H11445

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: H11445

LOCALITY

State: New York

General Locality: Eastern Long Island Sound

Sub-locality: North shore of Plum Island

2008

CHIEF OF PARTY
CDR P. Tod Schattgen
NOAA

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DATE

NOAA FORM 77-28 (11-72)	U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION	REGISTRY NUMBER:
HYDROGRAPHIC TITLE SHEET		**H11445**

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:	**New York**
General Locality:	**Eastern Long Island Sound**
Sub-Locality:	**North shore of Plum Island**
Scale:	**1:10,000** Date of Survey: **16 September to 01 October 2008**
Instructions Dated:	**28 July 2008** Project Number: **OPR-B370-TJ-08**
Change No. 1 Dated	**30 September 2008**
Vessel:	**NOAA Ship *Thomas Jefferson***
Chief of Party:	**CDR P. Tod Schattgen**
Surveyed by:	***Thomas Jefferson* Personnel**
Soundings by:	**Reson 8101, and 8125 MBES, Klein 5000 SSS**
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:	~~**Meters**~~ ***Feet*** **at MLLW**

Remarks:
1) All Times are in UTC.
2) This is a Navigable Area Hydrographic Survey.
3) Projection is NAD83, UTM Zone 18.
Bold, Italic, Red notes in the Descriptive Report were made during office processing.

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Descriptive Report to Accompany Hydrographic Survey H11445

Project OPR-B370-TJ-08
Eastern Long Island Sound
North shore of Plum Island
Scale 1:10,000
16 September to 01 October 2008
NOAA Ship *Thomas Jefferson*

A. AREA SURVEYED

This hydrographic survey was completed as specified by Hydrographic Survey Letter Instructions OPR-B370-TJ-08, dated 28 July 2008. *

Revised project instructions are dated 30 September 2008. Changes were made to add sheet "Q" with a registry number of H11997 and assigned sheet "H" the registry number H11445. POSPac data is to be acquired concurrently with true heave. Tide gauge 8465705 (New Haven, CT) has been used in place of 8467150 (Bridgeport, CT).

Northern Limit	Southern Limit	Western Limit	Eastern Limit
41° 12' 14.50" N 072° 08' 44.99" W	41° 09' 49.06" N 072° 12' 46.19" W	41° 09' 50.75" N 072° 14' 12.61" W	41° 11' 26.14" N 072° 08' 38.74" W

Table A-1: Approximate survey area

Data acquisition was conducted from 16 September to 01 October 2008.

This Project responds to a request from the Northeast Maritime Pilots Association for contemporary hydrographic surveys to update the nautical charts in the Eastern Long Island Sound. Petroleum and coal products constitute the bulk of the goods transported through the Sound.

	Lineal Nautical Miles
Single beam mainscheme only	N/A
Multibeam mainscheme only	235.06
Side Scan Sonar mainscheme only	32.068
Crosslines	9.2
Developments	N/A
Shoreline/nearshore investigations	N/A
Number of Bottom Samples	4
Number of AWOIS items investigated	2

Table A-2: Survey Statistics

The survey limits of H11445 are shown on the following page.
Filed with original field records.

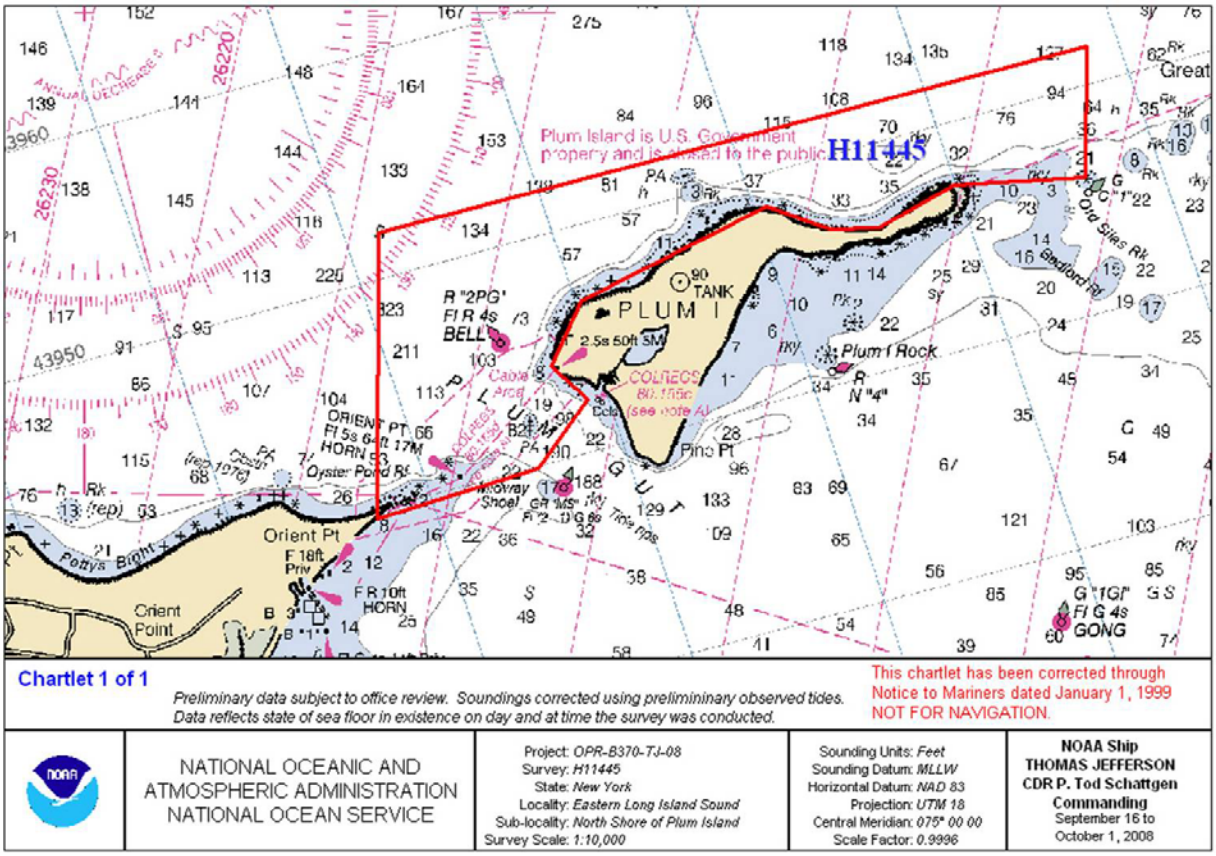

Figure A-1: Survey Area

B. DATA ACQUISTION AND PROCESSING

Refer to Thomas Jefferson's ***Data Acquisition and Processing Report (DAPR), Spring*** Addendeum- ***2008*** 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.

B 1. EQUIPMENT AND VESSELS

Data was acquired by Hydrographic Survey Launches 3101 and 3102. Launch 3101 acquired Reson 8125 multibeam soundings and sound velocity profiles. Launch 3102 acquired Klein 5000 side scan sonar imagery, Reson 8101 multibeam soundings, sound velocity profiles, and bottom samples. Vessel configurations, equipment operation and data acquisition and processing were consistent with specifications described in the DAPR.

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.

B.2.2 Sounding Coverage

As per the Letter Instructions, this survey was conducted using 100% side scan sonar and object detection multibeam coverage in depths from 4 to 20 meters*, and complete multibeam coverage in depths greater than 20 meters. Side Scan Sonar coverage was monitored by creating a 100% coverage mosaic with a 1.0 meter resolution. Bathymetry coverage was monitored by creating BASE surfaces with a 2.0 meter resolution and a 0.5 meter resolution in less than 20 meter depth.
Reference survey correspondence, Appendix V. H11445 was conducted as a 100% Object Detection Multibeam survey.

On the western side there is a gap where the data does not fully reach the survey limits due to the limitations of the launch RESON systems in the deep water. Data from surveys H11446 and H11997 fill the gap.

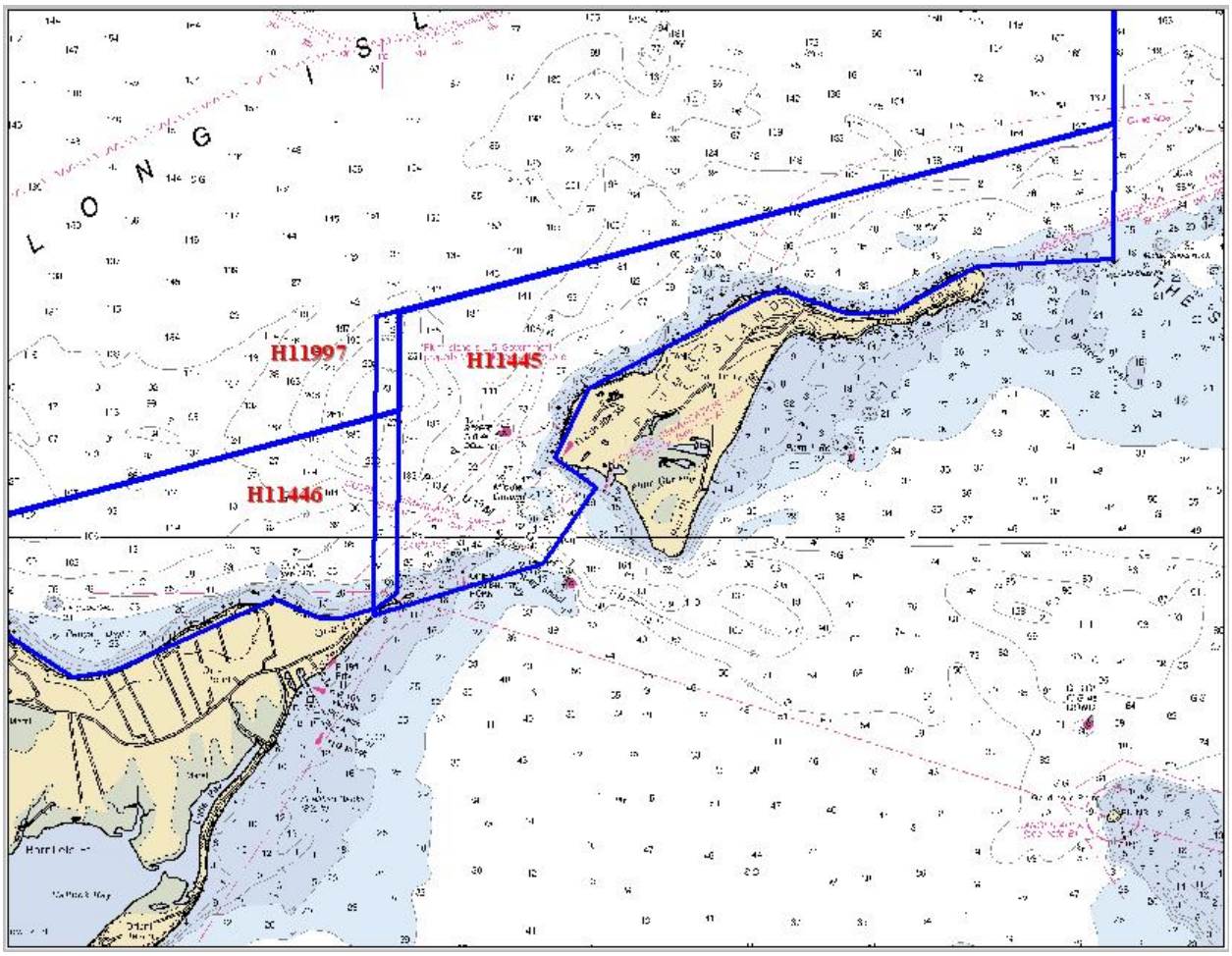

Figure B-1: Overlap with H11997 and H11446

B 2.3 Crosslines

Multibeam echosounder cross-lines totaling 9.2 linear nautical miles, comprising 5 percent of hydrography, were acquired during the course of the survey. An evaluation of the standard deviation layer of the BASE surface was performed for the survey area. The results indicate some systematic artifacts due to attitude inputs; however, these do not exceed 0.631 in any area. Other areas of high standard deviation are caused by bathymetric features or man made obstructions. A crossline to mainscheme surface difference is located in the Descriptive Report/Separates/IV Crossline_comparisons* folder submitted with this survey.
Data Filed with Original Field Records

B 2.4 Junctions and Prior Surveys

The following contemporary surveys junction with H11445:

Registry #	Scale	Date	Field Party	Junction side
H11446	1:10,000	2008	*Thomas Jefferson*	Southwest
H11250	1:10,000	2004	*Thomas Jefferson*	Northeast
H11997	1:20,000	2008	*Thomas Jefferson*	North

Survey H11250 junctions with H11445 in the Northeast. Survey data to H11250 is only available in a file format which is incompatible with current software suites. Due to this, no sounding comparison was accomplished.

Survey H11997 junctions with H11445 in the North. The difference in soundings between the two surveys are on average 0.2 meters.

