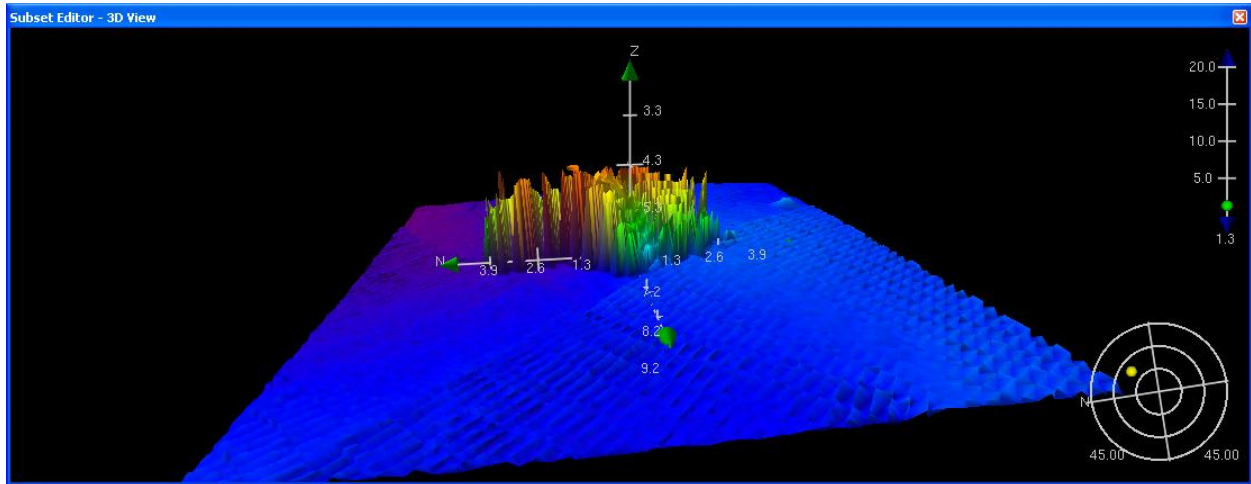


Figure 1.1.1



## 1.2) Profile/Beam - 5147/1 from h12033 / tj\_3101\_reson8125\_mb / 2009-224 / 000\_1850

### DANGER TO NAVIGATION

#### Survey Summary

**Survey Position:** 41° 11' 13.2" N, 071° 36' 19.0" W  
**Least Depth:** 5.16 m (= 16.92 ft = 2.820 fm = 2 fm 4.92 ft)  
**TPU ( $\pm 1.96\sigma$ ):** **THU (TPEh)**  $\pm 0.982$  m ; **TVU (TPEv)**  $\pm 0.123$  m  
**Timestamp:** 2009-224.18:55:32.405 (08/12/2009)  
**Survey Line:** h12033 / tj\_3101\_reson8125\_mb / 2009-224 / 000\_1850  
**Profile/Beam:** 5147/1  
**Charts Affected:** 13217\_1, 13215\_1, 13205\_1, 12300\_1, 13006\_1, 5161\_1, 13003\_1

#### Remarks:

DTON found with Reson 8125 multibeam. Verified tides were applied with final TCARI zoning.

#### Feature Correlation

Address	Feature	Range	Azimuth	Status
h12033/tj_3101_reson8125_mb/2009-224/000_1850	5147/1	0.00	000.0	Primary

#### Hydrographer Recommendations

[None]

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

17ft (13217\_1, 13215\_1, 13205\_1)

2  $\frac{3}{4}$ fm (12300\_1, 13006\_1, 13003\_1)

5.2m (5161\_1)

#### S-57 Data

**Geo object 1:** Buoy, lateral (BOYLAT)  
**Attributes:** BOYSHP - 1:conical (nun, ogival)  
 CATLAM - 2:starboard-hand lateral mark  
 COLOUR - 3:red

**Geo object 2:**    Sounding (SOUNDG)

## Office Notes

Charted 16 rock was determined during office processing to be a sounding in a rky seabed area. Delete 16 Rk and danger curve. Chart present survey depths.

### Feature Images

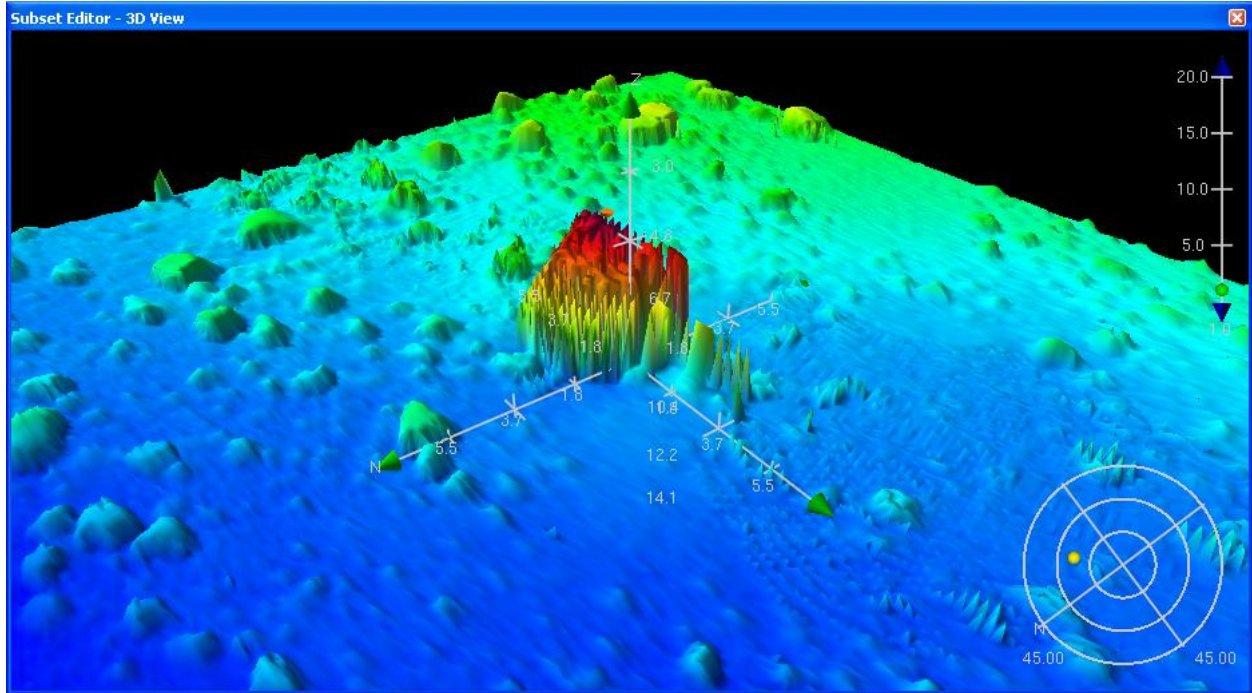


Figure 1.2.1

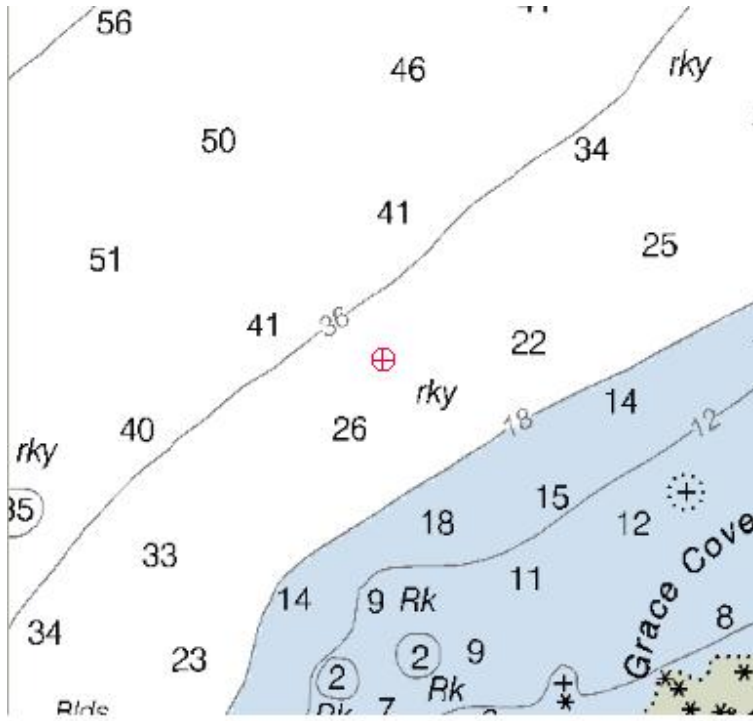


Figure 1.2.2



### 1.3) Profile/Beam - 612/80 from h12033 / tj\_3101\_reson8125\_mb / 2009-225 / 000\_1704

## DANGER TO NAVIGATION

### Survey Summary

**Survey Position:** 41° 10' 05.0" N, 071° 36' 57.5" W  
**Least Depth:** 6.62 m (= 21.72 ft = 3.620 fm = 3 fm 3.72 ft)  
**TPU ( $\pm 1.96\sigma$ ):** **THU (TPEh)**  $\pm 0.981$  m ; **TVU (TPEv)**  $\pm 0.109$  m  
**Timestamp:** 2009-225.17:05:35.533 (08/13/2009)  
**Survey Line:** h12033 / tj\_3101\_reson8125\_mb / 2009-225 / 000\_1704  
**Profile/Beam:** 612/80  
**Charts Affected:** 13217\_1, 13215\_1, 13205\_1, 12300\_1, 13006\_1, 5161\_1, 13003\_1

#### Remarks:

DTON found with Reson 8125 multibeam. Verified tides were applied with final TCARI zoning.

### Feature Correlation

Address	Feature	Range	Azimuth	Status
h12033/tj_3101_reson8125_mb/2009-225/000_1704	612/80	0.00	000.0	Primary

### Hydrographer Recommendations

[None]

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

21ft (13217\_1, 13215\_1, 13205\_1)

3 ½fm (12300\_1, 13006\_1, 13003\_1)

6.6m (5161\_1)

### S-57 Data

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

## Office Notes

Charted 21 rock was determined during office processing to be a sounding in a rky seabed area. Delete 21 Rk and danger curve. Chart present survey depths.