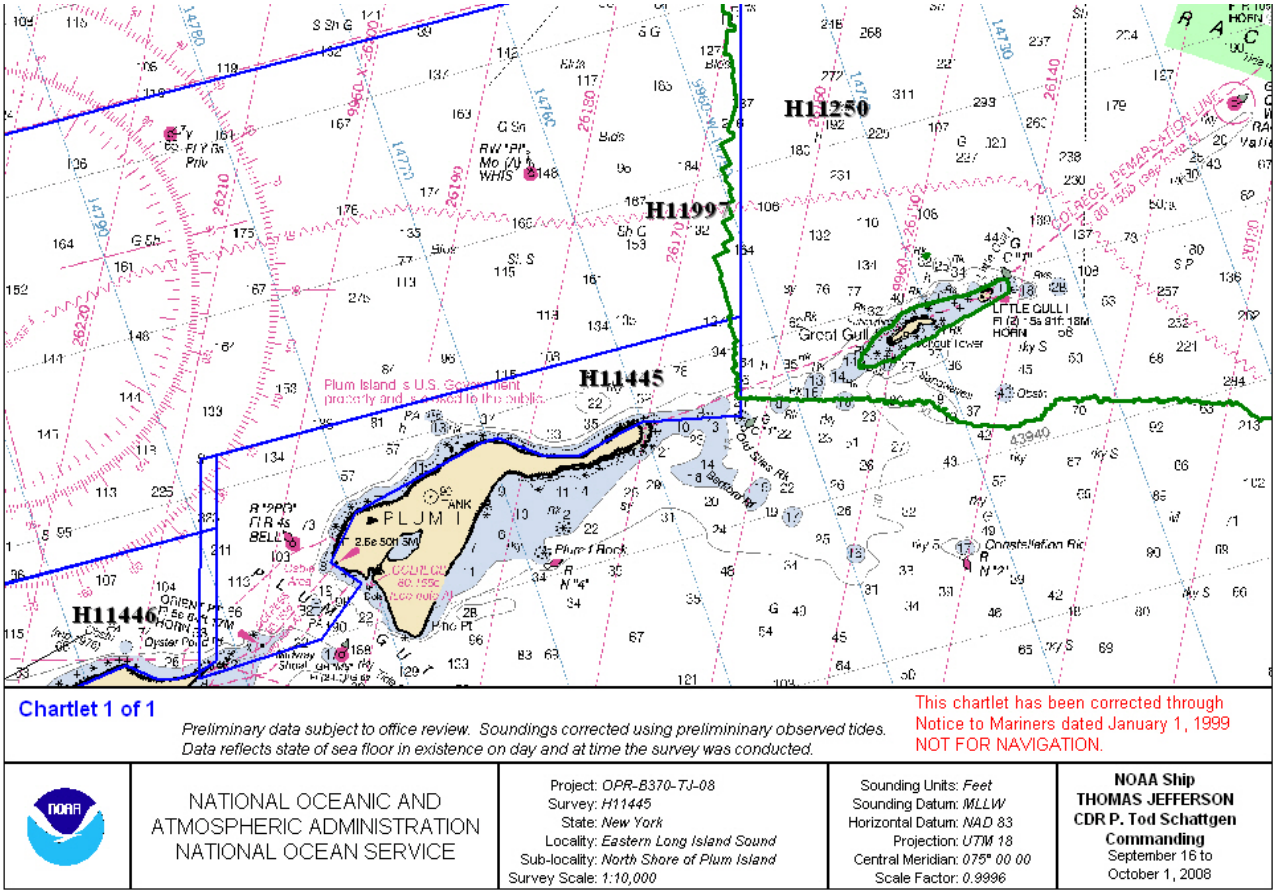

Figure B-2: Junction Surveys

B 2.5 Systematic Errors

The most prevalent systematic error for this survey is errors in dynamic draft due to high current. In areas exposed to high current the amount of error ranges up to 0.20 meters, while protected areas show lower to no draft error.

B 3. CORRECTIONS TO ECHO SOUNDING

HDCS sounding data were reduced to mean lower-low water (MLLW) using Verified water levels from the tide station located at New London, Thames River, CT (8461490). Verified water levels and final tide zoning were applied to all sounding data. ***Concur.***

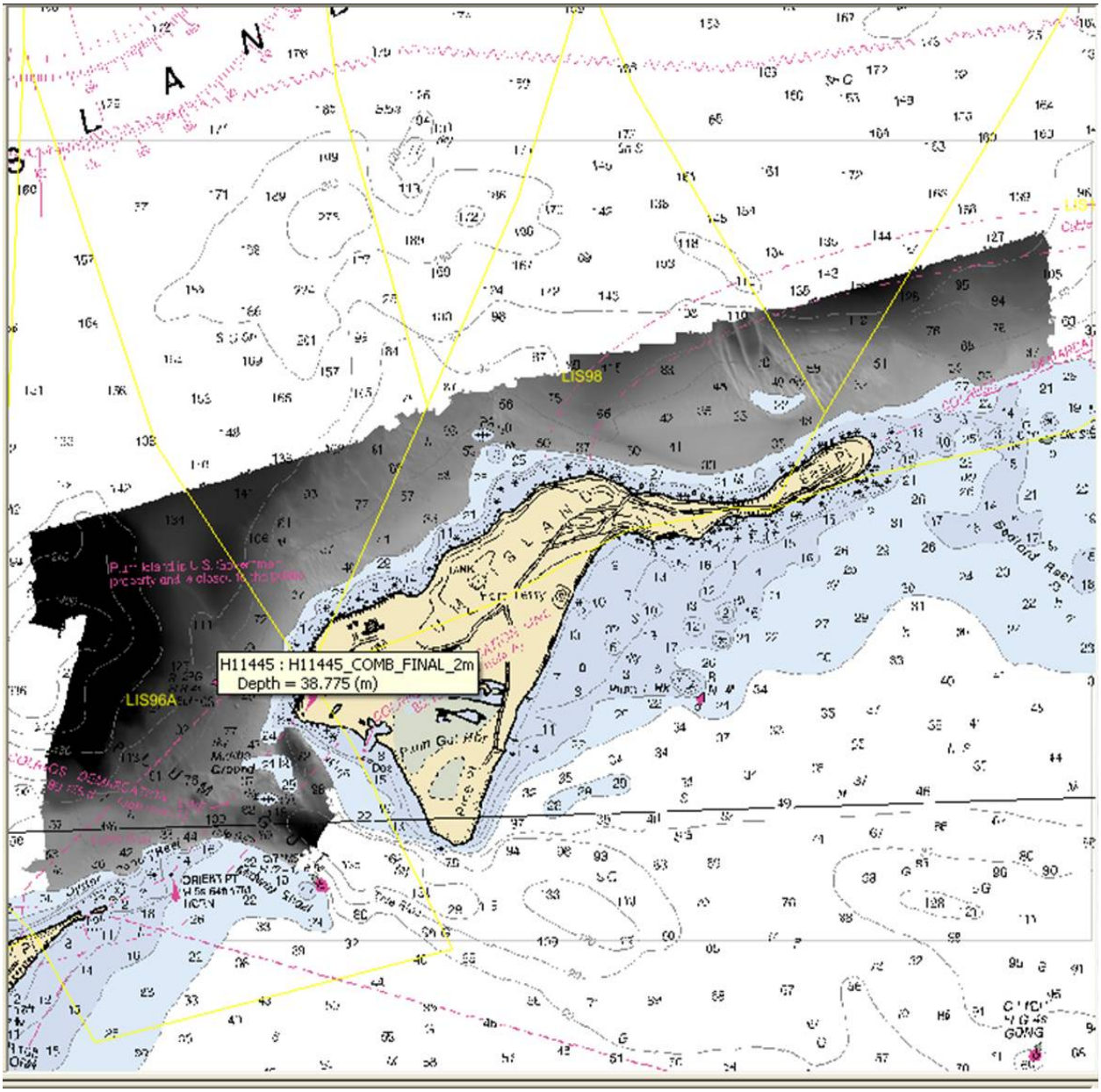

Figure B-3 Final Tide Zoning

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.
**** Data Filed with Original Field Records***

B 4. DATA PROCESSING

B 4.1 Total Propagated Error

For the 2008 field season, Total Propagated Error (TPE) parameters for sound speed and tides were calculated separately for each project. The project-specific parameters for OPR-B370-TJ-08, Survey H11445 are as follows:

Vessel	Tide Values		Sound Speed Values	
	Measured	Zoning	Measured	Surface
3101	0.00	0.19	4	0.2
3102	0.00	0.19	4	0.2

Table B-1: TPE Parameters

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

B 4.2 BASE Surfaces and Mosaics

The following table describes all BASE Surfaces and Mosaics submitted as part of Survey H11445:

Name of Surfaces and/or Mosaics	***Resolution***	***Type***	***Purpose***
H11445_100SSS_Mosiac	1.0 meter	SSS Mosaic	Side Scan Coverage*
H11445_1_Cube_Deep_2m_Final	2.0 meter	CUBE	Sounding Coverage*
H11445_2_Cube_Deep_2m_Final	2.0 meter	CUBE	Sounding Coverage*
H11445_3_Cube_Deep_2m_Final	2.0 meter	CUBE	Sounding Coverage*
H11445_1_Cube_Shal_50cm_Final	0.5 meter	CUBE	Depth Threshold*
H11445_2_ Cube_Shal_50cm_Final	0.5 meter	CUBE	Depth Threshold*
H11445_3_ Cube_Shal_50cm_Final	0.5 meter	CUBE	Depth Threshold*
H11445_COMB_FINAL_2m	2.0 meter	Combined	Not a deliverable

All surfaces were recomputed by office personnel. The 50cm final surfaces were depth thresholded from 0-22 meters to obtain proper depths across the steep slope in the survey area.

Table B-2: Compiled Fieldsheets

This survey was processed using the Combined Uncertainty and Bathymetry Estimator (CUBE) algorithm. The CUBE configuration was set to “Deep” for surfaces in depths greater than 20 meters and ”Shallow” for surfaces in depths less than 20 meters. The entire survey was calculated using the IHO order 1 selection in CARIS surface generation. Refer to the 2008 Data Acquisition and Processing Report, 2008 Field Procedures Manual, and CARIS HIPS/SIPS 6.1 manual for further discussion.

C. VERTICAL AND HORIZONTAL CONTROL *See also the Evaluation Report.*

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

C 1.1 Horizontal Control

The horizontal datum for this project is the North American Datum of 1983 (NAD83), zone 18. Differential GPS (DGPS) was the sole method of positioning. Differential corrections from U.S. Coast Guard beacons at Acushnet, MA (306 kHz), and Moriches, NY (293 kHz), were used during this survey.

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

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, Thames River, CT (8461490) and New Haven, New Haven Harbor CT (8465705) served as datum control for H11445. A request for delivery of final approved (verified) tides for this survey was forwarded to N/OPS1 on 3 October 2008 in accordance with the FPM and project letter instructions.

The final smooth tides report from COOPS issued new zoning (H11445COPF.zdf) for this survey. Verified water levels with final zoning were applied to all sounding data. ***Concur.***

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

D.1 Chart Comparison

Survey H11445 was compared with charts 12358 (20th Ed.; April 2008, 1:40,000), 12354 (42nd Ed.; December 2006, 1:80,000), 13205 (38th Ed.; February 2007, 1:80,000), 13209 (25th Ed.; April 2007, 1:40,000), 13212 (38th Ed.; November 2008, 1:20,000), and ENC ~~US4NY1GM~~ ***US5MA22M***. Chart comparisons were performed in Pydro using survey-scale excessed soundings and in MapInfo using survey-scale and chart-scale excessed soundings exported from Pydro.

D.1.2 Chart 12358 Comparison

In general the soundings agree within 3 feet. Where there are differences they tend to be deeper than the charted depths. In some cases more than a 10 foot difference exists. ***Concur.***

D.1.3 Chart 12354 Comparison

In general the soundings agree within 3 feet. Where there are differences they tend to be deeper than the charted depths. In some cases more than a 10 foot difference exists. ***Concur.***

A charted 57 foot sounding at location 41° 11’ 04.72” N, 072° 12’ 35.42” W, was found to be 33.92 feet deep. ***Concur w/clarification. Least depth in this location is 40 ft.***

A charted 81 foot sounding at location 41° 11’ 28.06” N, 072° 12’ 17.76” W was found to be 64 feet deep. ***Concur.***

A charted “rky” area at location 41° 11’ 43.24” N, 072° 10’ 00.29” W appears to be primarily sand waves. ***Concur.***

D.1.6 Chart 13205 Comparison

In general the soundings agree within 3 feet. Where there are differences they tend to be deeper than the charted depths. In some cases more than a 10 foot difference exists. ***Concur.***

A charted 57 foot sounding at location 41° 11’ 04.72” N, 072° 12’ 35.42” W, was found to be ~~33.92~~ 42 feet deep. ***Concur.***

A charted 81 foot sounding at location 41° 11’ 28.06” N, 072° 12’ 17.76” W was found be 64 feet deep. ***Concur.***

A charted “rky” area at location 41° 11’ 43.24” N, 072° 10’ 00.29” W appears to be primarily sand waves. ***Concur.***

D.1.7 Chart 13209 Comparison

In general the soundings agree within 3 feet. Where there are differences they tend to be deeper than the charted depths. In some cases more than a 10 foot difference exists. ***Concur.***

A charted 47 foot sounding at location 41° 10’ 18.91” N, 072° 12’ 57.90” W, was found to be 22 feet deep. ***Concur w/clarification. Least depth in this location is 26 ft.***

A charted 32 foot sounding at location 41° 11’ 39.42” N, 072° 09’ 43.99” W was found to be 23 feet deep. ***Concur w/clarification. See revised DtoN in Appendix II - Features Report, section 4.***

A charted 50 foot sounding at location 41° 11’ 27.98” N, 072° 11’ 24.11” W was found to be 32 feet deep. ***Concur w/clarification. Least depth in this location is 33 ft.***

A charted “rky” area at location 41° 11’ 40.60” N, 072° 10’ 04.50” W appears to be primarily sand waves. ***Concur.***

D.1.8 Chart 13212 Comparison

In general the soundings agree within 3 feet. Where there are differences they tend to be deeper than the charted depths. In some cases more than a 10 foot difference exists. ***Concur.***

A charted 64 foot sounding at location 41° 11’ 45.89” N, 072° 09’ 22.86” W was found to be 53 feet deep. ***Concur.***

D.1.9 ENC US5MA22M

Electronic Navigation Chart US85MA22M was created from charts 12354 and 13209; thus any comparison between this ENC and acquired data would be redundant. No omissions or errors were noted on US5MA22M.

D.2 Additional Results

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

A total of three assigned AWOIS items were located within the limits of H11445 and investigated during this survey. AWOIS items were investigated with complete multibeam over the search radius. All AWOIS items are described in detail in Appendix II of this report. ***Concur.***

D.2.4 Shoreline

There is no shoreline within the sheet limits of survey H11445. ***Concur.***

D.2.5 Charted Features

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

Description of Feature	*Charted Latitude*	*Charted Longitude*	*Least Depth*
Old Silas Rock	41°11’29.629”N	072°08’45.157”W	3.23 meters

Table D-1: Charted Features

All other charted features and item investigations are described in detail in Appendix II of this report.

D.2.6 Charted Pipelines and Cables

Two charted cables cross the survey area. The cables are not visible in the multibeam data. The hydrographer has no recommendations regarding the cables. ***Concur.***

D.2.7 Bridges, Ferry Routes, and Overhead Cables

There are several ferry routes within the survey area. Ferries were observed actively following the charted routes. There are no bridges, or overhead cable crossings within the limits of the survey.

D.3 Dangers to Navigation and Shoals

D 3.1 Dangers to Navigation

Dangers to Navigation (DToN) submitted (one DToN on 9 Mar 09) from this survey are the most significant (see, appendix I). There are numerous other potential DToNs, however there are navigationally less significant and are not reported as DToNs to avoid cluttering the navigation products (see, appendix II).

D 3.2 Shoals

A charted 22 foot shoal at location 41° 11’36.3430” N, 072° 10’ 10.1688” W was found to have a least depth of 18 feet, indicating increased shoaling. ***Concur.***

D.4 Aids to Navigation

There are two aids to navigation within the area of H11445: A red lighted nun buoy, identified as “2PG” located at position 41° 10’33.53” N, 072° 13’ 05.88” W and Orient Point light located at 41° 09’48.45” N, 072° 13’ 25.03” W. Both aids to navigation are on station and operational, serving their intended purpose. ***Defer to MCD Update Services Branch for charting recommendations for Aids to Navigation.***

D.5 Coast Pilot Information

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

D.6 Bottom Samples

A total of four bottom samples were acquired. A list of all bottom samples is contained in Appendix V.

D.7 Adequacy of Survey

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

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.

Survey H11445 is adequate to supersede charted soundings in their common areas.

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

Title	Date Sent	Office
Data Acquisition and Processing Report Spring Addendem-2008	4 Feb 2009	N/CS33
Horizontal and Vertical Control Report for OPR-B370-TJ-08	N/A	N/CS33
Tides and Water Levels Package for OPR-B370-TJ-08	N/A	N/OPS1
Coast Pilot Report for OPR-B370-TJ-08	N/A	N/CS26

Approved and Forwarded:

Jasper Schaer
I have reviewed this document
2009.03.10 19:29:48 Z

LT Jasper D Schaer, NOAA
Field Operations Officer

CDR P. Tod Schattgen
2009.03.12 21:34:22 Z

CDR P. Tod Schattgen, NOAA
Commanding Officer

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

Survey Managers:

andrew ostapenko
I am the author of this document
2009.03.10 19:27:30 Z

ENS Andrew J. Ostapenko, NOAA
Junior Officer

Matthew Forrest
I am the author of this document
2009.03.10 19:25:13 Z

Matthew R. Forrest
Survey Technician

H11445 Dangers to Navigation

Registry Number: H11445

State: New York

Locality: Eastern Long Island Sound

Sub-locality: North Shore of Plum Island

Project Number: B-370-TJ-08

Survey Date: 09/24/2008

Charts Affected

Number	Edition	Date	Scale (RNC)	RNC Correction(s)*
13212	38th	11/01/2008	1:20,000 (13212_1)	USCG LNM: 01/29/2008 (03/10/2009) CHS NTM: None (02/27/2009) NGA NTM: 03/29/2003 (03/21/2009)
12372	34th	11/01/2006	1:40,000 (12372_1)	[L]NTM: ?
13209	25th	04/01/2007	1:40,000 (13209_1)	USCG LNM: 02/26/2008 (06/03/2008) CHS NTM: None (04/25/2008) NGA NTM: 04/11/1998 (06/07/2008)
13205	38th	02/01/2007	1:80,000 (13205_1)	[L]NTM: ?
12354	42nd	12/01/2006	1:80,000 (12354_1)	CHS NTM: None (02/27/2009) NGA NTM: 12/04/1999 (03/21/2009)
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	164/9 - Revise Dton #1 charted 24 Rk to 22 Rk	Rock	6.93 m	41° 11' 39.8" N	072° 09' 44.4" W	---

1 - Danger To Navigation

1.1) 164/9 - Revise Dton #1 charted 24 Rk to 22 Rk

DANGER TO NAVIGATION

Survey Summary

Survey Position: 41° 11' 39.8" N, 072° 09' 44.4" W

Least Depth: 6.93 m (= 22.73 ft = 3.789 fm = 3 fm 4.73 ft)

TPU (±1.96σ): **THU (TPEh)** ±0.981 m ; **TVU (TPEv)** ±0.392 m

Timestamp: 2008-268.18:48:06.357 (09/24/2008)

Survey Line: h11445 / tj_3102_reson8101 / 2008-268 / 718_1847

Profile/Beam: 164/9

Charts Affected: 13212_1, 12372_1, 13209_1, 12354_1, 13205_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

[None]

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11445/tj_3102_reson8101/2008-268/718_1847	164/9	0.00	000.0	Primary

Hydrographer Recommendations

Shoaler Rk identified during survey review.

Cartographically-Rounded Depth (Affected Charts):

22ft (13212_1, 12372_1, 13209_1, 12354_1, 13205_1)

3 ¾fm (12300_1, 13006_1, 13003_1)

6.9m (5161_1)

S-57 Data

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

Attributes: QUASOU - 6:least depth known

STATUS - 1:permanent

TECSOU - 3:found by multi-beam

VALSOU - 6.929 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Revise the charted dangerous 24 Rk to a dangerous Rk with a depth of 22 ft. in Latitude 41°11'39.753"N, Longitude 72°09'44.382"W.

H11445 Appendix 2 AWOIS Feature Report

Registry Number: H11445

State: New York

Locality: Eastern Long Island Sound

Sub-locality: North Shore of Plum Island

Project Number: B-370-TJ-08

Survey Date: 09/22/2008

Charts Affected

Number	Edition	Date	Scale (RNC)	RNC Correction(s)*
13209	25th	04/01/2007	1:40,000 (13209_1)	USCG LNM: 02/26/2008 (06/03/2008) CHS NTM: None (04/25/2008) NGA NTM: 04/11/1998 (06/07/2008)
12358	20th	04/01/2008	1:40,000 (12358_1)	USCG LNM: 11/25/2008 (03/10/2009) CHS NTM: None (02/27/2009) NGA NTM: 12/04/1999 (03/21/2009)
13205	38th	02/01/2007	1:80,000 (13205_1)	[L]NTM: ?
12354	42nd	12/01/2006	1:80,000 (12354_1)	CHS NTM: None (02/27/2009) NGA NTM: 12/04/1999 (03/21/2009)
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 #13954 chart 57 Obstrn 923/3	Obstruction	17.39 m	41° 10' 06.2" N	072° 12' 58.6" W	13954
1.2	AWOIS #6956 Dang. Subm Wk PA - delete	AWOIS	[no data]	[no data]	[no data]	---
1.3	AWOIS #12266 13-ft SOUNDING	AWOIS	[no data]	[no data]	[no data]	---

1 - DR_AWOIS

1.1) AWOIS #13954 chart 57 Obstrn 923/3

Primary Feature for AWOIS Item #13954

Search Position: 41° 10' 06.0" N, 072° 12' 54.0" W

Historical Depth: 19.51 m

Search Radius: 400

Search Technique: MB, S2

Technique Notes: SEARCH NOT REQUIRED IN WATER DEPTHS LESS THAN 4 METERS

History Notes:

LNM 49/02 -- An obstruction that consists of a tractor-trailer is reported to exist between Plum Gut and Orient Point in position (PA) 41-10.1N 072-12.9W in 64 feet of water. The obstruction is marked with three orange floats attached directly to the obstruction. Mariners are advised to use caution when transiting the area. UPDATED 5/17/2007 JCM.

Survey Summary

Survey Position: 41° 10' 06.2" N, 072° 12' 58.6" W

Least Depth: 17.39 m (= 57.06 ft = 9.510 fm = 9 fm 3.06 ft)

TPU (±1.96σ): **THU (TPEh)** ±1.064 m ; **TVU (TPEv)** ±0.700 m

Timestamp: 2008-266.13:51:34.993 (09/22/2008)

Survey Line: h11445 / tj_3102_reson8101 / 2008-266 / 713_1348

Profile/Beam: 923/3

Charts Affected: 12358_1, 13209_1, 12354_1, 13205_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Item is believed to be AWOIS Item 13954, a truck trailer.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11445/tj_3102_reson8101/2008-266/713_1348	923/3	0.00	000.0	Primary
h11445/tj_3102_reson8101/2008-266/714_1341	293/91	46.40	236.8	Secondary
h11445/tj_3102_reson8101/2008-266/714_1341	291/90	48.01	239.3	Secondary
h11445/tj_3102_reson8101/2008-268/710_1728	148/5	49.42	241.2	Secondary
AWOIS_B370-TJ-08	AWOIS # 13954	106.66	272.5	Secondary (grouped)

Hydrographer Recommendations

Chart according to surveyed depth, position and S-57 attribution.

Cartographically-Rounded Depth (Affected Charts):

57ft (12358_1, 13209_1, 12354_1, 13205_1)

9 ½fm (12300_1, 13006_1, 13003_1)

17.4m (5161_1)

S-57 Data

Geo object 1:	Obstruction (OBSTRN)
Attributes:	SORDAT - 20081001
	SORIND - US,US,survy,H11445
	VALSOU - 17.392 m
	WATLEV - 3:always under water/submerged

Office Notes

Concur, AWOIS Item #13954, a dangerous submerged Wk PA (Obstruction - tractor trailer) is now located in Latitude 41°10'06.151"N, Longitude 72°12'58.566"W, chart a Wk with a depth of 57 ft.

Feature Images

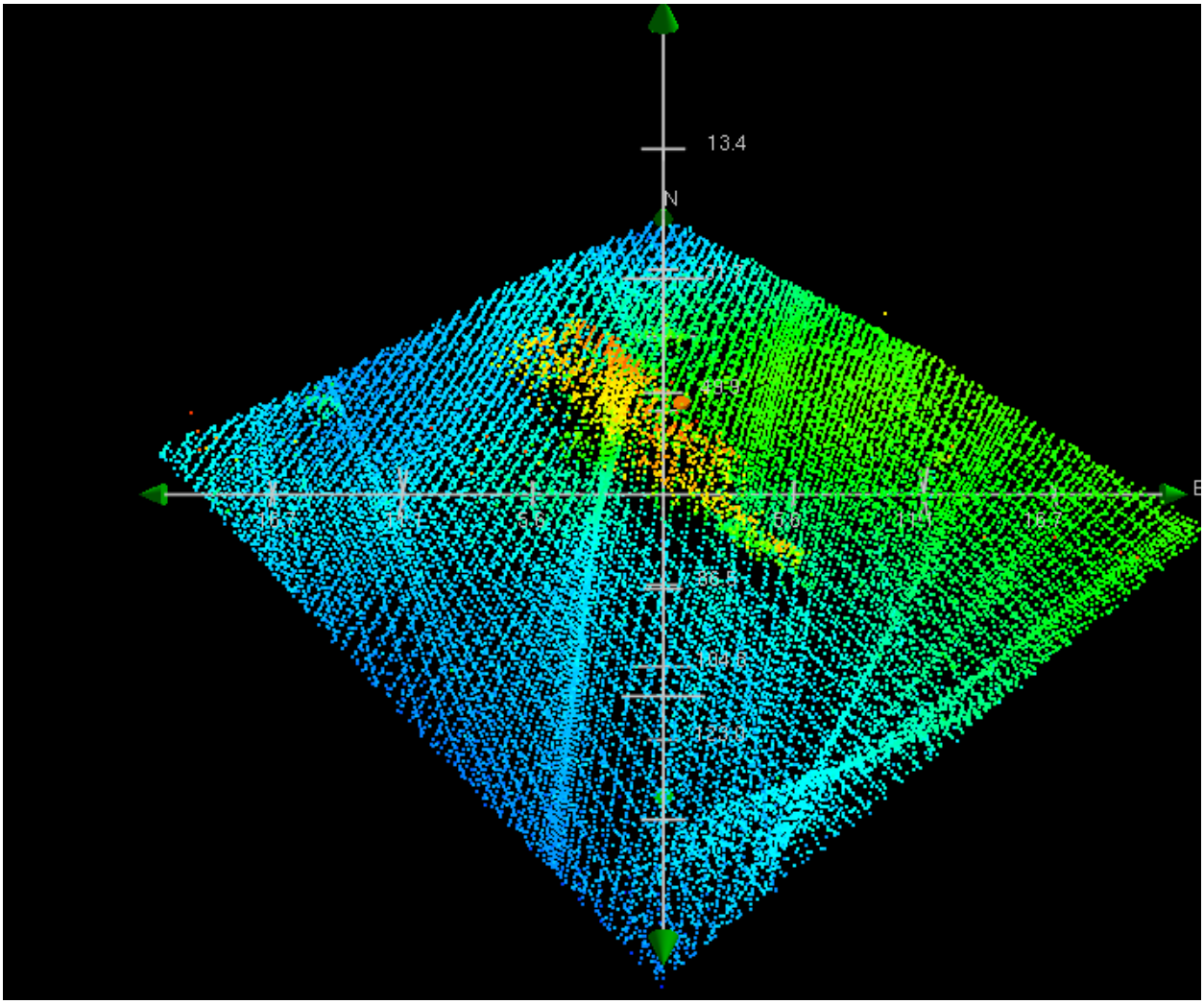

Figure 1.1.1

1.2) AWOIS #6956 - AWOIS #6956 Dang. Subm Wk PA - delete

No Primary Survey Feature for this AWOIS Item

Search Position: 41° 11' 30.4" N, 072° 11' 43.3" W

Historical Depth: [None]