### Feature Images

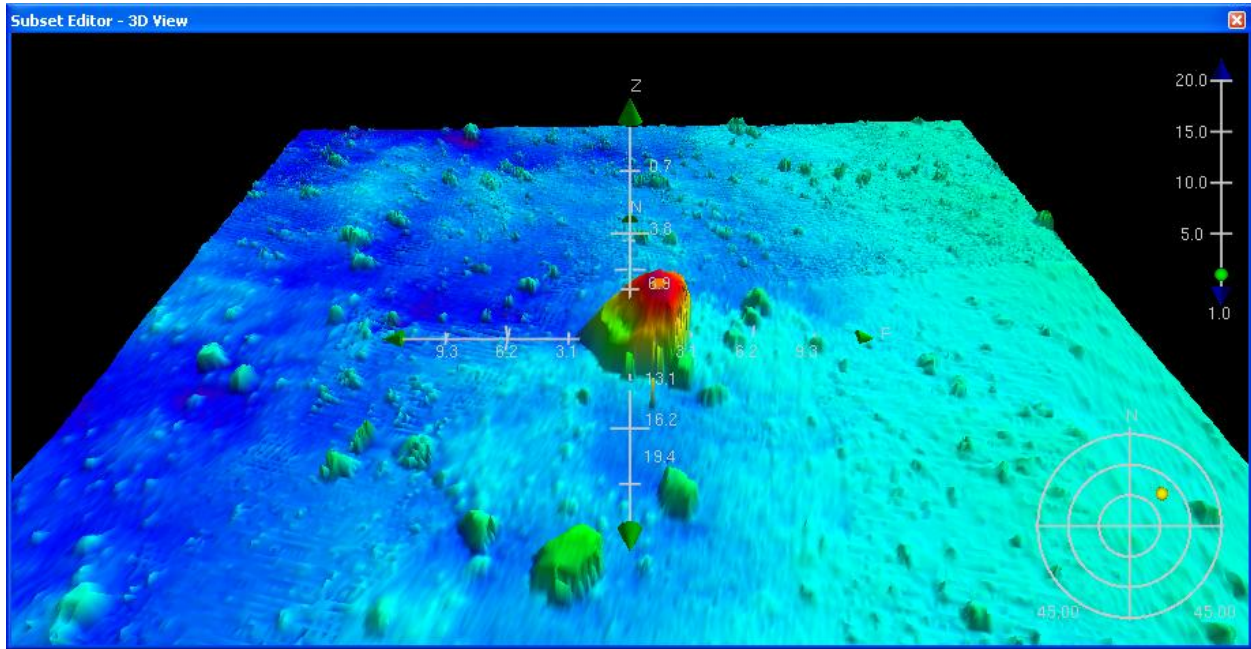


Figure 1.3.1

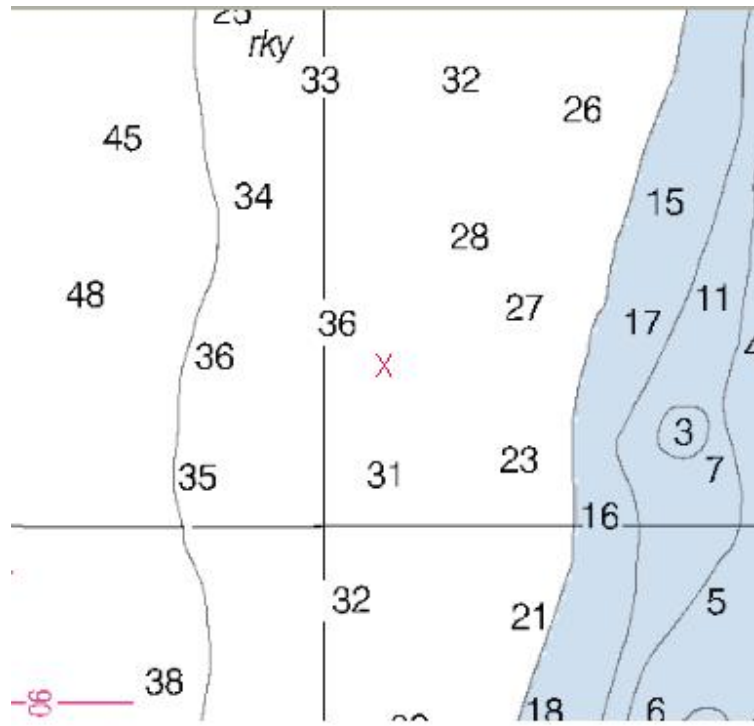


Figure 1.3.2

## 1.4) Profile/Beam - 4389/84 from h12033 / tj\_3101\_reson8125\_mb / 2009-225 / 000\_1704

### DANGER TO NAVIGATION

#### Survey Summary

**Survey Position:** 41° 10' 36.6" N, 071° 36' 44.5" W  
**Least Depth:** 5.44 m (= 17.85 ft = 2.975 fm = 2 fm 5.85 ft)  
**TPU ( $\pm 1.96\sigma$ ):** **THU (TPEh)**  $\pm 0.980$  m ; **TVU (TPEv)**  $\pm 0.107$  m  
**Timestamp:** 2009-225.17:09:38.357 (08/13/2009)  
**Survey Line:** h12033 / tj\_3101\_reson8125\_mb / 2009-225 / 000\_1704  
**Profile/Beam:** 4389/84  
**Charts Affected:** 13217\_1, 13215\_1, 13205\_1, 12300\_1, 13006\_1, 5161\_1, 13003\_1

#### Remarks:

DTON found with reson 8125 multibeam. Verified tides were applied with final TCARI zoning.

#### Feature Correlation

Address	Feature	Range	Azimuth	Status
h12033/tj_3101_reson8125_mb/2009-225/000_1704	4389/84	0.00	000.0	Primary

#### Hydrographer Recommendations

[None]

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

18ft (13217\_1, 13215\_1, 13205\_1)

3fm (12300\_1, 13006\_1, 13003\_1)

5.4m (5161\_1)

#### S-57 Data

**Geo object 1:** Sounding (SOUNDG)  
**Geo object 2:** Underwater rock / awash rock (UWTROC)  
**Attributes:** SORDAT - 20090821  
 SORIND - US,US,graph, H12033

VALSOU - 5.441 m

WATLEV - 3:always under water/submerged

### **Office Notes**

The charted 17 rock was determined during office processing to be a sounding in a rky seabed area. Delete 17 Rk and danger curve. Chart present survey depths.

### Feature Images

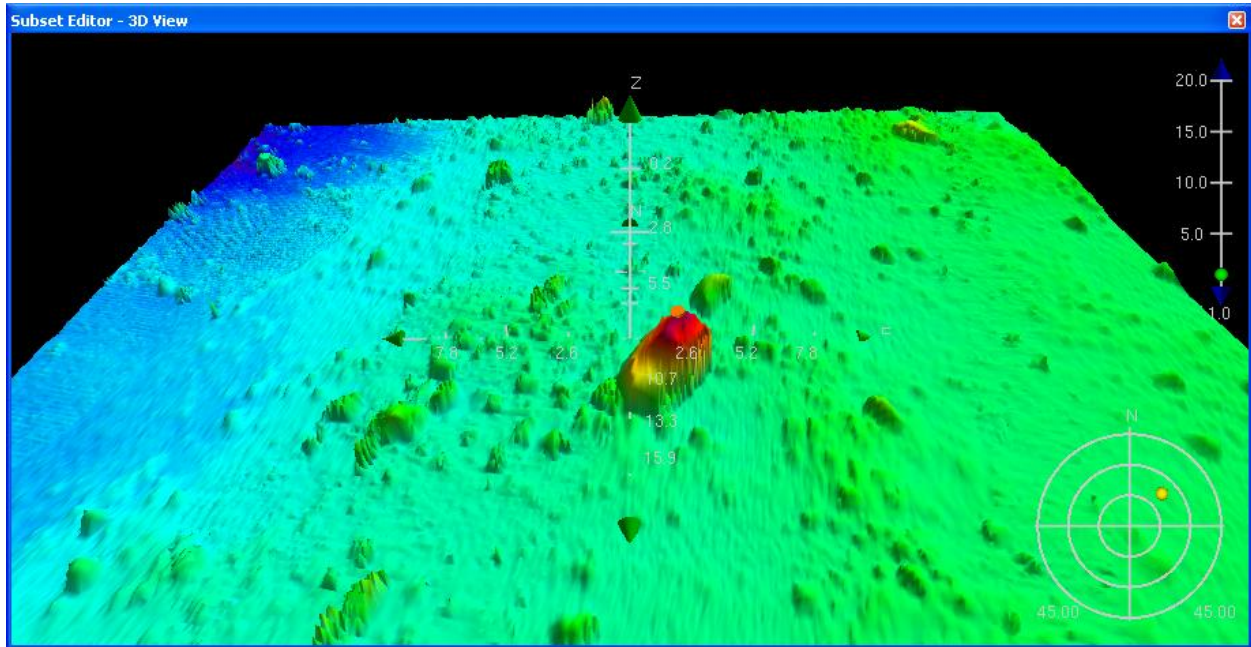


Figure 1.4.1

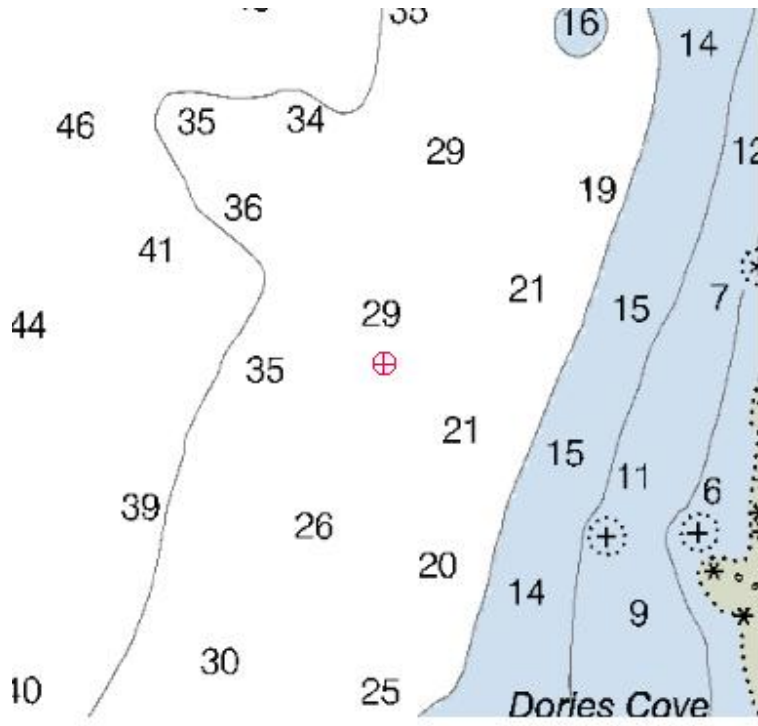


Figure 1.4.2



## 1.5) Profile/Beam - 1861/42 from h12033 / tj\_3101\_reson8125\_mb / 2009-232 / 000\_1419

### DANGER TO NAVIGATION

#### Survey Summary

**Survey Position:** 41° 09' 00.4" N, 071° 36' 59.7" W  
**Least Depth:** 6.11 m (= 20.04 ft = 3.339 fm = 3 fm 2.04 ft)  
**TPU ( $\pm 1.96\sigma$ ):** **THU (TPEh)**  $\pm 0.981$  m ; **TVU (TPEv)**  $\pm 0.113$  m  
**Timestamp:** 2009-232.14:21:23.430 (08/20/2009)  
**Survey Line:** h12033 / tj\_3101\_reson8125\_mb / 2009-232 / 000\_1419  
**Profile/Beam:** 1861/42  
**Charts Affected:** 13217\_1, 13215\_1, 13205\_1, 12300\_1, 13006\_1, 5161\_1, 13003\_1

#### Remarks:

DTON found with Reson 8125 multibeam. Verified tides were applied with final TCARI zoning.

#### Feature Correlation

Address	Feature	Range	Azimuth	Status
h12033/tj_3101_reson8125_mb/2009-232/000_1419	1861/42	0.00	000.0	Primary

#### Hydrographer Recommendations

[None]

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

20ft (13217\_1, 13215\_1, 13205\_1)

3 ¼fm (12300\_1, 13006\_1, 13003\_1)

6.1m (5161\_1)

#### S-57 Data

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

## Office Notes

Charted 20 rock was determined during office processing to be a sounding in a rky seabed area. Delete 20 Rk and danger curve. Chart present survey depths.

### Feature Images

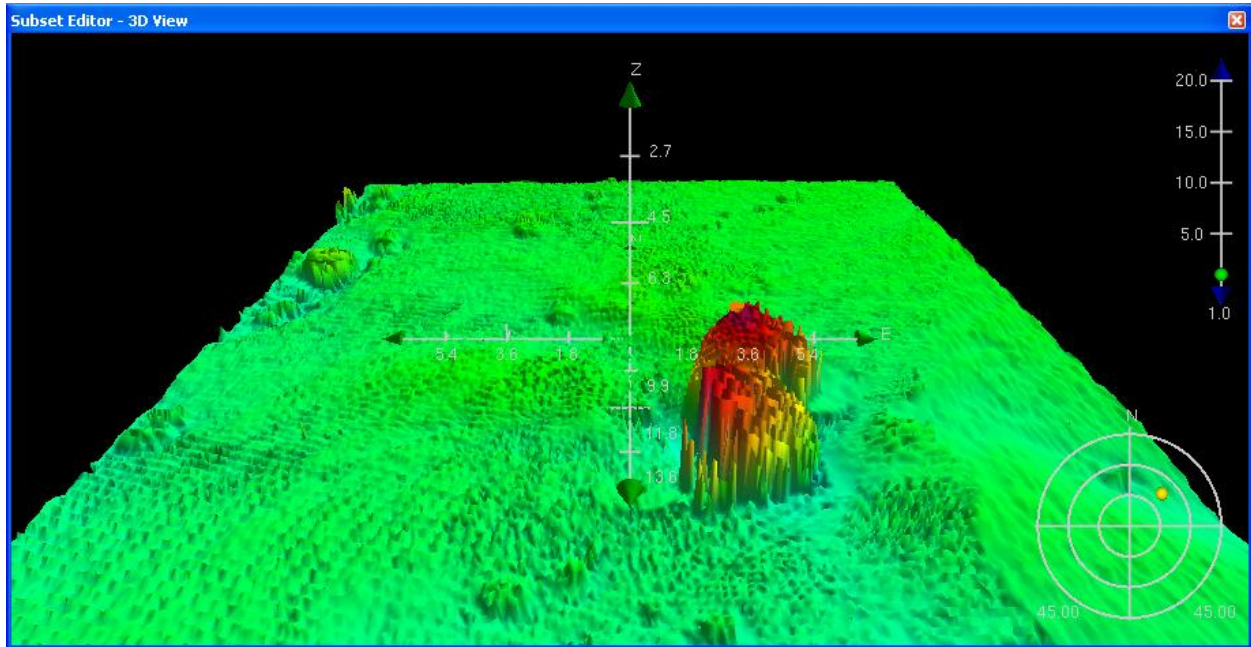


Figure 1.5.1

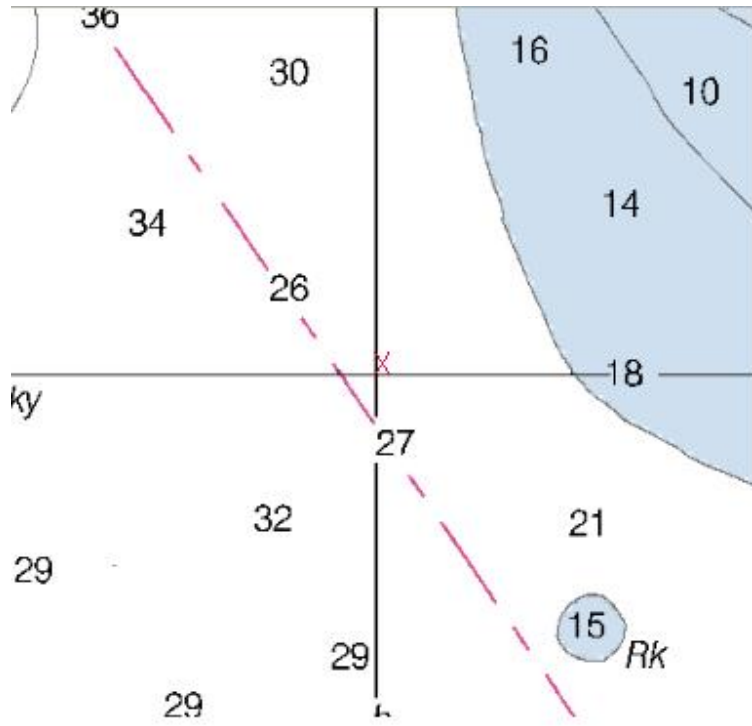


Figure 1.5.2

## 1.6) Profile/Beam - 12541/139 from h12033 / tj\_3102\_reson7125\_mb / 2009-221 / 027\_1542

### DANGER TO NAVIGATION

#### Survey Summary

**Survey Position:** 41° 12' 01.0" N, 071° 35' 25.2" W  
**Least Depth:** 2.96 m (= 9.70 ft = 1.617 fm = 1 fm 3.70 ft)  
**TPU ( $\pm 1.96\sigma$ ):** **THU (TPEh)**  $\pm 0.999$  m ; **TVU (TPEv)**  $\pm 0.283$  m  
**Timestamp:** 2009-221.15:55:58.972 (08/09/2009)  
**Survey Line:** h12033 / tj\_3102\_reson7125\_mb / 2009-221 / 027\_1542  
**Profile/Beam:** 12541/139  
**Charts Affected:** 13217\_1, 13215\_1, 13205\_1, 12300\_1, 13006\_1, 5161\_1, 13003\_1

#### Remarks:

DTON found with Reson 7125 multibeam. Verified tides were applied with final TCARI zoning.

#### Feature Correlation

Address	Feature	Range	Azimuth	Status
h12033/tj_3102_reson7125_mb/2009-221/027_1542	12541/139	0.00	000.0	Primary

#### Hydrographer Recommendations

[None]

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

9ft (13217\_1, 13215\_1, 13205\_1)

1 ½fm (12300\_1, 13006\_1, 13003\_1)

3.0m (5161\_1)

#### S-57 Data

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

## Office Notes

During office processing and review of the charted 9 Wk it was determined that the wreck does not exist. The area is rocky seabed. Delete 9 Wk and danger curve. Chart present survey depths.

### Feature Images

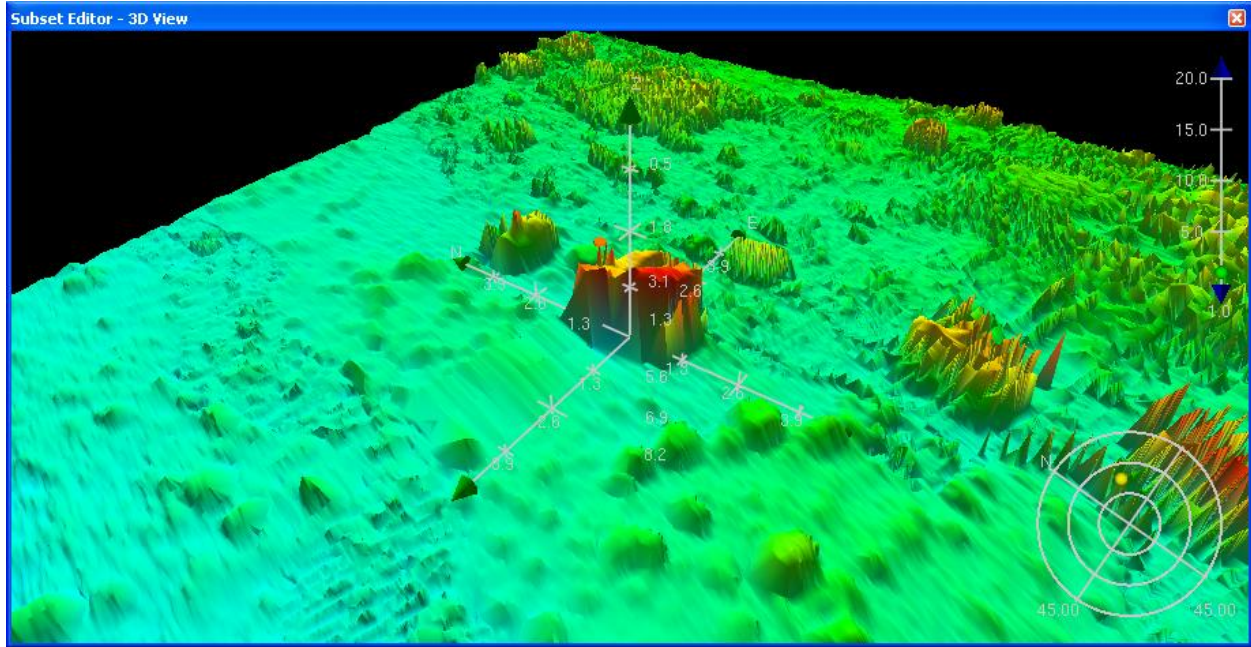


Figure 1.6.1





## 1.7) Profile/Beam - 1212/117 from h12033 / tj\_3102\_reson7125\_mb / 2009-221 / 032\_1719

### DANGER TO NAVIGATION

#### Survey Summary

**Survey Position:** 41° 12' 56.0" N, 071° 35' 01.9" W  
**Least Depth:** 6.00 m (= 19.69 ft = 3.281 fm = 3 fm 1.69 ft)  
**TPU ( $\pm 1.96\sigma$ ):** **THU (TPEh)**  $\pm 1.000$  m ; **TVU (TPEv)**  $\pm 0.285$  m  
**Timestamp:** 2009-221.17:20:33.400 (08/09/2009)  
**Survey Line:** h12033 / tj\_3102\_reson7125\_mb / 2009-221 / 032\_1719  
**Profile/Beam:** 1212/117  
**Charts Affected:** 13217\_1, 13215\_1, 13205\_1, 12300\_1, 13006\_1, 5161\_1, 13003\_1

#### Remarks:

DTON found with Reson 7125 multibeam. Verified tides were applied with final TCARI zoning.

#### Feature Correlation

Address	Feature	Range	Azimuth	Status
h12033/tj_3102_reson7125_mb/2009-221/032_1719	1212/117	0.00	000.0	Primary

#### Hydrographer Recommendations

[None]

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

19ft (13217\_1, 13215\_1, 13205\_1)

3 ¼fm (12300\_1, 13006\_1, 13003\_1)

6.0m (5161\_1)

#### S-57 Data

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

## Office Notes

Charted 19 rock was determined during office processing to be a sounding in a rky seabed area. Delete 19 Rk and danger curve. Chart present survey depths.

### Feature Images

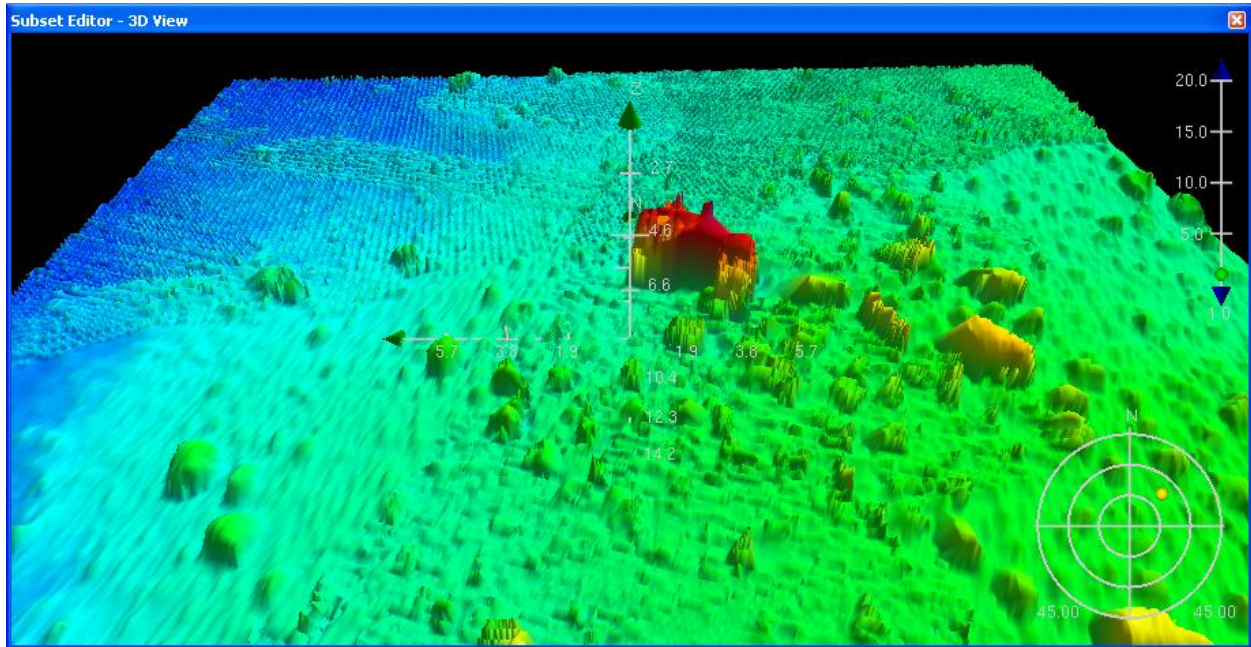


Figure 1.7.1



## 1.8) Profile/Beam - 9087/512 from h12033 / tj\_3102\_reson7125\_mb / 2009-230 / 001\_1658

### DANGER TO NAVIGATION

#### Survey Summary

**Survey Position:** 41° 10' 12.5" N, 071° 36' 49.9" W  
**Least Depth:** 4.80 m (= 15.73 ft = 2.622 fm = 2 fm 3.73 ft)  
**TPU ( $\pm 1.96\sigma$ ):** **THU (TPEh)**  $\pm 1.000$  m ; **TVU (TPEv)**  $\pm 0.288$  m  
**Timestamp:** 2009-230.17:05:59.137 (08/18/2009)  
**Survey Line:** h12033 / tj\_3102\_reson7125\_mb / 2009-230 / 001\_1658  
**Profile/Beam:** 9087/512  
**Charts Affected:** 13217\_1, 13215\_1, 13205\_1, 12300\_1, 13006\_1, 5161\_1, 13003\_1

#### Remarks:

DTON found with Reson 7125 multibeam. Verified tides were applied with final TCARI zoning.

#### Feature Correlation

Address	Feature	Range	Azimuth	Status
h12033/tj_3102_reson7125_mb/2009-230/001_1658	9087/512	0.00	000.0	Primary

#### Hydrographer Recommendations

[None]

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

15ft (13217\_1, 13215\_1, 13205\_1)

2 ½fm (12300\_1, 13006\_1, 13003\_1)

4.8m (5161\_1)

#### S-57 Data

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

## Office Notes

Charted 15 rock was determined during office processing to be a sounding in a rky seabed area. Delete 15 Rk and danger curve. Chart present survey depths.