Search Radius: 300

Search Technique: S2,MB

Technique Notes: [None]

History Notes:

LNM41/70--3RD CGD; A 26 FT. CABIN CRUISER IS REPORTED SUNK IN ABOUT 50 FT. OF WATER NORTH OF PLUM ISLAND IN PA LAT 41-11-30N, LONG 72-11-45W.■ CL856/71--CGS; CHANGE TO PROJECT INSTRUCTIONS FOR OPR-474-HSL-71; WRECK IS REPORTED TO BE ON THE NORTH SIDE OF THE CHARTED 13 FT. ROCK. (ENTERED MSM 11/88)

Survey Summary

Charts Affected: 13209_1, 12354_1, 13205_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

AWOIS was not located using object detection multibeam echosounder bathymetry and 100% side scan sonar.

Feature Correlation

Address	Feature	Range	Azimuth	Status
AWOIS_B370-TJ-08	AWOIS # 6956	0.00	000.0	Primary

Hydrographer Recommendations

S-57 Data

Geo object 1: Cartographic symbol ($CSYMB)

Attributes: INFORM - AWOIS Item #6956 is disproven, delete the dang. subm Wk PA.

Office Notes

AWOIS Item #6956, a dangerous submerged Wk PA, was not located and is considered disproved. Update the AWOIS database and delete the dang. subm Wk PA from the chart. Chart present survey soundings.

1.3) AWOIS #12266 - AWOIS #12266 13-ft SOUNDING

No Primary Survey Feature for this AWOIS Item

Search Position: 41° 11' 25.6" N, 072° 11' 39.3" W

Historical Depth: 3.96 m

Search Radius: 100

Search Technique: S2,MB

Technique Notes: [None]

History Notes:

H-5513/34 -- 13 FT WIRE -DRAG CLEARANCE OVER A ROCK NOW CHARTED IN POSITION: 41°11'25.58" N 072°11'39.34" W [NAD 83] [ENTERED 4/10/04 JCM]

Survey Summary

Charts Affected: 13209_1, 12354_1, 13205_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

AWOIS was not located using object detection multibeam echosounder bathymetry and 100% side scan sonar.

Feature Correlation

Address	Feature	Range	Azimuth	Status
AWOIS_B370-TJ-08	AWOIS # 12266	0.00	000.0	Primary

Hydrographer Recommendations

S-57 Data

[None]

Office Notes

AWOIS #12266, 13-ft Sounding considered disproved. Survey depths range from 10ft to 47-ft withing the charted contour and common area of the charted 13-ft sounding. Recommend to chart survey depths within the common area. Reference feature 10-ft Rk 101/6 (ping/beam).

H11445 Appendix 2 DR_Charted Feature Report

Registry Number: H11445

State: New York

Locality: Eastern Long Island Sound

Sub-locality: North Shore of Plum Island

Project Number: B-370-TJ-08

Survey Dates: 09/17/2008 - 09/19/2008

Charts Affected

Number	Edition	Date	Scale (RNC)	RNC Correction(s)*
13209	25th	04/01/2007	1:40,000 (13209_1)	USCG LNM: 02/26/2008 (06/03/2008) CHS NTM: None (04/25/2008) NGA NTM: 04/11/1998 (06/07/2008)
13205	38th	02/01/2007	1:80,000 (13205_1)	[L]NTM: ?
12354	42nd	12/01/2006	1:80,000 (12354_1)	CHS NTM: None (02/27/2009) NGA NTM: 12/04/1999 (03/21/2009)
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	1717/66 - delete charted 52 Rk, chart a 33 Rk	Rock	10.15 m	41° 11' 34.3" N	072° 11' 39.1" W	---
1.2	101/6 - delete charted 13 Rk, chart a 10 Rk	Rock	3.07 m	41° 11' 24.7" N	072° 11' 36.3" W	---

1 - DR_Charted

1.1) 1717/66 - delete charted 52 Rk, chart a 33 Rk

Survey Summary

Survey Position: 41° 11' 34.3" N, 072° 11' 39.1" W

Least Depth: 10.15 m (= 33.32 ft = 5.553 fm = 5 fm 3.32 ft)

TPU (±1.96σ): **THU (TPEh)** ±0.981 m ; **TVU (TPEv)** ±0.393 m

Timestamp: 2008-261.13:16:19.563 (09/17/2008)

Survey Line: h11445 / tj_3102_reson8101 / 2008-261 / 111_1309

Profile/Beam: 1717/66

Charts Affected: 13209_1, 12354_1, 13205_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Rock, not navigationally significant.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11445/tj_3102_reson8101/2008-261/111_1309	1717/66	0.00	000.0	Primary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

33ft (13209_1, 12354_1, 13205_1)

5 ½fm (12300_1, 13006_1, 13003_1)

10.2m (5161_1)

S-57 Data

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

Attributes:

QUASOU - 6:least depth known

STATUS - 1:permanent

TECSOU - 3:found by multi-beam

VALSOU - 10.155 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Do not concur. Delete the charted 52 Rk and chart a rk with a depth of 33 ft. in Latitude 41°11'34.252"N, Longitude 72°11'39.139"W.

1.2) 101/6 - delete charted 13 Rk, chart a 10 Rk

Survey Summary

Survey Position: 41° 11' 24.7" N, 072° 11' 36.3" W

Least Depth: 3.07 m (= 10.08 ft = 1.680 fm = 1 fm 4.08 ft)

TPU (±1.96σ): **THU (TPEh)** ±0.982 m ; **TVU (TPEv)** ±0.392 m

Timestamp: 2008-263.19:56:48.658 (09/19/2008)

Survey Line: h11445 / tj_3102_reson8101 / 2008-263 / 398_1956

Profile/Beam: 101/6

Charts Affected: 13209_1, 12354_1, 13205_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Rock, not navigationally significant.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11445/tj_3102_reson8101/2008-263/398_1956	101/6	0.00	000.0	Primary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

10ft (13209_1, 12354_1, 13205_1)

1 ½fm (12300_1, 13006_1, 13003_1)

3.1m (5161_1)

S-57 Data

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

Attributes: QUASOU - 6:least depth known

STATUS - 1:permanent

TECSOU - 3:found by multi-beam

VALSOU - 3.072 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Do not concur. The charted 13 Rk is no longer present, delete the charted 13 Rk. Chart a Rk with a depth of 10 ft. in Latitude 41°11'24.728"N, Longitude 72°11'36.350"W.

H11445 Appendix 2 DR_UnCharted Feature Report

Registry Number: H11445

State: New York

Locality: Eastern Long Island Sound

Sub-locality: North Shore of Plum Island

Project Number: B-370-TJ-08

Survey Dates: 09/16/2008 - 10/01/2008

Charts Affected

Number	Edition	Date	Scale (RNC)	RNC Correction(s)*
13212	38th	11/01/2008	1:20,000 (13212_1)	USCG LNM: 01/29/2008 (03/10/2009) CHS NTM: None (02/27/2009) NGA NTM: 03/29/2003 (03/21/2009)
12372	34th	11/01/2006	1:40,000 (12372_1)	[L]NTM: ?
13209	25th	04/01/2007	1:40,000 (13209_1)	USCG LNM: 02/26/2008 (06/03/2008) CHS NTM: None (04/25/2008) NGA NTM: 04/11/1998 (06/07/2008)
12358	20th	04/01/2008	1:40,000 (12358_1)	USCG LNM: 11/25/2008 (03/10/2009) CHS NTM: None (02/27/2009) NGA NTM: 12/04/1999 (03/21/2009)
13205	38th	02/01/2007	1:80,000 (13205_1)	[L]NTM: ?
12354	42nd	12/01/2006	1:80,000 (12354_1)	CHS NTM: None (02/27/2009) NGA NTM: 12/04/1999 (03/21/2009)
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	704/227 - chart a 10 rk	Rock	3.13 m	41° 11' 31.6" N	072° 08' 49.0" W	---
1.2	2227/201- DtoN #1, revise to 22 Rk - see Item 164/9	Rock	7.71 m	41° 11' 39.0" N	072° 09' 45.2" W	---
1.3	5249/85 - chart a 31 Rk	Rock	9.47 m	41° 11' 40.4" N	072° 09' 28.2" W	---

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1.4	41/121 - chart an 81 Obstn	Obstruction	24.62 m	41° 11' 51.7" N	072° 09' 48.5" W	---
1.5	640/38 - chart a 16 Rk	Rock	4.89 m	41° 09' 53.8" N	072° 13' 16.1" W	---
1.6	394/41 - chart a 20 Rk	Rock	6.32 m	41° 10' 58.0" N	072° 12' 35.5" W	---
1.7	201/57 29-ft Rk	Rock	8.83 m	41° 11' 28.2" N	072° 11' 35.1" W	---
1.8	192/21 - chart a 15 Rk	Rock	4.78 m	41° 10' 13.3" N	072° 12' 54.1" W	---
1.9	3497/58 - add 15 Rk	Rock	4.77 m	41° 10' 53.8" N	072° 12' 36.6" W	---
1.10	1563/20 - chart a 27 Obstn	Obstruction	8.22 m	41° 11' 20.7" N	072° 10' 32.9" W	---
1.11	335/30 - chart a 6 Rk	Rock	1.84 m	41° 10' 46.0" N	072° 12' 39.8" W	---
1.12	711/6 - chart a 23 Obstn	Obstruction	7.03 m	41° 11' 26.2" N	072° 11' 24.3" W	---
1.13	149/69 - chart 5 Rk	Rock	1.58 m	41° 10' 57.3" N	072° 12' 22.6" W	---

1 - DR_UnCharted

1.1) 704/227 - chart a 10 rk

Survey Summary

Survey Position: 41° 11' 31.6" N, 072° 08' 49.0" W

Least Depth: 3.13 m (= 10.27 ft = 1.711 fm = 1 fm 4.27 ft)

TPU (±1.96σ): **THU (TPEh)** ±0.980 m ; **TVU (TPEv)** ±0.387 m

Timestamp: 2008-264.19:09:41.753 (09/20/2008)

Survey Line: h11445 / tj_3101_reson8125 / 2008-264 / 324_1909

Profile/Beam: 704/227

Charts Affected: 13212_1, 12372_1, 13209_1, 12354_1, 13205_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Rock is significant and far enough from Old Silas Rock based on chart scale to be chartable. Chart this 10 Rk.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11445/tj_3101_reson8125/2008-264/324_1909	704/227	0.00	000.0	Primary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

10ft (13212_1, 12372_1, 13209_1, 12354_1, 13205_1)

1 ¾fm (12300_1, 13006_1, 13003_1)

3.1m (5161_1)

S-57 Data

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

Attributes:

QUASOU - 6:least depth known

STATUS - 1:permanent

TECSOU - 3:found by multi-beam

VALSOU - 3.129 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Chart a Rk with a depth of 10 ft. in Latitude 41°11'31.630"N, Longitude 72°08'48.994"W.

1.2) 2227/201- DtoN #1, revise to 22 Rk - see Item 164/9

Survey Summary

Survey Position: 41° 11' 39.0" N, 072° 09' 45.2" W

Least Depth: 7.71 m (= 25.31 ft = 4.219 fm = 4 fm 1.31 ft)

TPU (±1.96σ): **THU (TPEh)** ±0.982 m ; **TVU (TPEv)** ±0.389 m

Timestamp: 2008-264.15:42:35.479 (09/20/2008)

Survey Line: h11445 / tj_3101_reson8125 / 2008-264 / 374_1539

Profile/Beam: 2227/201

Charts Affected: 13212_1, 12372_1, 13209_1, 12354_1, 13205_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Surveyed sounding of 25 feet does not agree with charted sounding of 32 feet, and is believed to be a danger to navigation.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11445/tj_3101_reson8125/2008-264/374_1539	2227/201	0.00	000.0	Primary
h11445/tj_3101_reson8125/2008-264/374_1539	2189/88	14.43	309.7	Secondary (grouped)

Hydrographer Recommendations

[None]

S-57 Data

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

Attributes: QUASOU - 6:least depth known

STATUS - 1:permanent

TECSOU - 3:found by multi-beam

VALSOU - 7.715 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Upon office investigation, the incorrect least depth was chosen. Revise the charted dangerous 24 Rk to a dangerous Rk with a depth of 25 ft. in Latitude 41°11'39.017"N, Longitude 72°09'45.231"W. Revise the charted dangerous 24 Rk to a dangerous Rk with a depth of 22 ft. in Latitude 41°11'39.753"N, Longitude 72°09'44.382"W.