### Feature Images

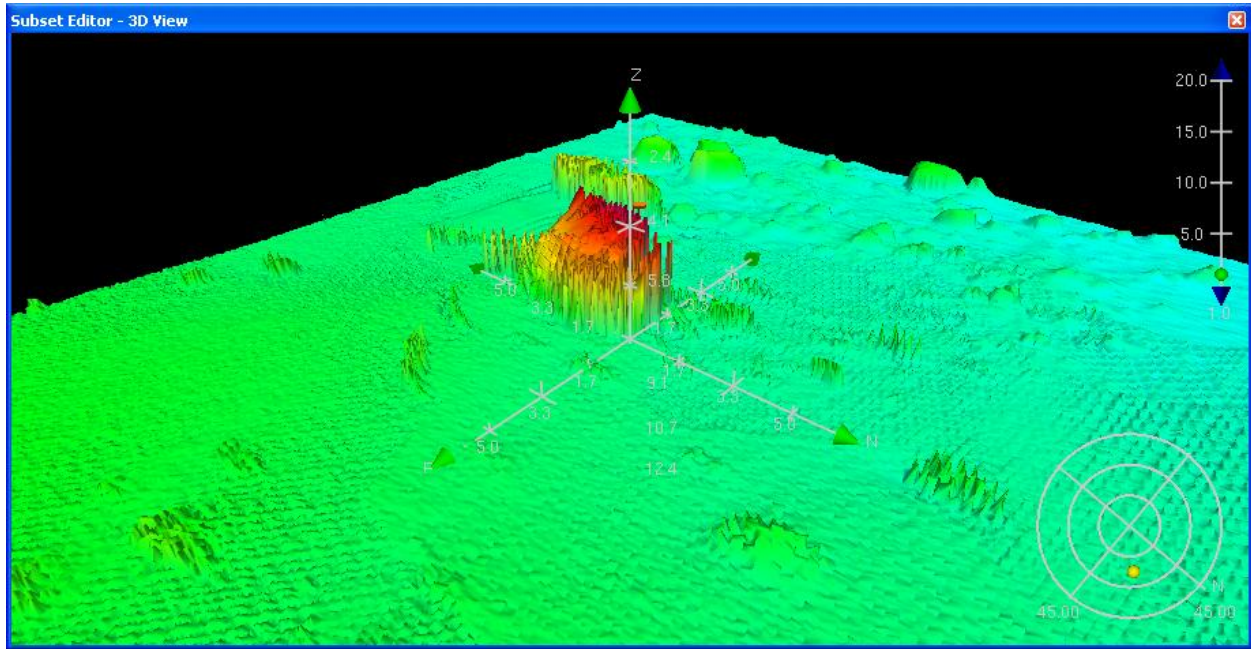


Figure 1.8.1

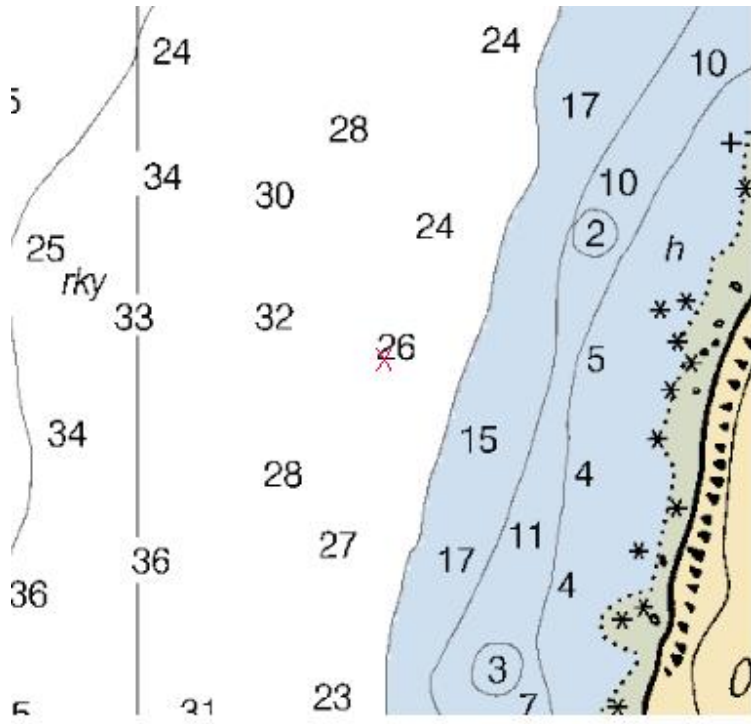


Figure 1.8.2



## 1.9) Profile/Beam - 11183/1 from h12033 / tj\_3102\_reson7125\_mb / 2009-230 / 004\_1740

### DANGER TO NAVIGATION

#### Survey Summary

**Survey Position:** 41° 10' 00.8" N, 071° 36' 50.0" W  
**Least Depth:** 3.23 m (= 10.59 ft = 1.766 fm = 1 fm 4.59 ft)  
**TPU ( $\pm 1.96\sigma$ ):** **THU (TPEh)**  $\pm 1.000$  m ; **TVU (TPEv)**  $\pm 0.285$  m  
**Timestamp:** 2009-230.17:49:27.288 (08/18/2009)  
**Survey Line:** h12033 / tj\_3102\_reson7125\_mb / 2009-230 / 004\_1740  
**Profile/Beam:** 11183/1  
**Charts Affected:** 13217\_1, 13215\_1, 13205\_1, 12300\_1, 13006\_1, 5161\_1, 13003\_1

#### Remarks:

DTON found with Reson 7125 multibeam. Verified tides were applied with final TCARI zoning.

#### Feature Correlation

Address	Feature	Range	Azimuth	Status
h12033/tj_3102_reson7125_mb/2009-230/004_1740	11183/1	0.00	000.0	Primary

#### Hydrographer Recommendations

[None]

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

10ft (13217\_1, 13215\_1, 13205\_1)  
 1  $\frac{3}{4}$ fm (12300\_1, 13006\_1, 13003\_1)  
 3.2m (5161\_1)

#### S-57 Data

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

## Office Notes

Charted 10 rock was determined during office processing to be a sounding in a rky seabed area. Delete 10 Rk and danger curve. Chart present survey depths.

### Feature Images

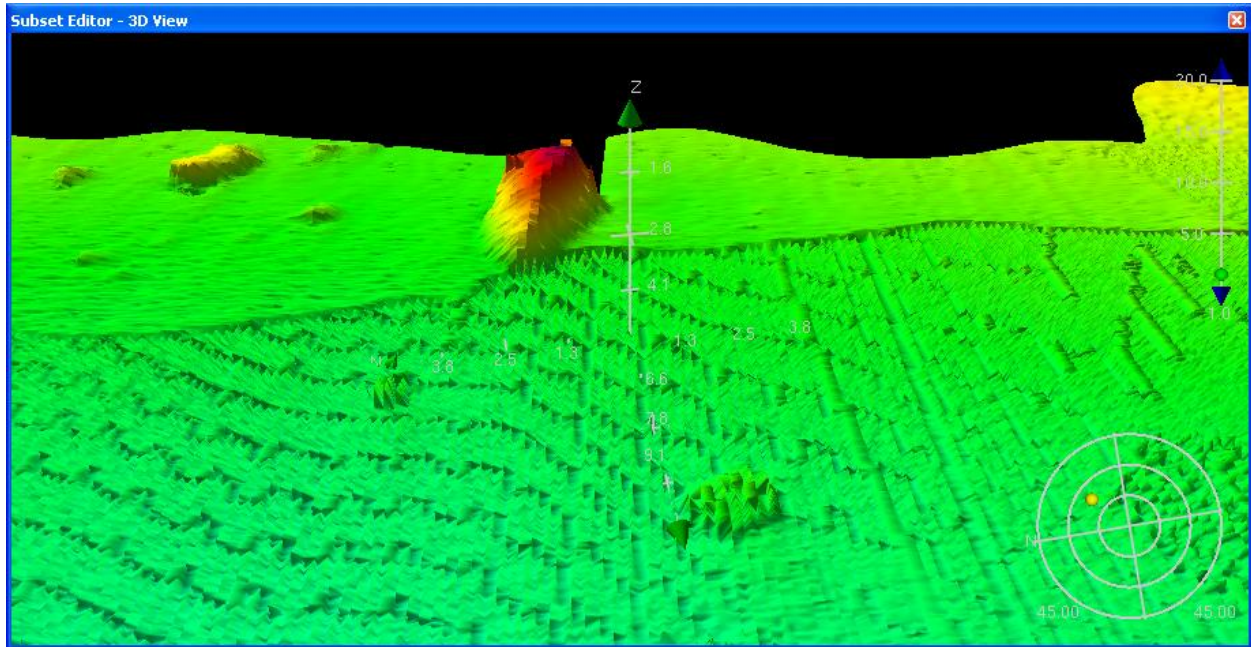


Figure 1.9.1



## **Appendix II**

### **Survey Features Report**

#### **1. AWOIS Items**

**-4**

#### **2. Charted Features**

**-2**

#### **3. Uncharted Features**

**-2**

# AWOIS

**Registry Number:** H12033  
**State:** Rhode Island  
**Locality:** Block Island Sound  
**Sub-locality:** W Shore of Block Island: Sandy Pt. to Bluff Head  
**Project Number:** OPR-B363-TJ-09  
**Survey Dates:** 7 August 2009 - 21 August 2009

## Charts Affected

Number	Edition	Date	Scale (RNC)	RNC Correction(s)*
13217	15th	11/01/2006	1:15,000 (13217_1)	USCG LNM: 12/30/2008 (06/23/2009) CHS NTM: None (04/24/2009) NGA NTM: None (06/27/2009)
13215	19th	12/01/2009	1:40,000 (13215_1)	USCG LNM: 12/08/2009 (02/16/2010) CHS NTM: None (12/25/2009) NGA NTM: None (02/27/2010)
13205	38th	02/01/2007	1:80,000 (13205_1)	[L]NTM: ?
13218	40th	02/01/2008	1:80,000 (13218_1)	[L]NTM: ?
12300	47th	05/01/2008	1:400,000 (12300_1)	[L]NTM: ?
13006	34th	05/01/2007	1:675,000 (13006_1)	[L]NTM: ?
5161	13th	10/01/2003	1:1,058,400 (5161_1)	[L]NTM: ?
13003	49th	04/01/2007	1:1,200,000 (13003_1)	[L]NTM: ?

\* Correction(s) - source: last correction applied (last correction reviewed--"cleared date")

## Features

No.	Name	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	AWOIS #7280 OBSTRUCTION	AWOIS	[no data]	[no data]	[no data]	---
1.2	AWOIS #1838 PRINCESS AUGUSTA	AWOIS	[no data]	[no data]	[no data]	---
1.3	AWOIS 7784	Wreck	27.77 m	41° 12' 00.1" N	071° 36' 28.0" W	7784
1.4	AWOIS #1825	Wreck	22.87 m	41° 12' 08.3" N	071° 36' 01.8" W	1825

**1 - DR\_AWOIS**

## 1.1) AWOIS #7280 - AWOIS #7280 OBSTRUCTION

### No Primary Survey Feature for this AWOIS Item

**Search Position:** 41° 11' 57.5" N, 071° 35' 54.0" W  
**Historical Depth:** 15.50 m  
**Search Radius:** 50  
**Search Technique:** ES,S4,DI,##  
**Technique Notes:** [None]

#### History Notes:

SURVEY REQUIREMENT COMMENTS

SEARCH ONLY TO 30 FT. CURVE AS INDICATED ON PSR MARKUP

#### HISTORY

CL1250/64--U.S. NAVY UNDERWATER SOUND LABORATORY; A TRANSDUCER WAS INSTALLED OFF BLOCK ISLAND IN LAT 41-11-54N, LONG 71-35-52W WITH A CABLE RUNNING ALONG A LINE APPROXIMATELY 090 DEGREES TO THE SHORE; THE TRANSDUCER IS ABOUT 5 FT. HIGH IN 50 FT. OF WATER LEAVING ABOUT 45 FT. OF WATER OVER IT; REQUESTED A CABLE AREA BOUNDED BY A LINE RUNNING FROM THE LIGHT IN LAT 41-12-00N, LONG 71-35-06W TO A POSITION IN LAT 41-12N, LONG 71-35-39.5W, THENCE TO LAT 41-12N, LONG 71-36W, THENCE TO LAT 41-11-47N, LONG 71-36W, THENCE ALONG A LINE 090 DEGREES TO SHORE; CHARTED AS AN OBSTRUCTION REP WITH A 45 FT. SOUNDING AND A DANGER CURVE.  
NM43/64--SAME AS ABOVE INFO. (ENTERED MSM 6/89)

FE-348SS/90--OPR-B660-HE; FIELD UNIT LOCATED A TRANSDUCER PLACED BY THE USN IN LAT.41-11-57.45N, LONG.71-35-54.0W (NAD 83). DIVER INVESTIGATION ACCOMPLISHED; MIN. OBSERVED LEAST DEPTH BY ECHO SOUNDER WAS 15.5M (MLLW). (UPDATED 3/93 MCR)

### Survey Summary

**Charts Affected:** 13217\_1, 13215\_1, 13205\_1, 12300\_1, 13006\_1, 5161\_1, 13003\_1

#### Remarks:

AWOIS #7280 investigated with Reson 7125 multibeam and 200% Klein 5000 side scan sonar. The AWOIS item was not seen. All that was found was scour. It appears that AWOIS #7280 was removed.



## Feature Correlation

Address	Feature	Range	Azimuth	Status
BlockIslandAWOIS	AWOIS # 7280	0.00	000.0	Primary

## Hydrographer Recommendations

Remove charted obstruction.

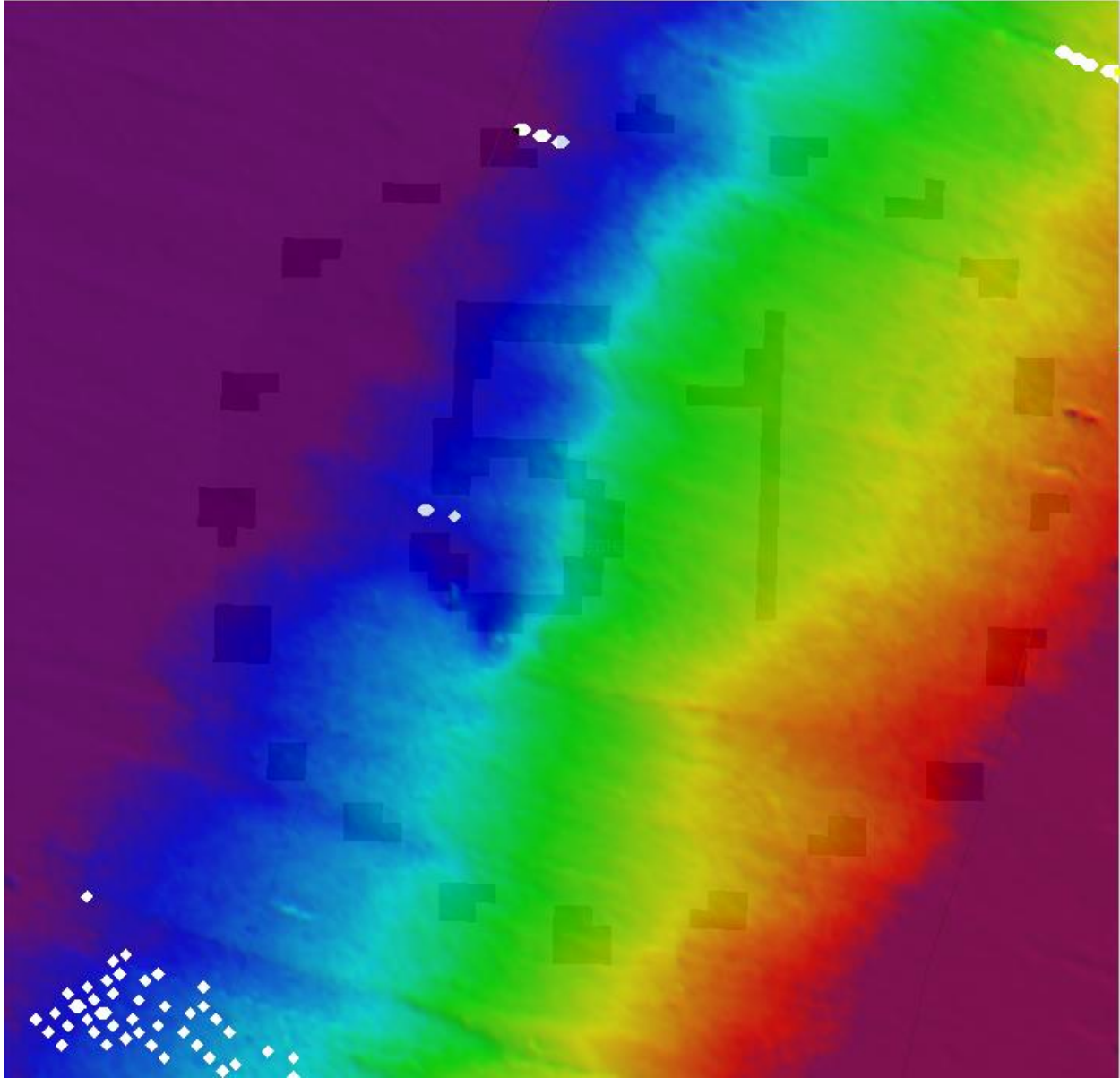
### S-57 Data

**Geo object 1:** Obstruction (OBSTRN)  
**Attributes:** SORDAT - 20090821  
SORIND - US,US,graph,H12033  
VALSOU - 15.5 m  
WATLEV - 3:always under water/submerged

### Office Notes

Concur. Delete charted 51 Obstn and danger curve.

### Feature Images



*Figure 1.1.1*



*Figure 1.1.2*

## 1.2) AWOIS #1838 - AWOIS #1838 PRINCESS AUGUSTA

### No Primary Survey Feature for this AWOIS Item

**Search Position:** 41° 13' 54.4" N, 071° 34' 40.2" W  
**Historical Depth:** [None]  
**Search Radius:** 200  
**Search Technique:** S2,ES  
**Technique Notes:** [None]

#### History Notes:

[None]

### Survey Summary

**Charts Affected:** 13217\_1, 13215\_1, 13205\_1, 13218\_1, 12300\_1, 13006\_1, 5161\_1, 13003\_1

#### Remarks:

Most of the radius of AWOIS #1838 falls on sheet H12010. This item was not seen in the portion that falls on H12033. See the H12010 descriptive report for more information.

### Feature Correlation

Address	Feature	Range	Azimuth	Status
BlockIslandAWOIS	AWOIS # 1838	0.00	000.0	Primary

### Hydrographer Recommendations

[None]

### S-57 Data

[None]

### Office Notes

Item neither verified nor disproved by present survey or H12010. Item is not shown on Chart 13217, 15th. Ed., Nov./06 or ENC #US5RI11M. No change in charting is recommended.

### 1.3) Profile/Beam - 88/106 from h12033 / tj\_3101\_reson8125\_mb / 2009-222 / 000\_1302

#### Primary Feature for AWOIS Item #7784

**Search Position:** 41° 12' 00.8" N, 071° 36' 28.2" W  
**Historical Depth:** [None]  
**Search Radius:** 50  
**Search Technique:** S2,ES,DI  
**Technique Notes:** [None]

#### History Notes:

##### HISTORY

LNM48/70--1ST CGD; 12/2/70;BLOCK ISLAND SOUND EXPERIMENTAL LIGHT E ì  
 HAS BEEN ESTABLISHED BY U.S. NAVY UNDERWATER SYSTEMS CENTER, NEW ì  
 LONDON, CT.; 12 FT. ABOVE MHW ATOP AN ORANGE AND WHITE HORIZONTAL BANDED ì  
 PIPE SECURED TO A SUNKEN BARGE IN 100 FT. OF WATER IN REPORTED ì  
 POSITION 1350 YARDS, 271 DEGREES FROM GREAT SALT POND OUTER END ì  
 LIGHT; PA LAT 41-11-58N, LONG 71-36-27W.

LNM40/77--1ST CGD; 9/7/77; LIGHT HAS BEEN DISCONTINUED; TELECON ì  
 WITH CG, 10/18/77, STRUCTURE REMAINS; CHARTED AS POLE. (ENTERED ì  
 MSM 6/90)

FE-348SS/90--OPR-B660-HE; A SUNKEN BARGE WAS LOCATED IN ì  
 LAT.41-12-00.79N, LONG.71-36-28.20W (NAD 83). EXAMINATION OF SIDE ì  
 SCAN RECORDS DURING OFFICE PROCESSING FOUND TWO EXTREMITIES ì  
 PROTRUDING OUTWARD AND UPWARD FROM THE HULL OF THE SUNKEN ì  
 BARGE. OFFICE PROCESSING WAS UNABLE TO TO DETERMINE THE HEIGHT OF ì  
 EXTREMITIES DUE TO THE SONARGRAM ASPECT. THE BARGE HAS A COMPUTED ì  
 HEIGHT OF 2.6M (8 FT) IN DEPTHS OF 96-98 FT. ECHOSOUNDER DEVELOPMENT ì  
 ON BARGE WAS NOT CONSIDERED ADEQUATE FOR DETERMINING LEAST ì  
 DEPTH. MINIMALLY OBSERVED DEPTH ON BARGE WAS 26.1M (85 FT). ì  
 EVALUATOR RECOMMENDS TO DELETE POLE FROM THE CHART AND SHOW A ì  
 BARGE AS OBSERVED. (UPDATED 3/93 MCR)

##### DESCRIPTION

\*\*\*\* TELECON WITH USCG, POINT JUDITH, 6/14/90, TEL. NO. ì  
 401-789-0444; BASE STILL REMAINS WITH APPROXIMATELY 90 FT. OF ì

WATER OVER IT; OTHER WRECKS ALSO IN AREA; MAY ALSO BE WRECKAGE OF  
 AIRPLANE WHICH WAS LOST IN THIS AREA LAST YEAR; IF AIRPLANE  
 WRECKAGE FOUND, CONTACT USCG, PT. JUDITH. (ENTERED MSM 6/90)

### Survey Summary

**Survey Position:** 41° 12' 00.1" N, 071° 36' 28.0" W  
**Least Depth:** 27.77 m (= 91.12 ft = 15.186 fm = 15 fm 1.12 ft)  
**TPU ( $\pm 1.96\sigma$ ):** **THU (TPEh)**  $\pm 0.994$  m ; **TVU (TPEv)**  $\pm 0.179$  m  
**Timestamp:** 2009-222.13:03:08.451 (08/10/2009)  
**Survey Line:** h12033 / tj\_3101\_reson8125\_mb / 2009-222 / 000\_1302  
**Profile/Beam:** 88/106  
**Charts Affected:** 13217\_1, 13215\_1, 13205\_1, 12300\_1, 13006\_1, 5161\_1, 13003\_1

#### Remarks:

AWOIS #7784 was investigated with Reson 8125 multibeam and 200% Klein 5000 Side scan sonar. Verified tides with final TCARI zoning was applied to the multibeam data. AWOIS #7784 was found.

### Feature Correlation

Address	Feature	Range	Azimuth	Status
h12033/tj_3101_reson8125_mb/2009-222/000_1302	88/106	0.00	000.0	Primary
h12033/tj_3102_klein5000_hull_200/2009-224/008_090812151000	0001	11.60	104.7	Secondary
h12033/tj_3102_klein5000_hull_200/2009-224/008_090812151000	0001	11.60	104.7	Secondary
h12033/tj_3102_klein5000_hull_100/2009-224/009_090812150300	0001	13.31	088.4	Secondary
h12033/tj_3102_klein5000_hull_100/2009-224/009_090812150300	0001	13.31	088.4	Secondary
BlockIslandAWOIS	AWOIS # 7784	21.05	169.3	Secondary

### Hydrographer Recommendations

Chart least depth on wreck as per current survey.

### S-57 Data

**Geo object 1:** Wreck (WRECKS)  
**Attributes:** CATWRK - 1:non-dangerous wreck  
 OBJNAM - AWOIS 7784  
 QUASOU - 6:least depth known

SORDAT - 20090821

SORIND - US,US,graph,H12033

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

VALSOU - 27.772 m

WATLEV - 3:always under water/submerged

## **Office Notes**

Concur with clarification. Delete 85 Wk. Add 91 Wk.

## 1.4) Profile/Beam - 6489/53 from h12033 / tj\_3102\_reson7125\_mb / 2009-219 / 008\_1920

### Primary Feature for AWOIS Item #1825

**Search Position:** 41° 12' 08.4" N, 071° 36' 01.5" W  
**Historical Depth:** 15.54 m  
**Search Radius:** 100  
**Search Technique:** MB,S2,ES  
**Technique Notes:** UPDATE LEAST DEPTH ON WRECK

#### History Notes:

##### SURVEY REQUIREMENT COMMENTS

LOCAL DIVERS REPORT THAT THERE ARE TWO WRECKS AT THIS POSITION. ì  
LOCATE BOTH AND ACQUIRE LEAST DEPTHS AND POSITIONS.

##### HISTORY

H4041/18-19WD--WRECK LOCATED IN LAT 41-12-08.0N, LONG ì  
71-36-02.4W (SCALED FROM SURVEY AT 1:20,000 SCALE); 51 FT. SOUNDING. ì  
(ENTERED MSM 4/89)

FE-348SS/90--OPR-B660-HE; WRECK LOCATED BY SIDE SCAN SONAR IN ì  
POS. LAT.41-12-08.36N, LONG.71-36-01.54W (NAD 83). FATHOMETER ì  
MINIMALLY OBSERVED DEPTH (NOT CONSIDERED LEAST DEPTH) WAS 21.6M. ì  
(UPDATED 3/93 MCR)

##### DESCRIPTION

24 NO.8653; POSITION ACCURACY WITHIN 1 MILE; WD CLEARED TO 51 ì  
FT.; REPORTED THROUGH CGS SURVEY; DATED 1941.

195 LORAN C RATES PROVIDED BY MR. RICHARD TARACKA, GREENWICH, ì  
CT. POLICE DEPARTMENT, TEL NO. 203-622-8007; WRECK IDENTIFIED AS ì  
TWO BROTHERS IN 9960-X 25872.1, 9960-Y 43902.3; WRECK IDENTIFIED ì  
AS MONTANA IN 9960-X 25871.2, 9960-Y 43900.7. (ENTERED MSM 4/89)

193 WRECK IDENTIFIED AS "MONTANNA" LOCATED AT LORAN RATES ì  
9960-W 14545.3, 9960-Y 43900.7; INFORMATION PROVIDED BY MR. TIM ì  
COLEMAN, MT PUBLICATIONS, MYSTIC, CT., TEL NO. 203-572-0564. ì  
(ENTERED MSM 7/89)



## Survey Summary

**Survey Position:** 41° 12' 08.3" N, 071° 36' 01.8" W  
**Least Depth:** 22.87 m (= 75.04 ft = 12.507 fm = 12 fm 3.04 ft)  
**TPU ( $\pm 1.96\sigma$ ):** **THU (TPEh)**  $\pm 1.016$  m ; **TVU (TPEv)**  $\pm 0.335$  m  
**Timestamp:** 2009-219.19:35:43.707 (08/07/2009)  
**Survey Line:** h12033 / tj\_3102\_reson7125\_mb / 2009-219 / 008\_1920  
**Profile/Beam:** 6489/53  
**Charts Affected:** 13217\_1, 13215\_1, 13205\_1, 12300\_1, 13006\_1, 5161\_1, 13003\_1

### Remarks:

AWOIS #1825 was investigated with Reson 8125 multibeam and 200% Klein 5000 Side scan sonar. Verified tides with final TCARI zoning was applied to the multibeam data. AWOIS #1825 was found.