1.3) 5249/85 - chart a 31 Rk

Survey Summary

Survey Position: 41° 11' 40.4" N, 072° 09' 28.2" W

Least Depth: 9.47 m (= 31.06 ft = 5.176 fm = 5 fm 1.06 ft)

TPU (±1.96σ): **THU (TPEh)** ±0.981 m ; **TVU (TPEv)** ±0.389 m

Timestamp: 2008-264.16:17:59.210 (09/20/2008)

Survey Line: h11445 / tj_3101_reson8125 / 2008-264 / 375_1609

Profile/Beam: 5249/85

Charts Affected: 13212_1, 12372_1, 13209_1, 12354_1, 13205_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Rock, not navigationally significant.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11445/tj_3101_reson8125/2008-264/375_1609	5249/85	0.00	000.0	Primary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

31ft (13212_1, 12372_1, 13209_1, 12354_1, 13205_1)

5fm (12300_1, 13006_1, 13003_1)

9.5m (5161_1)

S-57 Data

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

Attributes: QUASOU - 6:least depth known

STATUS - 1:permanent

TECSOU - 3:found by multi-beam

VALSOU - 9.466 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Do not concur. Chart a Rk with a depth of 31 ft. in Latitude 41°11'40.408"N, Longitude 72°09'28.211"W.

1.4) 41/121 - chart an 81 Obstn

Survey Summary

Survey Position: 41° 11' 51.7" N, 072° 09' 48.5" W

Least Depth: 24.62 m (= 80.78 ft = 13.463 fm = 13 fm 2.78 ft)

TPU (±1.96σ): **THU (TPEh)** ±0.989 m ; **TVU (TPEv)** ±0.405 m

Timestamp: 2008-266.12:59:10.569 (09/22/2008)

Survey Line: h11445 / tj_3101_reson8125 / 2008-266 / 701_1259

Profile/Beam: 41/121

Charts Affected: 13212_1, 12372_1, 13209_1, 12354_1, 13205_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Rock, not navigationally significant.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11445/tj_3101_reson8125/2008-266/701_1259	41/121	0.00	000.0	Primary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

81ft (13212_1, 12372_1, 13209_1, 12354_1, 13205_1)

13fm (12300_1, 13006_1, 13003_1)

25m (5161_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: QUASOU - 6:least depth known

STATUS - 1:permanent

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

VALSOU - 24.622 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Do not concur, feature is an unidentifiable obstruction. Chart an Obstn with a depth of 81 ft. in Latitude 41°11'51.728"N, Longitude 72°09'48.458"W

1.5) 640/38 - chart a 16 Rk

Survey Summary

Survey Position: 41° 09' 53.8" N, 072° 13' 16.1" W

Least Depth: 4.89 m (= 16.03 ft = 2.672 fm = 2 fm 4.03 ft)

TPU (±1.96σ): **THU (TPEh)** ±0.980 m ; **TVU (TPEv)** ±0.387 m

Timestamp: 2008-268.18:01:31.373 (09/24/2008)

Survey Line: h11445 / tj_3101_reson8125 / 2008-268 / 662_1800

Profile/Beam: 640/38

Charts Affected: 12358_1, 13209_1, 12354_1, 13205_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Rock, not navigationally significant.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11445/tj_3101_reson8125/2008-268/662_1800	640/38	0.00	000.0	Primary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

16ft (12358_1, 13209_1, 12354_1, 13205_1)

2 ½fm (12300_1, 13006_1, 13003_1)

4.9m (5161_1)

S-57 Data

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

Attributes: QUASOU - 6:least depth known

STATUS - 1:permanent

TECSOU - 3:found by multi-beam

VALSOU - 4.886 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Do not concur, rock has a meter height on a sand bar near a deep channel between the islands. Chart a Rk with a depth of 16 ft. in Latitude 41°09'53.835"N, Longitude 72°13'16.127"W.

1.6) 394/41 - chart a 20 Rk

Survey Summary

Survey Position: 41° 10' 58.0" N, 072° 12' 35.5" W

Least Depth: 6.32 m (= 20.73 ft = 3.456 fm = 3 fm 2.73 ft)

TPU (±1.96σ): **THU (TPEh)** ±0.981 m ; **TVU (TPEv)** ±0.389 m

Timestamp: 2008-275.15:37:15.227 (10/01/2008)

Survey Line: h11445 / tj_3101_reson8125 / 2008-275 / 792_1536

Profile/Beam: 394/41

Charts Affected: 13209_1, 12354_1, 13205_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

[None]

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11445/tj_3101_reson8125/2008-275/792_1536	394/41	0.00	000.0	Primary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

20ft (13209_1, 12354_1, 13205_1)

3 ½fm (12300_1, 13006_1, 13003_1)

6.3m (5161_1)

S-57 Data

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

Attributes: QUASOU - 6:least depth known

STATUS - 1:permanent

TECSOU - 3:found by multi-beam

VALSOU - 6.320 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Chart a Rk with a depth of 20 ft. in Latitude 41°10'57.973"N, Longitude 72°12'35.483"W.

1.7) 201/57 29-ft Rk

Survey Summary

Survey Position: 41° 11' 28.2" N, 072° 11' 35.1" W

Least Depth: 8.83 m (= 28.98 ft = 4.830 fm = 4 fm 4.98 ft)

TPU (±1.96σ): **THU (TPEh)** ±0.981 m ; **TVU (TPEv)** ±0.392 m

Timestamp: 2008-260.20:44:30.273 (09/16/2008)

Survey Line: h11445 / tj_3102_reson8101 / 2008-260 / 117_2043

Profile/Beam: 201/57

Charts Affected: 13209_1, 12354_1, 13205_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

[None]

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11445/tj_3102_reson8101/2008-260/117_2043	201/57	0.00	000.0	Primary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

29ft (13209_1, 12354_1, 13205_1)

4 ¾fm (12300_1, 13006_1, 13003_1)

8.8m (5161_1)

S-57 Data

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

Attributes: OBJNAM - 29-ft Rk

QUASOU - 6:least depth known

TECSOU - 3:found by multi-beam

VALSOU - 8.833 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Recommend to chart 29-ft Rock at the surveyed location.

1.8) 192/21 - chart a 15 Rk

Survey Summary

Survey Position: 41° 10' 13.3" N, 072° 12' 54.1" W

Least Depth: 4.78 m (= 15.67 ft = 2.612 fm = 2 fm 3.67 ft)

TPU (±1.96σ): **THU (TPEh)** ±0.981 m ; **TVU (TPEv)** ±0.389 m

Timestamp: 2008-260.19:22:50.157 (09/16/2008)

Survey Line: h11445 / tj_3102_reson8101 / 2008-260 / 123_1922

Profile/Beam: 192/21

Charts Affected: 12358_1, 13209_1, 12354_1, 13205_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Rock, not navigationally significant.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11445/tj_3102_reson8101/2008-260/123_1922	192/21	0.00	000.0	Primary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

15ft (12358_1, 13209_1, 12354_1, 13205_1)

2 ½fm (12300_1, 13006_1, 13003_1)

4.8m (5161_1)

S-57 Data

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

Attributes: QUASOU - 6:least depth known

STATUS - 1:permanent

TECSOU - 3:found by multi-beam

VALSOU - 4.777 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Do not concur, uncharted rock is 6 ft shoaler than the charted 21 ft sounding. Chart a Rk with a depth of 15 ft. in Latitude 41°10'13.293"N, Longitude 72°12'54.127"W.

1.9) 3497/58 - add 15 Rk

Survey Summary

Survey Position: 41° 10' 53.8" N, 072° 12' 36.6" W

Least Depth: 4.77 m (= 15.64 ft = 2.606 fm = 2 fm 3.64 ft)

TPU (±1.96σ): **THU (TPEh)** ±0.980 m ; **TVU (TPEv)** ±0.390 m

Timestamp: 2008-262.14:51:17.018 (09/18/2008)

Survey Line: h11445 / tj_3102_reson8101 / 2008-262 / 542_1442

Profile/Beam: 3497/58

Charts Affected: 13209_1, 12354_1, 13205_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Rock, not navigationally significant.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11445/tj_3102_reson8101/2008-262/542_1442	3497/58	0.00	000.0	Primary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

15ft (13209_1, 12354_1, 13205_1)

2 ½fm (12300_1, 13006_1, 13003_1)

4.8m (5161_1)

S-57 Data

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

Attributes: QUASOU - 6:least depth known

STATUS - 1:permanent

TECSOU - 3:found by multi-beam

VALSOU - 4.766 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Chart a Rk with a depth of 15 ft. in Latitude 41°10'53.814"N, Longitude 72°12'36.613"W.

1.10) 1563/20 - chart a 27 Obstn

Survey Summary

Survey Position: 41° 11' 20.7" N, 072° 10' 32.9" W

Least Depth: 8.22 m (= 26.96 ft = 4.493 fm = 4 fm 2.96 ft)

TPU (±1.96σ): **THU (TPEh)** ±0.982 m ; **TVU (TPEv)** ±0.392 m

Timestamp: 2008-263.20:16:12.229 (09/19/2008)

Survey Line: h11445 / tj_3102_reson8101 / 2008-263 / 349_2013

Profile/Beam: 1563/20

Charts Affected: 12372_1, 13209_1, 12354_1, 13205_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Rock, not navigationally significant.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11445/tj_3102_reson8101/2008-263/349_2013	1563/20	0.00	000.0	Primary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

27ft (12372_1, 13209_1, 12354_1, 13205_1)

4 ½fm (12300_1, 13006_1, 13003_1)

8.2m (5161_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: QUASOU - 6:least depth known

STATUS - 1:permanent

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

VALSOU - 8.216 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Do not concur, side scan shows an obvious angle and multibeam shows flat angles on the feature. Chart an Obstn with a depth of 27 ft. in Latitude 41°11'20.745"N, Longitude 72°10'32.856"W.

1.11) 335/30 - chart a 6 Rk

Survey Summary

Survey Position: 41° 10' 46.0" N, 072° 12' 39.8" W

Least Depth: 1.84 m (= 6.02 ft = 1.004 fm = 1 fm 0.02 ft)

TPU (±1.96σ): **THU (TPEh)** ±0.980 m ; **TVU (TPEv)** ±0.389 m

Timestamp: 2008-264.17:35:56.104 (09/20/2008)

Survey Line: h11445 / tj_3102_reson8101 / 2008-264 / 440_1735

Profile/Beam: 335/30

Charts Affected: 13209_1, 12354_1, 13205_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Rock, not navigationally significant.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11445/tj_3102_reson8101/2008-264/440_1735	335/30	0.00	000.0	Primary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

6ft (13209_1, 12354_1, 13205_1)

1fm (12300_1, 13006_1, 13003_1)

1.8m (5161_1)

S-57 Data

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

Attributes: QUASOU - 6:least depth known

STATUS - 1:permanent

TECSOU - 3:found by multi-beam

VALSOU - 1.836 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Do not concur. Chart a Rk with a depth of 6 ft. in Latitude 41°10'46.022"N, Longitude 72°12'39.827"W.

1.12) 711/6 - chart a 23 Obstn

Survey Summary

Survey Position: 41° 11' 26.2" N, 072° 11' 24.3" W

Least Depth: 7.03 m (= 23.05 ft = 3.842 fm = 3 fm 5.05 ft)

TPU (±1.96σ): **THU (TPEh)** ±0.985 m ; **TVU (TPEv)** ±0.402 m

Timestamp: 2008-265.13:44:22.021 (09/21/2008)

Survey Line: h11445 / tj_3102_reson8101 / 2008-265 / 416_1342

Profile/Beam: 711/6

Charts Affected: 13209_1, 12354_1, 13205_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Rock, not navigationally significant.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11445/tj_3102_reson8101/2008-265/416_1342	711/6	0.00	000.0	Primary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

23ft (13209_1, 12354_1, 13205_1)

3 ¾fm (12300_1, 13006_1, 13003_1)

7.0m (5161_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: QUASOU - 6:least depth known

STATUS - 1:permanent

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

VALSOU - 7.027 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Do not Concur. Chart an Obstn with a depth of 23 ft. in Latitude 41°11'26.241"N, Longitude 72°11'24.265"W.

1.13) 149/69 - chart 5 Rk

Survey Summary

Survey Position: 41° 10' 57.3" N, 072° 12' 22.6" W

Least Depth: 1.58 m (= 5.18 ft = 0.863 fm = 0 fm 5.18 ft)

TPU (±1.96σ): **THU (TPEh)** ±0.980 m ; **TVU (TPEv)** ±0.391 m

Timestamp: 2008-268.17:51:13.338 (09/24/2008)

Survey Line: h11445 / tj_3102_reson8101 / 2008-268 / 728_1751

Profile/Beam: 149/69

Charts Affected: 13209_1, 12354_1, 13205_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted dangerous rock- the 1.58m (5.18 foot) least depth on this rock was acquired by multibeam echosounder and corrected to mean lower low water using verified water levels and final zoning. It lies in a surrounding depth of 20.93 feet.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11445/tj_3102_reson8101/2008-268/728_1751	149/69	0.00	000.0	Primary

Hydrographer Recommendations

Chart according to surveyed depth, position and S-57 attribution.

Cartographically-Rounded Depth (Affected Charts):

5ft (13209_1, 12354_1, 13205_1)

0 ¾fm (12300_1, 13006_1, 13003_1)

1.6m (5161_1)

S-57 Data

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

Attributes: QUASOU - 6:least depth known

STATUS - 1:permanent

TECSOU - 3:found by multi-beam

VALSOU - 1.578 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Concur, the rock has a height of 6 meters. Chart a dangerous Rk with a depth of 5 ft. in Latitude 41°10'57.312"N, Longitude 72°12'22.640"W.

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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE : October 27, 2008

HYDROGRAPHIC BRANCH: Atlantic
HYDROGRAPHIC PROJECT: OPR-B370-TJ-2008
HYDROGRAPHIC SHEET: H11445

LOCALITY: North Shore of Plum Island, Long Island Sound, NY
TIME PERIOD: September 16 - October 1, 2008

TIDE STATION USED: 846-1490 New London
Lat. 41° 21.3'N Long. 72° 5.2' W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 0.839 meters

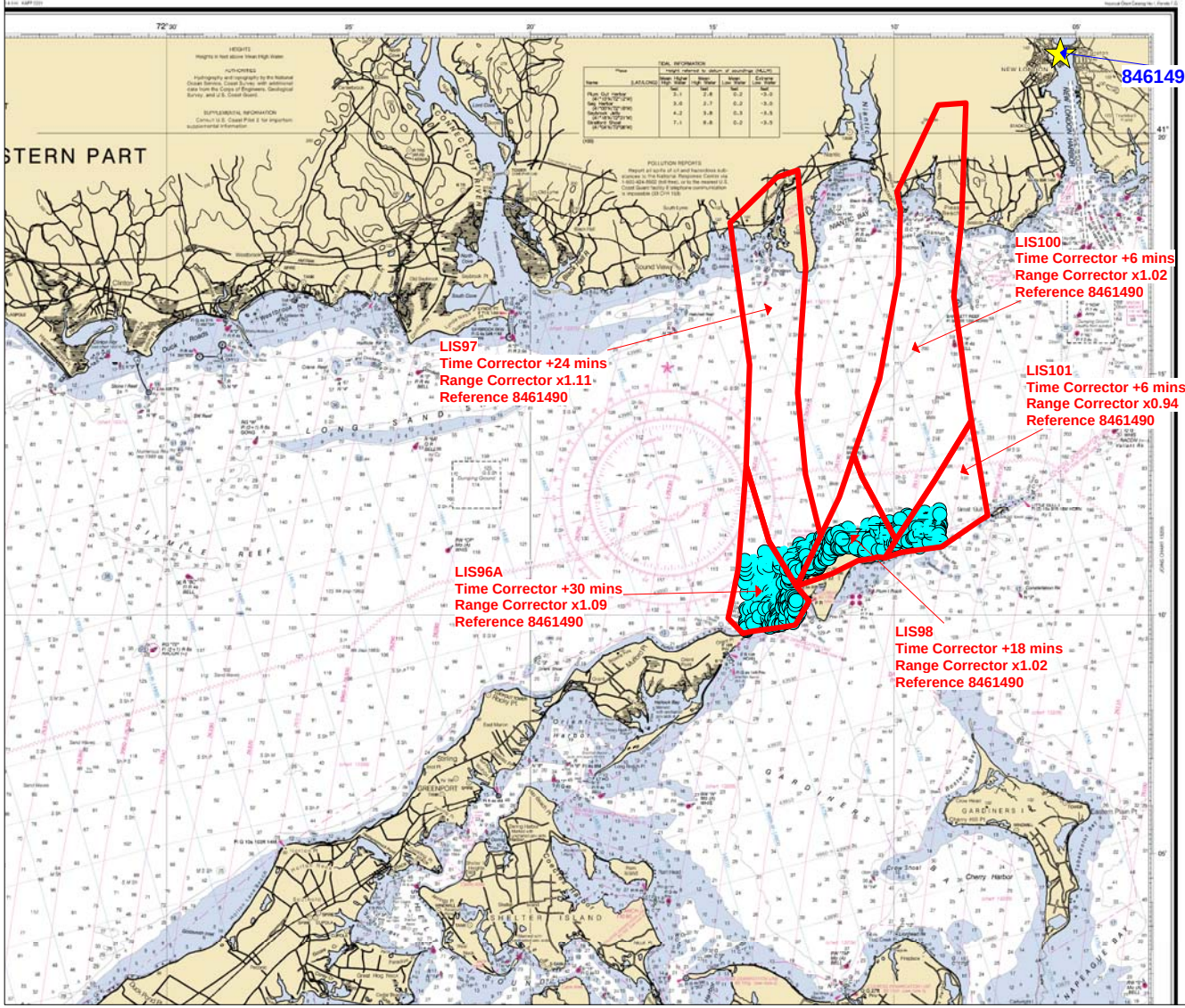
REMARKS: RECOMMENDED ZONING
Use zone(s) identified as: LIS96A, LIS97, LIS98, LIS100 and LIS101

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 1983-2001 National Tidal Datum Epoch (NTDE).

_____
CHIEF, OCEANOGRAPHIC DIVISION

Final Tidal Zoning for OPR-B370-TJ-2008, H11445
Eastern Long Island Sound, NY



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NOAA Ship THOMAS JEFFERSON (MOA-TJ)
439 West York St
Norfolk, VA 23510-1145

October 03, 2008

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

FROM: CDR P. Tod Schattgen, NOAA, NOAA Ship THOMAS JEFFERSON (MOA-TJ)

SUBJECT: Request for Approved Tides/Water Levels

Please provide the following data:

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

Transmit data to the following:

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

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

Project No.:	OPR-B370-TJ-08
Registry No.:	H11445
State:	New York
Locality:	Long Island Sound
Sublocality:	North Shore of Plum Island

Attachments containing:

1) an Abstract of Times of Hydrography,
2) digital MID MIF files of the track lines from Pydro

cc: N/CS33

Year_DOY	Min Time	Max Time
2008_260	12:56:39	20:56:27
2008_261	12:50:01	20:51:18
2008_262	12:53:55	20:27:20
2008_263	19:05:33	20:54:14
2008_264	12:34:46	20:56:37
2008_265	12:38:53	21:05:50
2008_266	12:31:58	15:58:46
2008_268	15:50:06	20:35:22
2008_275	13:44:51	16:17:05

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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE : October 27, 2008

HYDROGRAPHIC BRANCH: Atlantic
HYDROGRAPHIC PROJECT: OPR-B370-TJ-2008
HYDROGRAPHIC SHEET: H11445

LOCALITY: North Shore of Plum Island, Long Island Sound, NY
TIME PERIOD: September 16 - October 1, 2008

TIDE STATION USED: 846-1490 New London
Lat. 41° 21.3'N Long. 72° 5.2' W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 0.839 meters

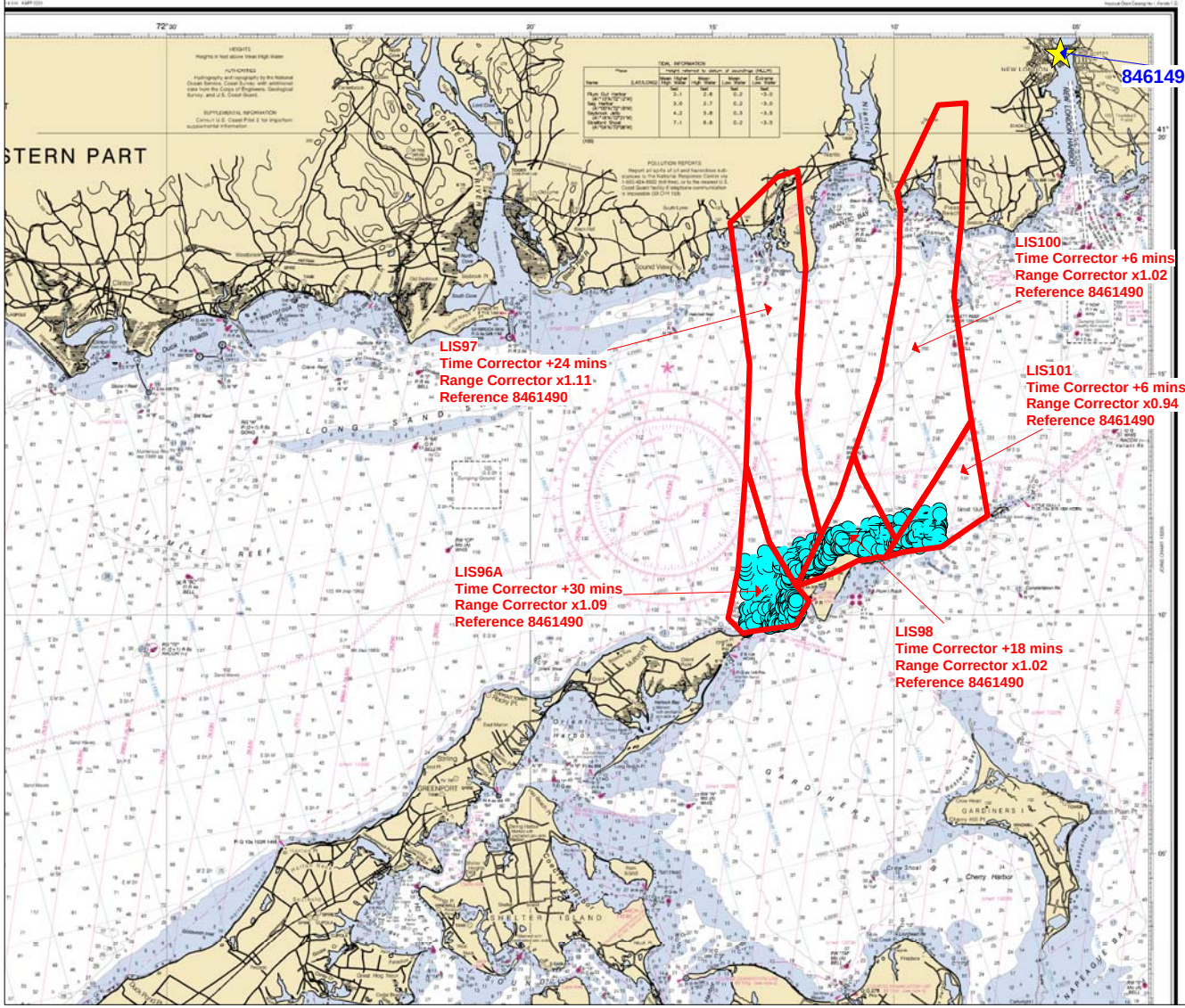
REMARKS: RECOMMENDED ZONING
Use zone(s) identified as: LIS96A, LIS97, LIS98, LIS100 and LIS101

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 1983-2001 National Tidal Datum Epoch (NTDE).