## Feature Correlation

Address	Feature	Range	Azimuth	Status
h12033/tj_3102_reson7125_mb/2009-219/008_1920	6489/53	0.00	000.0	Primary
BlockIslandAWOIS	AWOIS # 1825	6.41	254.6	Secondary
h12033/tj_3102_klein5000_hull_100/2009-224/011_090812151900	0001	7.20	101.0	Secondary
h12033/tj_3102_klein5000_hull_100/2009-224/011_090812151900	0001	7.20	101.0	Secondary

## Hydrographer Recommendations

Retain as charted.

## S-57 Data

**Geo object 1:** Wreck (WRECKS)  
**Attributes:** QUASOU - 6:least depth known  
 SORDAT - 20090821  
 SORIND - US,US,graph,H12033  
 TECSOU - 2,3:found by side scan sonar,found by multi-beam  
 VALSOU - 22.873 m  
 VERDAT - 16:Mean high water  
 WATLEV - 3:always under water/submerged

## Office Notes

Do not concur - Delete 71 Wk. Add 75 Wk.

# CHARTED

**Registry Number:** H12033  
**State:** Rhode Island  
**Locality:** Block Island Sound  
**Sub-locality:** W Shore of Block Island: Sandy Pt. to Bluff Head  
**Project Number:** OPR-B363-TJ-09  
**Survey Dates:** 7 August 2009 - 21 August 2009

## Charts Affected

Number	Edition	Date	Scale (RNC)	RNC Correction(s)*
13217	15th	11/01/2006	1:15,000 (13217_1)	USCG LNM: 12/30/2008 (06/23/2009) CHS NTM: None (04/24/2009) NGA NTM: None (06/27/2009)
13215	19th	12/01/2009	1:40,000 (13215_1)	USCG LNM: 12/08/2009 (02/16/2010) CHS NTM: None (12/25/2009) NGA NTM: None (02/27/2010)
13205	38th	02/01/2007	1:80,000 (13205_1)	[L]NTM: ?
13218	40th	02/01/2008	1:80,000 (13218_1)	[L]NTM: ?
12300	47th	05/01/2008	1:400,000 (12300_1)	[L]NTM: ?
13006	34th	05/01/2007	1:675,000 (13006_1)	[L]NTM: ?
5161	13th	10/01/2003	1:1,058,400 (5161_1)	[L]NTM: ?
13003	49th	04/01/2007	1:1,200,000 (13003_1)	[L]NTM: ?

\* Correction(s) - source: last correction applied (last correction reviewed--"cleared date")

## Features

No.	Name	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	18 Boulder disproved	Shoal	5.58 m	41° 11' 39.3" N	071° 35' 47.8" W	---
1.2	7 Rk Wire Drag disproved	Obstruction	[None]	41° 13' 04.7" N	071° 34' 56.7" W	---

**1 - DR\_Charted**

**1.1) Profile/Beam - 308/181 from h12033 / tj\_3102\_reson7125\_mb / 2009-222 / 103\_1919**

**Survey Summary**

**Survey Position:** 41° 11' 39.3" N, 071° 35' 47.8" W  
**Least Depth:** 5.58 m (= 18.32 ft = 3.053 fm = 3 fm 0.32 ft)  
**TPU ( $\pm 1.96\sigma$ ):** **THU (TPEh)**  $\pm 0.999$  m ; **TVU (TPEv)**  $\pm 0.284$  m  
**Timestamp:** 2009-222.19:20:18.423 (08/10/2009)  
**Survey Line:** h12033 / tj\_3102\_reson7125\_mb / 2009-222 / 103\_1919  
**Profile/Beam:** 308/181  
**Charts Affected:** 13217\_1, 13215\_1, 13205\_1, 12300\_1, 13006\_1, 5161\_1, 13003\_1

**Remarks:**

Charted boulder found with Reson 7125 multibeam. Verified tides were applied with final TCARI zoning.

**Feature Correlation**

Address	Feature	Range	Azimuth	Status
h12033/tj_3102_reson7125_mb/2009-222/103_1919	308/181	0.00	000.0	Primary

**Hydrographer Recommendations**

Retain charted dangerous obstruction, boulder. Update sounding with current survey.

**S-57 Data**

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

**Office Notes**

Charted 16 Boulder was determined during office processing to be a sounding in a rky seabed area. Delete 16 Boulder and danger curve. Chart present survey depths.

## Feature Images



*Figure 1.1.1*

## 1.2) GP No. - 1 from ChartGPs - Digitized

### Survey Summary

**Survey Position:** 41° 13' 04.7" N, 071° 34' 56.7" W  
**Least Depth:** [None]  
**TPU ( $\pm 1.96\sigma$ ):** THU (TPEh) [None] ; TVU (TPEv) [None]  
**Timestamp:** 2009-267.16:50:00 (09/24/2009)  
**GP Dataset:** ChartGPs - Digitized  
**GP No.:** 1  
**Charts Affected:** 13217\_1, 13215\_1, 13205\_1, 13218\_1, 12300\_1, 13006\_1, 5161\_1, 13003\_1

#### Remarks:

Seven foot wire drag investigated with Reson 7125. All of the depths are deeper than seven feet.

### Feature Correlation

Address	Feature	Range	Azimuth	Status
ChartGPs - Digitized	1	0.00	000.0	Primary

### Hydrographer Recommendations

Remove dangerous rock. Chart current survey soundings.

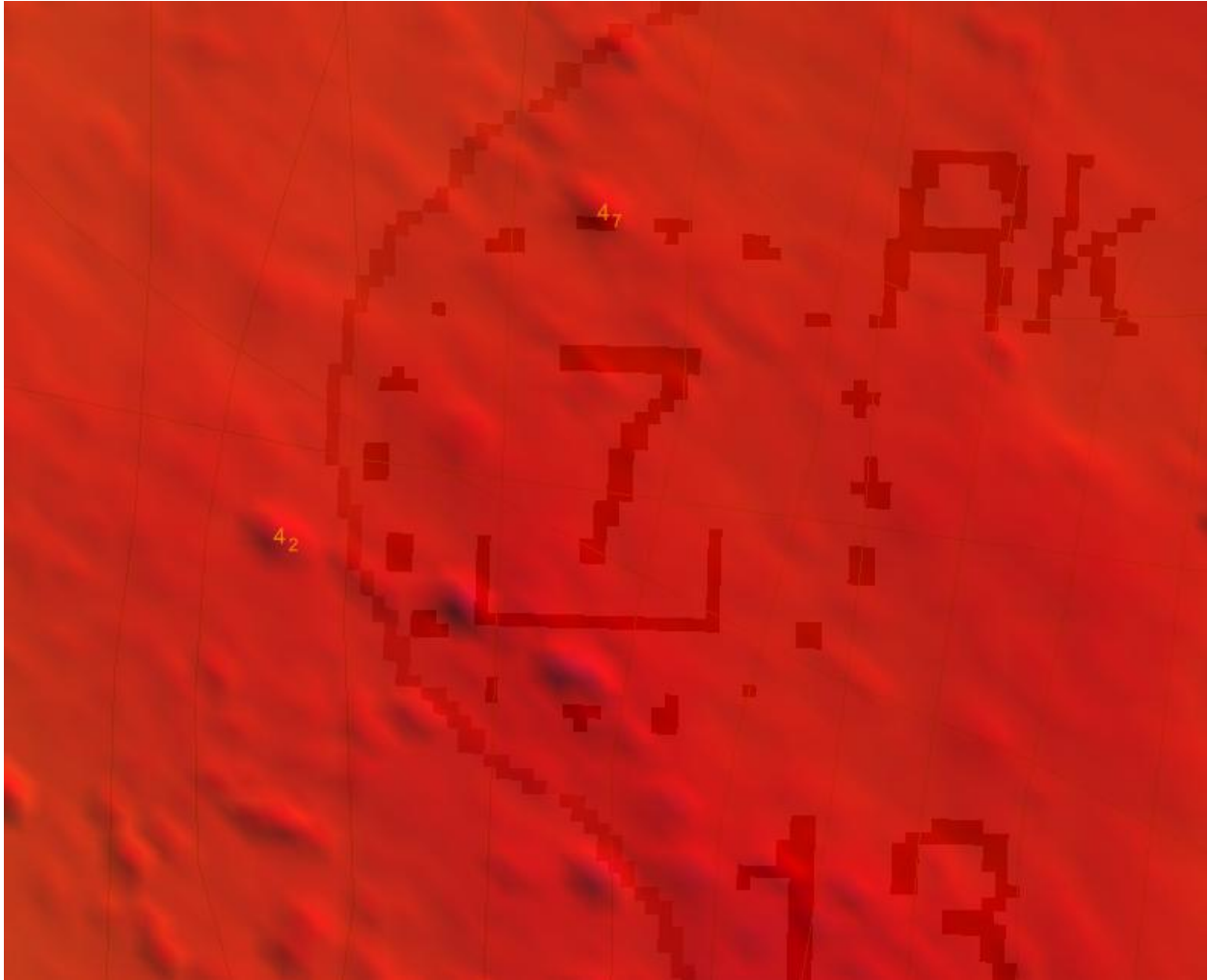
### S-57 Data

**Geo object 1:** Obstruction (OBSTRN)  
**Attributes:** SORDAT - 20090821  
 SORIND - US,US,graph,H12033  
 WATLEV - 3:always under water/submerged

### Office Notes

Concur - Delete 7 Rk wire drag clearance. Chart present survey depths.

### Feature Images



*Figure 1.2.1*



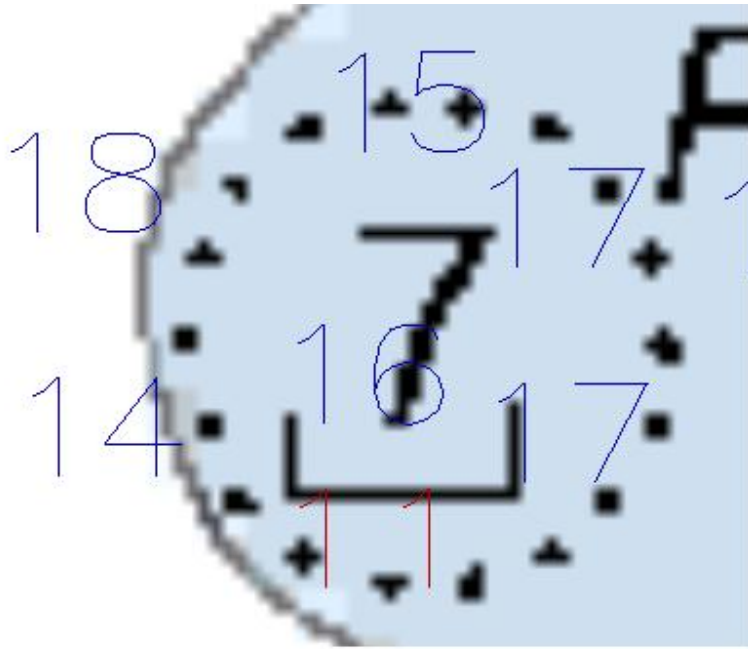


Figure 1.2.2

# UNCHARTED

**Registry Number:** H12033  
**State:** Rhode Island  
**Locality:** Block Island Sound  
**Sub-locality:** W Shore of Block Island: Sandy Pt. to Bluff Head  
**Project Number:** OPR-B363-TJ-09  
**Survey Dates:** 7 August 2009 - 21 August 2009

## Charts Affected

Number	Edition	Date	Scale (RNC)	RNC Correction(s)*
13217	15th	11/01/2006	1:15,000 (13217_1)	USCG LNM: 12/30/2008 (06/23/2009) CHS NTM: None (04/24/2009) NGA NTM: None (06/27/2009)
13215	19th	12/01/2009	1:40,000 (13215_1)	USCG LNM: 12/08/2009 (02/16/2010) CHS NTM: None (12/25/2009) NGA NTM: None (02/27/2010)
13205	38th	02/01/2007	1:80,000 (13205_1)	[L]NTM: ?
12300	47th	05/01/2008	1:400,000 (12300_1)	[L]NTM: ?
13006	34th	05/01/2007	1:675,000 (13006_1)	[L]NTM: ?
5161	13th	10/01/2003	1:1,058,400 (5161_1)	[L]NTM: ?
13003	49th	04/01/2007	1:1,200,000 (13003_1)	[L]NTM: ?