_____
CHIEF, OCEANOGRAPHIC DIVISION

Final Tidal Zoning for OPR-B370-TJ-2008, H11445
Eastern Long Island Sound, NY



Subject: Re: for the Appendix V record, OPR-B307, H11920 & H11921
From: "shep.smith" <smith.shepard@gmail.com>
Date: Sat, 26 Jul 2008 14:26:28 -0400
To: jasper schaer <jasper.schaer@noaa.gov>

Sounds like a good approach.

jasper schaer wrote:

> Sir,
>
> Will AHB accept object detection MB coverage, in place of complete MB coverage, in the 4-20 meter survey area of the project, which already been covered by 100% SSS?
>
> V/r-js

Subject: Re: H11821 Deliverables
From: Shepard Smith <Shep.Smith@noaa.gov>
Date: Fri, 30 May 2008 11:56:42 -0400
To: daniel wright <Daniel.Wright@noaa.gov>
CC: megan nadeau <Megan.Nadeau@noaa.gov>, jasper schaer <jasper.schaer@noaa.gov>, Castle E Parker <Castle.E.Parker@noaa.gov>, Wesley Kitt <Wesley.Kitt@noaa.gov>

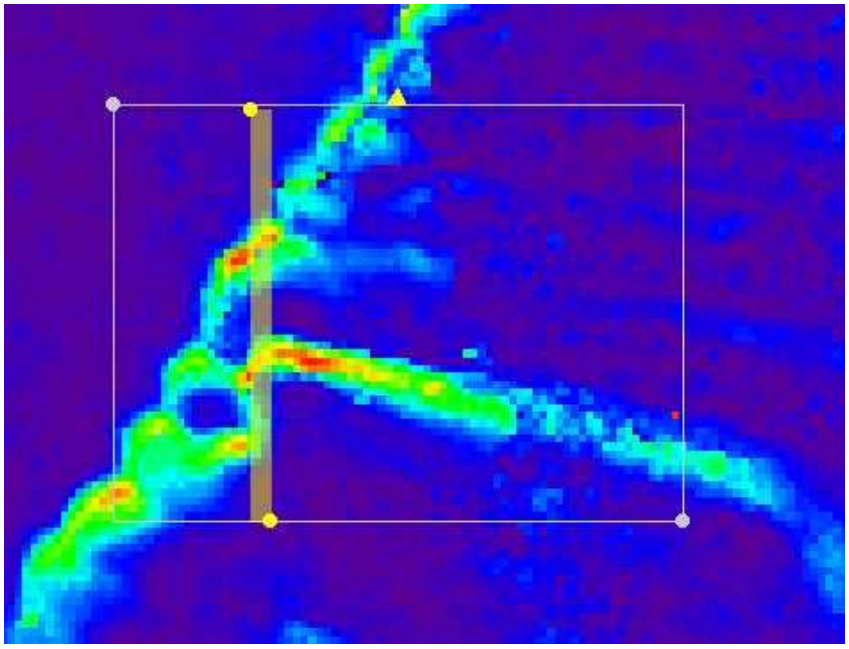
TJ,

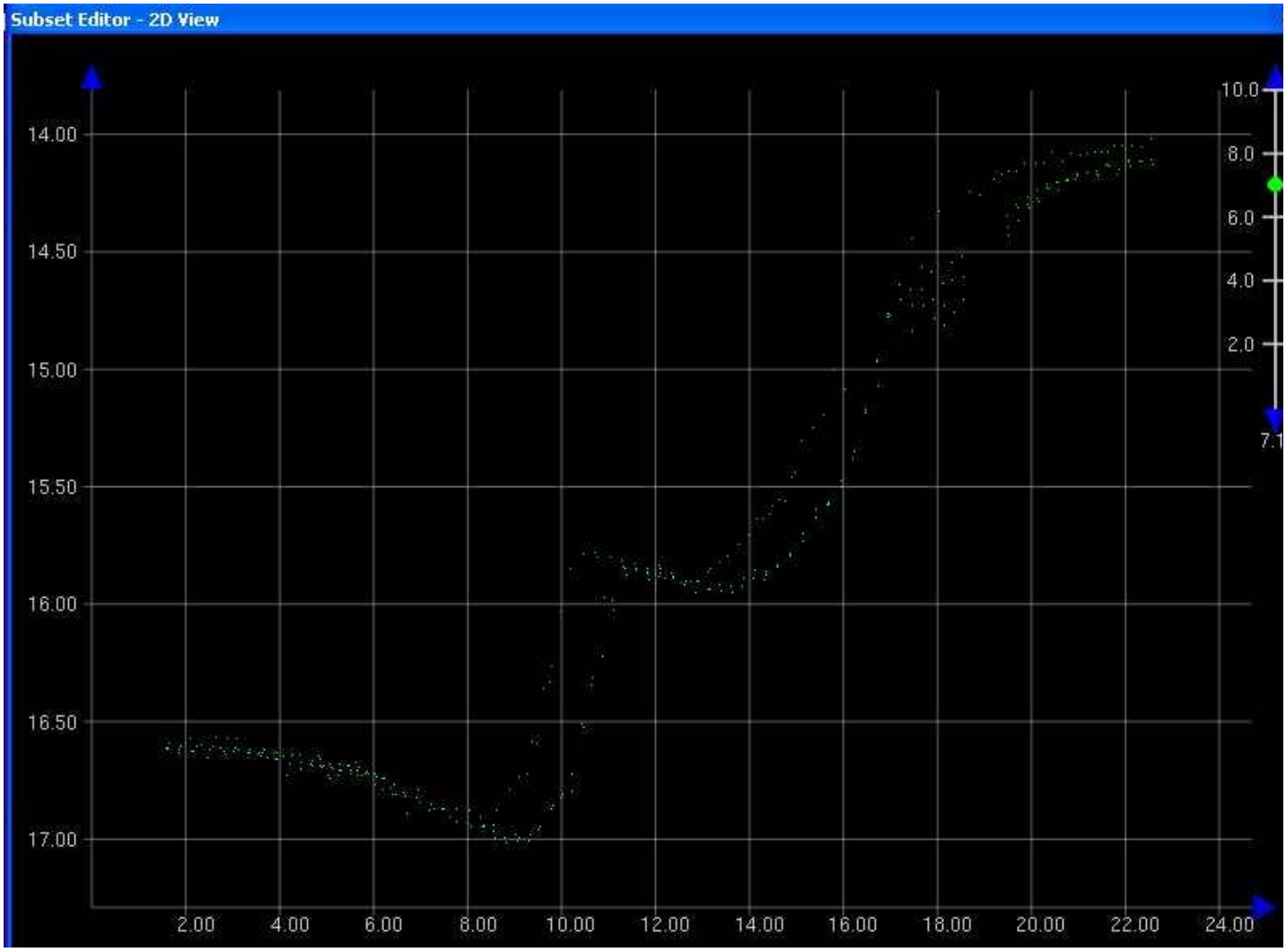
Yes, please.

I envision something along these lines:

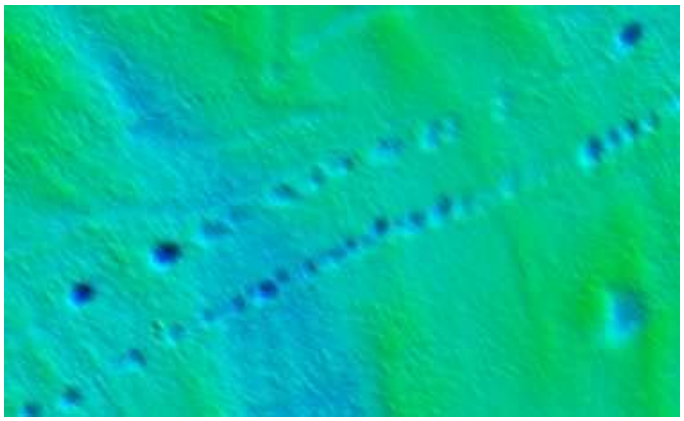
"The standard deviation layer of each grid was examined for areas of unusually high uncertainty that might indicate unresolved systematic errors. The colors in the following screen captures are scaled from 0 to 0.5m *(adjust as appropriate)*. Comments to follow:

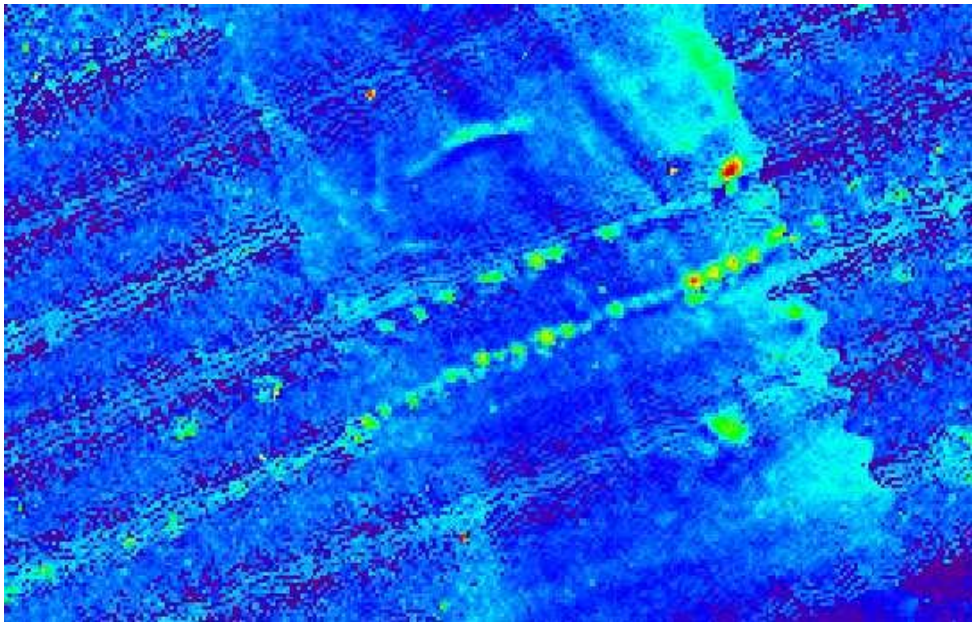
In areas of steep slopes and on the edges of dredged scours, horizontal errors between adjacent lines on the order of 1m caused std deviation of around 0.5m



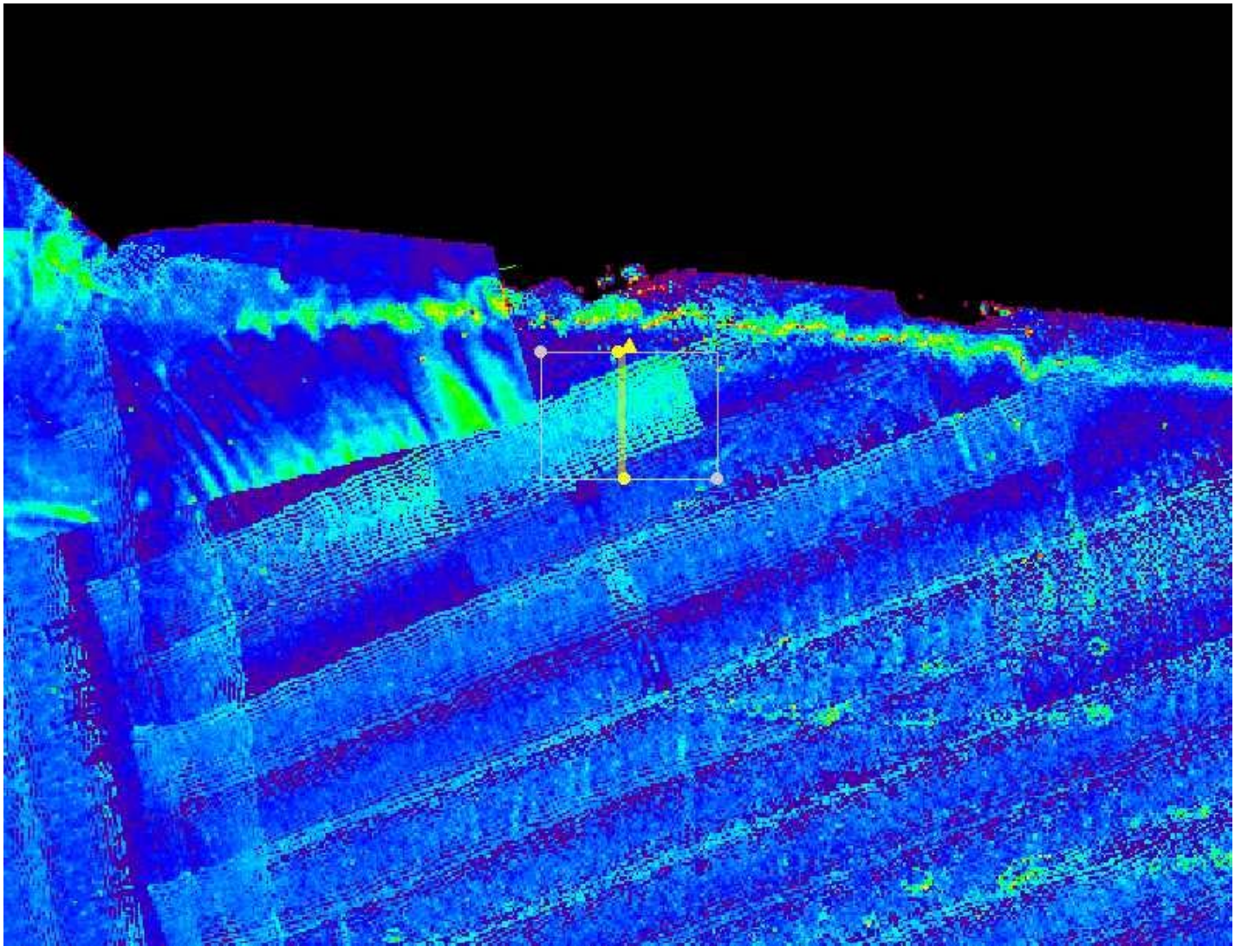


Lines of spudprints show up as lines of high std deviation that happened to coincide with the direction of the mainscheme lines.