\* Correction(s) - source: last correction applied (last correction reviewed--"cleared date")

## Features

No.	Name	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	Uncharted Wreck	Wreck	11.52 m	41° 12' 36.5" N	071° 35' 13.2" W	---

**1 - DR\_UnCharted**

**1.1) Profile/Beam - 1880/213 from h12033 / tj\_3102\_reson7125\_mb / 2009-221 / 030\_1653**

**Survey Summary**

**Survey Position:** 41° 12' 36.5" N, 071° 35' 13.2" W  
**Least Depth:** 11.52 m (= 37.80 ft = 6.300 fm = 6 fm 1.80 ft)  
**TPU (±1.96σ):** **THU (TPEh)** ±1.000 m ; **TVU (TPEv)** ±0.289 m  
**Timestamp:** 2009-221.16:56:09.401 (08/09/2009)  
**Survey Line:** h12033 / tj\_3102\_reson7125\_mb / 2009-221 / 030\_1653  
**Profile/Beam:** 1880/213  
**Charts Affected:** 13217\_1, 13215\_1, 13205\_1, 12300\_1, 13006\_1, 5161\_1, 13003\_1

**Remarks:**

Uncharted wreck found with Reson 7125 multibeam. Verified tides were applied with final TCARI zoning. Inconsistency in position caused a double image but the least depth is accurate.

**Feature Correlation**

Address	Feature	Range	Azimuth	Status
h12033/tj_3102_reson7125_mb/2009-221/030_1653	1880/213	0.00	000.0	Primary

**Hydrographer Recommendations**

Chart dangerous wreck in designated location.

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

38ft (13217\_1, 13215\_1, 13205\_1)  
 6 ¼fm (12300\_1, 13006\_1, 13003\_1)  
 11.5m (5161\_1)

**S-57 Data**

**Geo object 1:** Wreck (WRECKS)  
**Attributes:** CATWRK - 1:non-dangerous wreck  
 QUASOU - 6:least depth known  
 SORDAT - 20090821  
 SORIND - US,US,graph,H12033

TECSOU - 3:found by multi-beam

VALSOU - 11.522 m

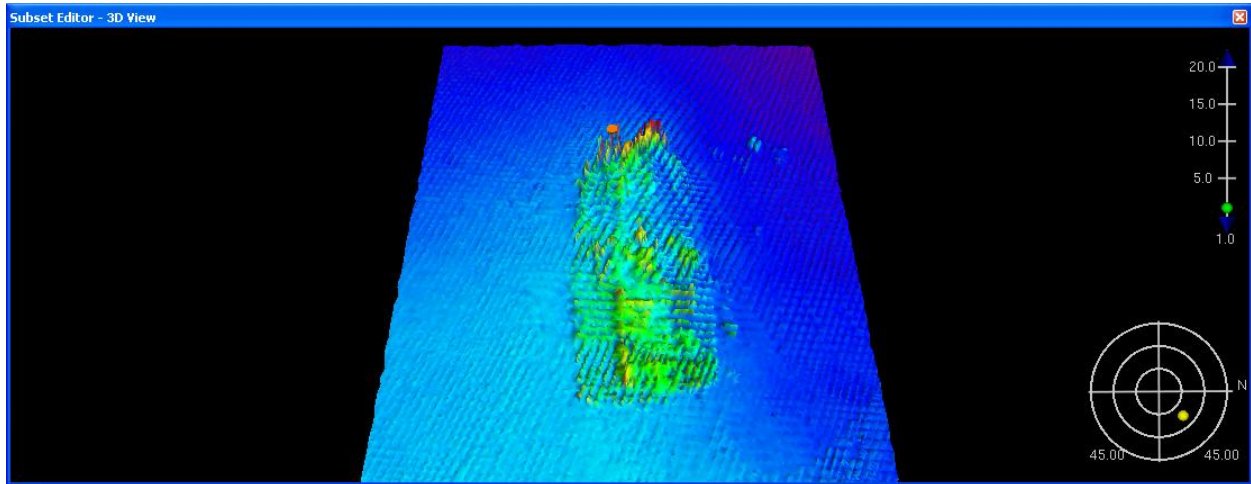
VERDAT - 16:Mean high water

WATLEV - 3:always under water/submerged

## Office Notes

Concur with clarification - Add 38 Wk and danger curve.

## Feature Images

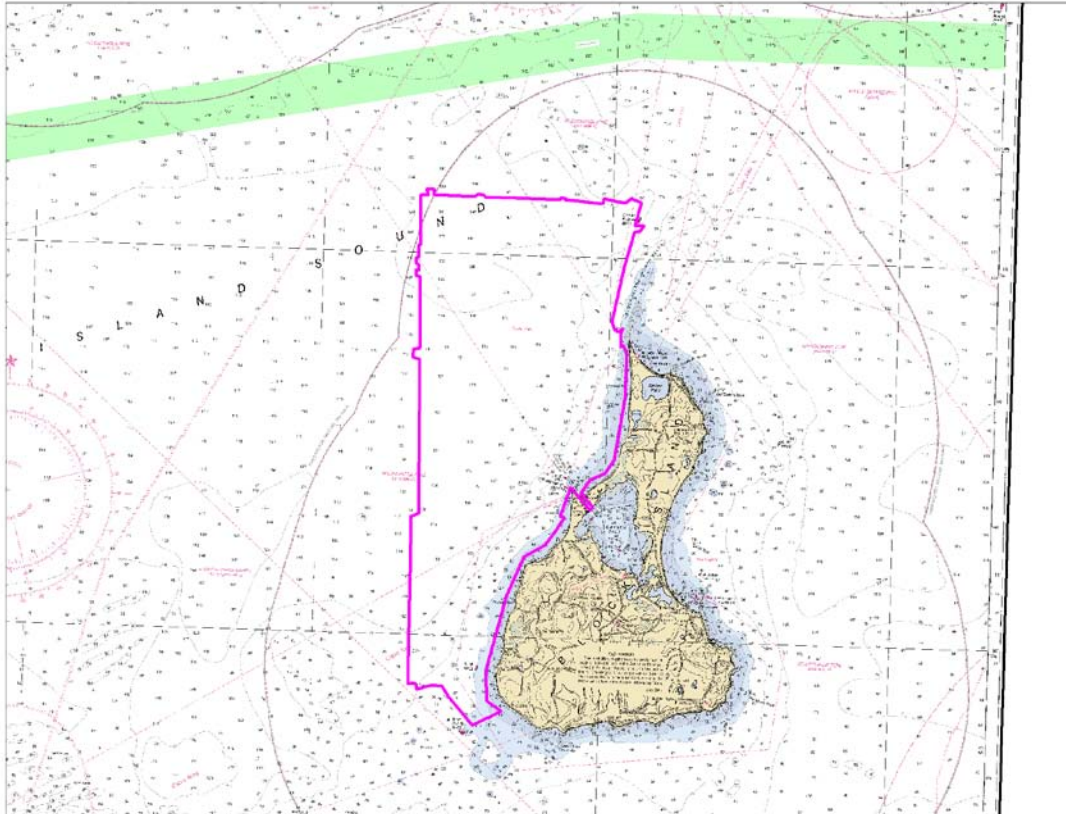


*Figure 1.1.1*



# Appendix III

## Progress Sketch



Sheet Identifier	Registry Number	HQ Estimated SNM	Sheet Start Date	Sheet End Date	Smooth Tides Request Date	Smooth Tides Received Date	Cumulative % Complete at the end of March	Cumulative % Complete at the end of April	Cumulative % Complete at the end of May	Cumulative % Complete at the end of June	Cumulative % Complete at the end of July	Cumulative % Complete at the end of August
1	H12009	25	4/7/09	5/19/09	5/27/09	6/23/09			100%			
2	H12010	13	7/23/09	8/19/09	8/27/09	9/11/09					75%	100%
3	H12033	14	8/7/09	8/21/09	8/23/09	9/11/09						100%
4	H12011	24	7/24/09	8/26/09	8/26/09	9/11/09					75%	100%
5	H12023	16	8/20/09									75%
10	H12137		8/8/09	8/22/09	8/24/09	9/11/09						100%
9	H12139		8/24/09	8/31/09	9/14/09							100%



## **Appendix IV**

### **Tides and Water Levels**

- 1. Tide Notes**
- 2. Request for Approved Tides**
- 3. Final Tide Notes**



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
National Ocean Service  
Silver Spring, Maryland 20910

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE : September 04, 2009

HYDROGRAPHIC BRANCH: Atlantic  
HYDROGRAPHIC PROJECT: OPR-B363-TJ-2009  
HYDROGRAPHIC SHEET: H12033

LOCALITY: W Shore Block Island: Sandy Pt. to Bluff Head, RI  
TIME PERIOD: August 7 - 21, 2009

TIDE STATION USED: Newport, RI 845-2660  
Lat. 41° 30.3' N Long. 71° 19.6' W

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

TIDE STATION USED: New London, CT 846-1490  
Lat. 41° 21.7' N Long. 72° 05.4' W

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters  
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 0.839 meters

Tide STATION USED: Montauk, NY 851-0560  
Lat. 41° 02.9' Long. 71° 57.6' W

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters  
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 0.683 meters

REMARKS: RECOMMENDED GRID

Please use the TCARI grid "B363TJ2009-TCARI-Revised" as the final grid for project OPR-B363-TJ-2009, H12033, during the time period between August 7 and August 21, 2009.

Refer to attachments for grid information.

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

Peter J. Stone

Digitally signed by Peter J. Stone  
DN: cn=Peter J. Stone, o=CO-OPS, ou=NOAA/  
NOS, email=peter.stone@noaa.gov, c=US  
Date: 2009.09.11 14:35:09 -04'00'

CHIEF, OCEANOGRAPHIC DIVISION



# Final TCARI Grid for OPR-B363-TJ-2009, H12033 Block Island Sound, RI

AND APPROACHES

SOUNDINGS IN FEET  
AT MEAN LOWER LOW WATER

Chart No.	Scale	Year	Authority
13205	1:50,000	2009	NAD 83
13205	1:50,000	2009	NAD 83
13205	1:50,000	2009	NAD 83
13205	1:50,000	2009	NAD 83
13205	1:50,000	2009	NAD 83
13205	1:50,000	2009	NAD 83
13205	1:50,000	2009	NAD 83
13205	1:50,000	2009	NAD 83
13205	1:50,000	2009	NAD 83
13205	1:50,000	2009	NAD 83

8452660 NEWPORT

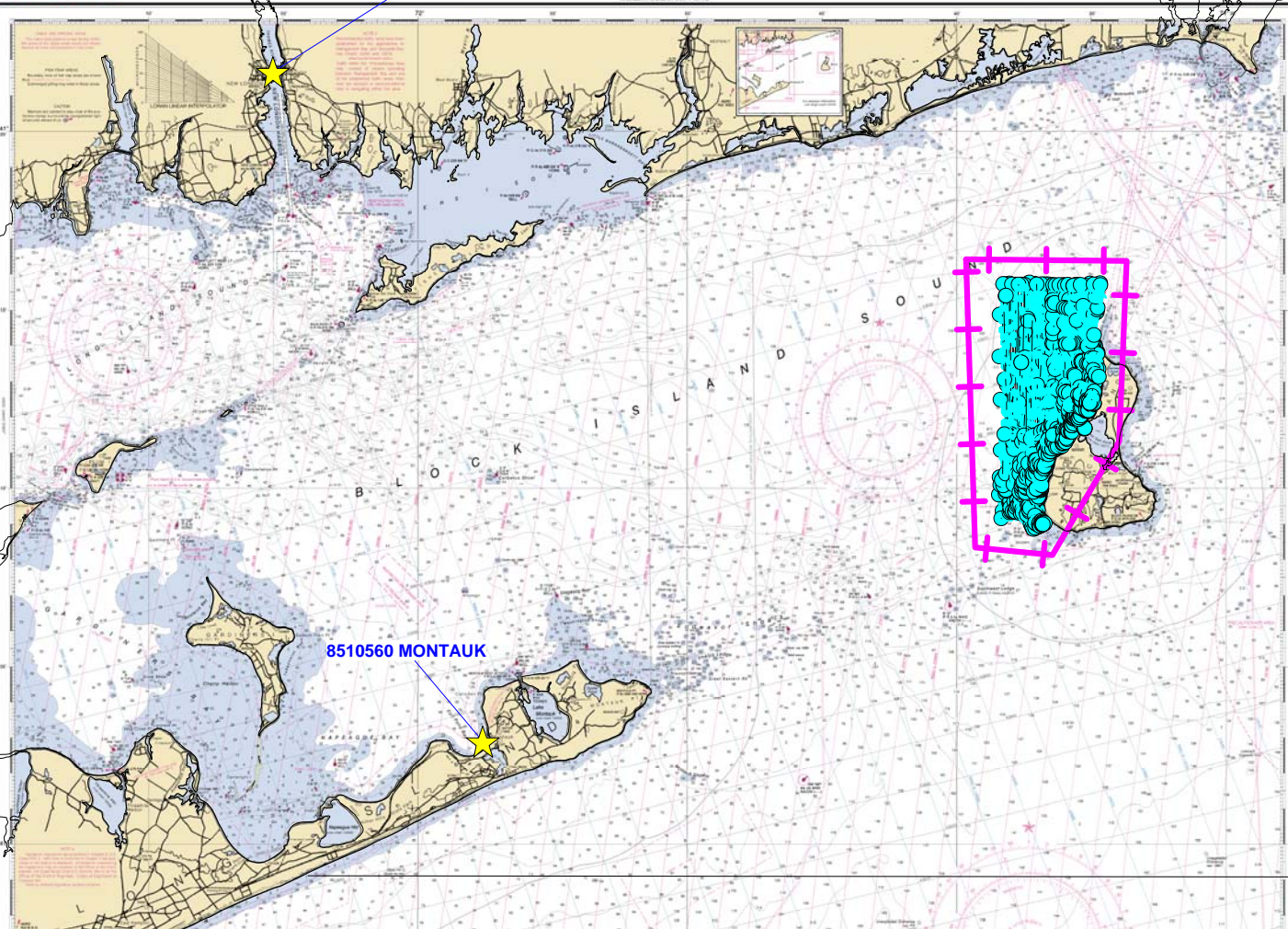
8461490 NEW LONDON

8510560 MONTAUK

SOUNDINGS IN FEET

13205

13205



## **Appendix V**

### **Supplemental Survey Records & Correspondence**





# H12033 COMPILATION LOG

General Survey Information	
REGISTRY No.	<i>H12033</i>
PROJECT No.	<i>OPR-B363-TJ-09</i>
FIELD UNIT	<i>NOAA SHIP THOMAS JEFFERSON</i>
DATE OF SURVEY	<i>August 7 to August 21, 2009</i>
LARGEST SCALE CHART	<i>13217, 15<sup>th</sup> Ed., 20061101</i>
SOUNDING UNITS	<i>Feet</i>
COMPILER	<i>Norris Wike</i>

Source Grids	File Name
	<i>H12033_1_CUBE_NOAA_50cm_Final.hns</i>
	<i>H12033_1_CUBE_NOAA_2m_Final.hns</i>
	<i>H12033_2_CUBE_NOAA_2m_Final.hns</i>
	<i>H12033_2_CUBE_NOAA_2m_Final.hns</i>
	<i>H12033_3_CUBE_NOAA_50cm_Final.hns</i>
	<i>H12033_3_CUBE_NOAA_2m_Final.hns</i>
	<i>H12033_4_CUBE_NOAA_50cm_Final.hns</i>
	<i>H12033_5_CUBE_NOAA_50cm_Final.hns</i>
	<i>H12033_6_CUBE_NOAA_50cm_Final.hns</i>
	<i>H12033_7_CUBE_NOAA_50cm_Final.hns</i>

Surfaces	File Name
<i>Combined</i>	<i>H120033_Combined_4m.hns</i>
<i>Interpolated TIN</i>	<i>H12033_8M_InterpTIN.hns</i>
<i>Shifted Interpolated TIN</i>	<i>H12033_8M_InterpTIN_Shifted.hns</i>
<i>Product Surface</i>	<i>N/A</i>

Final HOBs	File Name
<i>Survey Scale Soundings</i>	<i>H12033_SS.hob</i>
<i>Chart Scale Soundings</i>	<i>H12033_CS.hob</i>
<i>Contour Layer</i>	<i>H12033_Contours.hob</i>
<i>Feature Layer</i>	<i>H12033_Features.hob</i>
<i>Meta-Objects Layer</i>	<i>H12033_MetaLayers.hob</i>
<i>Blue Notes</i>	<i>H12033_BlueNotes.hob</i>
<i>Seabed Layer</i>	<i>H12033_Seabed_Area.hob</i>
<i>ENC Retain Layer</i>	<i>H12033_ENC_Retain.hob</i>

Meta-Objects Attribution	
Acronym	Value
<b>M_COVR</b>	
CATCOV	<i>1</i>
SORDAT	<i>20090821</i>
SORIND	<i>US,US,graph,H12033</i>
<b>M_QUAL</b>	
CATZOC	<i>6</i>
INFORM	<i>NOAA Ship Thomas Jefferson</i>
POSACC	<i>10</i>
SORDAT	<i>20090821</i>
SORIND	<i>US,US,graph,H12033</i>
SUREND	<i>20090821</i>
SURSTA	<i>20090807</i>

DEPARE	
DRVALV 1	<i>2.0 ft</i>
DRVALV2	<i>155.0 ft</i>
SORDAT	<i>20090821</i>
SORIND	<i>US,US,graph,H12033</i>

SPECIFICATIONS:

- I. COMBINED SURFACE:
  - a. Number of ESAR Final Grids: *10*
  - b. Resolution of Combined (m): *4M*
  
- II. SURVEY SCALE SOUNDINGS (SS):
  - a. Radius
  - b. Shoal biased
  - c. Use Radius Table File: *H12033\_SoundgsSpacingRange*
  - d. Queried Depth of All Soundings
    - i. Minimum: *0.926M*
    - ii. Maximum: *46.81M*
  
- III. INTERPOLATED TIN SURFACE:
  - a. Resolution (m): *4M*
  - b. Linear
  - c. Shifted value: *[-0.229m (feet), ( $\leq 10$  fathoms)]*  
*[-1.372m (fathoms), ( $> 10$  fathoms)]*
  
- IV. CONTOURS:
  - a. Use a Depth List: *H12033\_depth\_curves\_list.txt*
  - b. Line Object: DEPCNT
  - c. Value Attribute: VALDCO
  
- V. FEATURES:
  - a. Total Number of Features: *4*
  - b. Number of Insignificant Features:
  
- VI. CHART SURVEY SOUNDINGS (CS):
  - a. Number of ENC CS Soundings: *753*
  - b. Radius
  - c. Shoal biased
  - d. Use Single-Defined Radius: m on the ground
    - i. Radius Value (m):
    - ii. Or use a Sounding Space Range Table (if applicable): *N/A*
  - e. Filter: Interpolated != 1
  - f. Number Survey CS Soundings: *832*
  
- VII. Notes:

**ATLANTIC HYDROGRAPHIC BRANCH  
H-CELL REPORT to ACCOMPANY  
SURVEY H12033 (2009)**

This H-Cell 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.2. QUALITY CONTROL**

**H-Cell**

The AHB source depth grid for the survey's nautical chart update product entailed the field's original 50cm and 2m grids. These grids were combined at 4 meter resolution. The survey scale soundings were created from the combined surface using the H12033\_SoundingsSpacingRange file. Refer to the Compilation Log above for exact values used for this process. A TIN was created from the survey scale soundings from which an interpolated surface was generated. The chart scale soundings were selected from the filtered interpolated surface using a single defined radius at the 1:15,000 chart scale. The chart scale selected soundings are a subset of the survey scale selected soundings. The surface model was referenced when selecting the chart scale soundings, to ensure that the selected soundings portrayed the bathymetry within the common area.

Depth contours were created from a shifted interpolated TIN surface of 8m resolution and the contours were then derived from the interpolated and non-interpolated nodes. Therefore, using this method the contours are in harmony with the SS and CS soundings while maintaining the chart equivalent contour values as whole integers. The depth contours are being forwarded to MCD for reference only. The contours were utilized during chart scale sounding selection and quality assurance efforts at AHB. The depth contours are incorporated into the SS H-Cell product as per 2009 H-Cell Specifications.

The compilation components (Stand Alone HOB files (SAHOB)) are detailed in the Compile Log attached to the Descriptive Report. The SAHOB files included depth areas (DEPARE), depth contours (DEPCNT), sounding selections (SOUNDG), features (SBDARE, SNDWAV, WRECKS), Meta objects (M\_COVR, M\_QUAL), and cartographic Blue Notes (\$CSYMB).

All of the components with the exception of the survey scale sounding selection and depth contours were inserted into one feature layer (including the Bluenotes, as dictated by Hydrographic Technical Directive 2008-8), and this layer was exported into S-57 format in order to create the H-Cell deliverable. Similarly, the survey scale sounding selection and depth contours were exported into S-57 format separately, and then both S-57 files were processed in CARIS HOM to convert the metric units to feet. The final products are two S-57 files, in Lat/Lon NAD-83, one that contains the Chart soundings, all the Features, Meta objects, and Bluenotes (H12033\_CS.000), and one that contains the survey scale sounding selection and depth contours (H12033\_SS.000). Finally, quality assurance checks were made utilizing CARIS S-57 Composer version 2.1 validation checks and DKART INSPECTOR version 5.



H12033 CARIS H-Cell final deliverables include the following products:

H12033_CS.000	1:15,000 Scale	H12033 H-Cell with Chart Scale Selected Soundings
H12033_SS.000	1:7,500 Scale	H12033 Selected Soundings (Survey Scale)

#### **B.2.4 Junctions**

Survey H12033 has a junction with surveys H12010 to the east, H12137 to the southwest, H12139 to the northwest and H12011 to the north. Present survey soundings compare within 1 foot with H12010, H12137, H12139 and H12011.

#### **B.4 DATA PROCESSING**

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

CARIS HIPS/SIPS version 6.1 SP2, HF 1-8  
 CARIS Bathy DataBASE version 2.1 SP1, HF 1-10  
 CARIS S-57 Composer version 2.1 HF 4  
 DKART INSPECTOR, version 5.0 Build 732 SP1  
 CARIS HOM ENC 3.3 SP3 HF 8  
 PYDRO 10.7 (r2982)

#### **C. HORIZONTAL AND VERTICAL CONTROL**

The Hydrographer makes adequate mention of all water level and vertical datum adjustments in the Descriptive Report and Horizontal and Vertical Control Report submitted with this project.

The horizontal control used for this survey's data acquisition and H-Cell compilation is based upon the North American Datum of 1983 (NAD83), UTM projection zone 19.

#### **D. RESULTS AND RECOMMENDATIONS**

**D.1 CHART COMPARISON 13217 (15th Edition, Nov. /06)**  
 Corrected through NM 11/04/2006  
 Corrected through LNM 10/24/2006  
 Scale 1:15,000

**ENC Comparison US5RI11M**  
 Block Island  
 Edition 2  
 Application Date 2010-05-05  
 Issue Date 2010-05-05  
 Chart 13217

## **HYDROGRAPHY**

The charted hydrography originates with prior surveys and requires no further consideration. The hydrographer makes adequate chart comparisons in section "D" and Appendix 1 & 2 of the Descriptive Report. The following should be noted:

Three rky seabed areas in the following locations were created from the grids of the present survey:

### **LATITUDE N**

### **LONGITUDE W**

41°13'15.00"

071°35'15.00"

41°10'50.00"

071°36'50.00"

41°15'30.00"

071°35'20.00"

All charted bottom characteristic with notations rky or hard were deleted from within the rky seabed areas. It is recommended that the areas be charted as shown on present survey.

An area of uncharted sand waves in the vicinity of Latitude 41°14'55.00"N Longitude 071°36'10.00"W was located during present survey operations. It is recommended that the areas be charted as shown on present survey.

## **MISCELLANEOUS**

Chart compilation was done by Atlantic Hydrographic Branch personnel, in Norfolk, Virginia. Compilation data will be forwarded to Marine Chart Division, Silver Spring, Maryland. See Section D.1. of this report for a list of the Raster Charts and Electronic Navigation Charts (ENC) used for compiling the present survey.

## **ADEQUACY OF SURVEY**

The present survey is adequate to supersede the charted bathymetry within the common area. Any features not specifically addressed either in the H-Cell BASE Cell File or the Blue Notes should be retained as charted. Refer to the Descriptive Report for further recommendations by the hydrographer.

**APPROVAL SHEET**  
**H12033**

**Initial Approvals:**

The completed survey has been inspected with regard to survey coverage, delineation of depth contours, disposition of critical depths, cartographic symbolization, and verification or disproval 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 National Ocean Service and Office of Coast Survey requirements except where noted in the Descriptive Report and the Evaluation Report.

All final products have undergone a comprehensive reviews per the Hydrographic surveys Division Office Processing Manual and are verified to be accurate and complete except where noted.

---

**Norris A. Wike**  
Cartographer  
Atlantic Hydrographic Branch

I have reviewed the H-Cell files, accompanying data, and reports. This survey and accompanying Marine Chart Division deliverables meet National Ocean Service requirements and standards for products in support of nautical charting except where noted.

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

**Richard T. Brennan**  
Commander, NOAA  
Chief, Atlantic Hydrographic Branch