Some areas of overlapping mainscheme lines show a std deviation of up to 0.15m, associated with an offset between the lines. We don't fully understand this offset, especially because it is on the same vessel just a few minutes apart.



etc, etc...

daniel wright wrote:

> Hello Shep,
>
> We are preparing our deliverables for H11821, Approaches to Jacksonville, and we would like confirmation/clarification on the following:
>
> 1. In our discussion regarding crossline comparisons, we agreed that an analysis of areas of high standard deviation in the BASE surface would be preferable over Pydro crossline stats, or a crossline to mainscheme surface differencing. Do you still concur?
>
> 2. Section 5.1.2 of the Specs and Deliverables;
>
> "If single beam and multibeam are specified in the Hydrographic Survey Project Instructions or Statement of Work and they both fall in a common
> area, then a separate single beam surface is required."
>
> In 2 of the 5 field sheets we collected both MB and SB for mainscheme bathy. If the soundings will be generated from the combined data, wouldn't this be better submitted as 1 combined surface? Or would you prefer 2 separate surfaces? Currently we have them combined.
>
> Please let us know your thoughts on this.
>
> Br,
> Dan

Subject: Re: [Fwd: Tide zoning issues on two TJ's survey projects]
From: Carolyn Lindley <Carolyn.Lindley@noaa.gov>
Date: Mon, 20 Oct 2008 15:18:18 -0400
To: jasper schaer <jasper.schaer@noaa.gov>
CC: NOS.COOPS.HPT@noaa.gov, "james.m.crocker" <James.M.Crocker@noaa.gov>, tod schattgen <Tod.Schattgen@noaa.gov>

Hi Jasper,
The TPE value is the 95% value.
Thanks,
Carolyn

jasper schaer wrote:
> Our data analysis has revealed that we are at IHO-2, if we use the 0.38 TPE value for B370. Is this tpe value, 0.38m, a 1-sigma or 95% value?
>
> thanks-js
>
> jasper schaer wrote:
>
> > Thanks, Craig for your quick response. -js
> >
> > Craig Martin wrote:
> >
> > > Jeremy / Jasper,
> > >
> > > In response to your email on two of TJ's survey projects:
> > >
> > > 1) The error estimate that should be used for the tides portion of the TPE on the B370 project is 0.38 meters.
> > >
> > > 2) Generally, no revision to preliminary tide zones is conducted, unless the mission is drastically beyond the scope of the original project submitted to CO-OPS. Short overages outside of the preliminary zoning is addressed and covered in the Smooth Tide process. We have not received a request for smooth tides for any B370 sheets to date. Once HPT receives these requests we will adjust the zoning and send back to the ship for application.
> > >
> > > 3) Due to total lack of tide information inside Menemsha Pond, CO-OPS is unable to provide reliable tide correctors to meet OCS specs beyond the southern border of Edy's Island. The TCARI grid was adjusted to the point where information could be confidentially extrapolated to meet these standards. This was annotated in the "Notes" section on the Final Tide note for the H-11920 in which the data was collected. In addition, CO-OPS informed HSD of this lack of tide information when the data was collected.
> > >
> > > Regards,
> > > Craig
> > >
> > > Jeremy McHugh wrote:
> > >
> > > > Hi HPT,
> > > > Could you please address each of Jasper's three concerns and copy everyone on the reply. Thanks!
> > > > Jeremy
> > > >
> > > > -------- Original Message --------
> > > > Subject: Tide zoning issues on two TJ's survey projects
> > > > Date: Sat, 27 Sep 2008 16:39:25 -0400
> > > > From: jasper schaer <jasper.schaer@noaa.gov>
> > > > Organization: NOAA-TJ
> > > > To: Smooth.Tides@noaa.gov

CC: Jeremy McHugh <Jeremy.McHugh@noaa.gov>
References: <ae8627f11e4ab567.48db6d84@noaa.gov>
<48DBB8BE.3000703@noaa.gov> <48DBC7AE.9080302@noaa.gov>
<48DBDC75.9000507@noaa.gov> <48DBF32E.10601@noaa.gov>
<ad3413f430b07cf.48dcb168@noaa.gov> <48DD051E.6050609@noaa.gov>
<48DD1459.2010202@noaa.gov>

Tide zoning issues on B370 & B307.

1. We were looking for the error estimates to apply to our TPE on B370. There were none given in the tide letter part of the project instruction because at the time it was being determined. If we apply zero, we run the risk of data dropping out in our grid surfaces. We need error estimate for our discreet zoning for B370 or at the very least a high.

2. TJ 's launches survey to the 4m curve and at times we acquire data outside the preliminary tide zone in getting to the 4 m curve. This is the case for B370. Will need a revision for discreet tide zoning for B370. What do you need from us?

3. Data from survey B307 was collected in Menemsha Pond, an area that was not original planned, hence why the B307's tcari files were revised. When we try to apply the verified WL data to the TCARI file, we encounter a host of problems, see attached.

r-js

--
Jeremy McHugh, Physical Scientist
NOAA's Office of Coast Survey
301-713-2702 x117

Carolyn Lindley <Carolyn.Lindley@noaa.gov>
Oceanographer
NOAA/National Ocean Service
CO-OPS

From Olivia.Hauser@noaa.gov

Sent Thursday, May 1, 2008 3:10 pm

To Christiaan.VanWestendorp@noaa.gov , jasper.schaer@noaa.gov , Daniel.Wright@noaa.gov , Jake.Yoos@noaa.gov , James.Jacobson@noaa.gov , Matthew.Ringel@noaa.gov , Mark.Mcmann@noaa.gov , David.Elliott@noaa.gov , Kathryn.Simmons@noaa.gov , Lucy.Massimillo@noaa.gov , Matthew.Jaskoski@noaa.gov , "Eric M. Moore" <Eric.M.Moore@noaa.gov> , Michael.Davidson@noaa.gov , Stephen.Kuzirian@noaa.gov , "Lynnette V. Morgan" <Lynnette.V.Morgan@noaa.gov>

Cc Mark.Vanwaes@noaa.gov

Bcc

Subject HVCR

Hi FOOs, CSTs and Team Leads,

A recent discussion made me realize that many of you are still creating some sort of Horizontal and Vertical Control Report (HVCR), even if you have not done any active horizontal control or vertical control. If you have not actively set up a tide gauge or a differential beacon, you are not required to write a HVCR. See FPM section "5.2.3.2.3. Horizontal & Vertical Control Report (HVCR)" Please just state that fact in your DR, and place a txt file in a HVCR folder stating there was not a report required for this survey. This lets the branch know that you do not have a report, and saves you from having to re-write, or copy any information into a separate document. Please email me if you have any questions.

Olivia

This Document is for Office Process use only and is intended to supplement, not supersede or replace, information/recommendations in the Descriptive or Evaluation Reports

AHB COMPILATION LOG

General Survey Information	
REGISTRY No.	H11445
PROJECT No.	**OPR-B370-TJ-08**
FIELD UNIT	**NOAA Ship *Thomas Jefferson***
DATE OF SURVEY	20081001
LARGEST SCALE CHART	***13212_1, edition 38, 081101, 1:20000***
ADDITIONAL CHARTS	***13209_1, edition 25, 080401, 1:40000***
SOUNDING UNITS	**Feet**
COMPILER	Joe Carrier

Source Grids	**File Name** H:\Compilation\H11445_B370-TJ\AHB_H11445\Fieldsheets
	E-SAR Final Products\GRIDS\445-446 dif.hns
	E-SAR Final Products\GRIDS\997-445 dif.hns
	E-SAR Final Products\GRIDS\997-446 dif.hns
	E-SAR Final Products\GRIDS\H11445_Comb_2m.hns
	E-SAR Final Products\GRIDS\H11445_Comb_2m_Final.hns
	E-SAR Final Products\GRIDS\H11445_Comb_2m_Final_CO.hns
	E-SAR Final Products\GRIDS\H11445_H11997_Diff.hns
	E-SAR Final Products\GRIDS\H11445_H11997_Diff_1.hns
Surfaces	**File Name** H:\Compilation\H11445_B370-TJ\AHB_H11445\COMPILE\Working
Combined	**H11445_6m_Combined.hns**
Interpolated TIN	\Interpolated TIN**H11445_2m_InterpTIN.hns**
Shifted Interpolated TIN	\Shifted Surface**H11445_2m_InterpTIN_Shifted.hns**
Product Surface	\Product Surface**H11445_2m_Product_Surface.hns**
Final HOBs	**File Name** H:\Compilation\H11445_B370-TJ\AHB_H11445\COMPILE\Final_Hobs
Survey Scale Soundings	**H11445_SS_Soundings.hob**
Chart Scale Soundings	**H11445_CS_Soundings.hob**
Contour Layer	**H11445_Contours.hob**
Feature Layer	**H11445_Features.hob**
Meta-Objects Layer	**H11445_MetaObjects.hob**
Blue Notes	**H11445_BlueNotes.hob**
ENC Retain Soundings	**H11445_ENC_Retain_Soundings.hob**
ENC Retain Features	**H11445_ENC_Retain_Features.hob**

Meta-Objects Attribution	
Acronym	**Value**
M_COVR	
CATCOV	1
SORDAT	081001
SORIND	US,US,survy,H11445
M_QUAL	
CATZOC	U

INFORM	H11445, **NOAA Ship *Thomas Jefferson***
POSACC	1
SORDAT	20081001
SORIND	US,US,survy,H11445
SUREND	20081001
SURSTA	20080916
DEPARE	
DRVALV 1	2.9
DRVALV2	332.7
SORDAT	20081001
SORIND	US,US,survy,H11445
M_CSCL	
CSCALE	1:20000 and 1:40000
SORDAT	20081001
SORIND	US,US,survy,H11445

SPECIFICATIONS:

I. COMBINED SURFACE:
   a. Number of ESAR Final Grids: 8
   b. Resolution of Combined (m): 2

II. SURVEY SCALE SOUNDINGS (SS):
   a. Radius
   b. Shoal biased
   c. Use Single-Defined Radius (mm at Map Scale): 20k 0.5 40k 1.0 ; Radius Value = 1
   d. Queried Depth of All Soundings
      i. Minimum: 2.9
      ii. Maximum: 332.7

III. INTERPOLATED TIN SURFACE:
   a. Resolution (m): 2
   b. Linear
   c. Shifted value: -0.229m *[-0.229m (feet), (≤ 10 fathoms)]*
      [-1.372m (fathoms), (> 10 fathoms)]

IV. CONTOURS:
   a. Use a Depth List: H11445_NOAA_depth_curves_list.txt
   b. Line Object: DEPCNT
   c. Value Attribute: VALDCO

V. FEATURES:
   a. Total Number of Features:26
   b. Number of Insignificant Features:

VI. CHART SURVEY SOUNDINGS (CS):
   a. Number of ENC CS Soundings: 120
   b. Radius
   c. Shoal biased
   d. Use Single-Defined Radius: m on the ground
      i. Radius Value (m): Radius for 20k : 150 Radius for 40k: 300
      ~~ii. Or use a Sounding Space Range Table (if applicable): HXXXXX_SSR.txt~~

e. Filter: Interpolated != 1
f. Number Survey CS Soundings: 179

VII. Notes:

- See ER

ATLANTIC HYDROGRAPHIC BRANCH
EVALUATION REPORT to ACCOMPANY
SURVEY H11445 (2008)

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 DATA PROCESSING

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

HSTP PYDRO version 8.7 r2586
CARIS HIPS/SIPS version 6.1 SP2 HF 1-4
CARIS Bathy Manager version 2.1 SP1 HF 1-8
DKART INSPECTOR, version 5.0 Build 707
CARIS HOM version 3.3
CARIS S57 Composer version 2.0

B.2.1. H-Cell

The source of bathymetry for the H-Cell is the 2-m resolution combined BASE surface. A generalized product surface was created from the combined BASE surface. A final selected sounding layer was generated from the generalized product surface.

The SS sounding layer consists of soundings at three scales: 1:20k, 1:40k. The survey soundings in each region were selected using a shoal-biased radius of 0.5-1 mm at the respective chart scale.

A TIN was created from the survey scale soundings; in turn, a surface was interpolated from the TIN. The chart-scale soundings were selected from only the non-interpolated grid nodes so that 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 2-m resolution, shifted surface generated from a TIN (triangulated irregular network). The contours are forwarded to MCD for reference only. The contours were utilized during chart-scale sounding selection and quality assurances efforts at AHB. The contours are incorporated into the SS H-Cell product as per 2009 H-Cell Specifications.

The pre-compilation products or components (Stand Alone HOB files (SAHOB)) are detailed in the Compilation Process Log attached at the end of this document. The SAHOB files included depth areas (DEPARE), depth contours (DEPCNT), sounding selections (SOUNDG), Meta objects (M_COVR, M_QUAL, M_CSCL), cartographic Blue Notes ($CSYMB) and features.

All of the components with the exception of the 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 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. Finally, quality assurance checks were made using CARIS S-57 Composer and DKART INSPECTOR validation tests.

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

The H11445 CARIS H-Cell final deliverables include the following products:

H11445_CS.000	1:20,000 Scale	H11445 H-Cell with chart-scale selected soundings, metaobjects, bluenotes
H11445_SS.000	1:20,000	H11445 Selected Soundings

B.22. Junctions

The following contemporary surveys junction with H11445:

Registry #	Scale	Date	Field Party	Junction side
H11446	1:10,000	2008	*Thomas Jefferson*	Southwest
H11250	1:10,000	2004	*Thomas Jefferson*	Northeast
H11997	1:20,000	2008	*Thomas Jefferson*	North

Survey H11250 junctions with H11445 in the Northeast; the difference in soundings between the two surveys is on average 0.3 meters.

Survey H11997 junctions with H11445 in the North; the difference in soundings between the two surveys is on average 0.2 meters.

Survey H11446 junctions with H11445 to the West; the difference in soundings between the two surveys is on average 0.2 meters.

D. RESULTS AND RECOMMENDATIONS

D.1 Chart Comparison

Survey H11445 was compared with charts 12358 (20th Ed.; April 2008, 1:40,000), 12354 (42nd Ed.; December 2006, 1:80,000), 13205 (38th Ed.; February 2007, 1:80,000), 13209 (25th Ed.; April 2007, 1:40,000), 13212 (38th Ed.; November 2008, 1:20,000), and ENC US5MA22M Chart comparisons were performed in Pydro using survey-scale accessed soundings and in MapInfo using survey-scale and chart-scale accessed soundings exported from Pydro.

The following charts were used during compilation.

ENC

US5MA22M Block Island Sound and Gardiners Bay Edition 11 2009-03-19

RNC

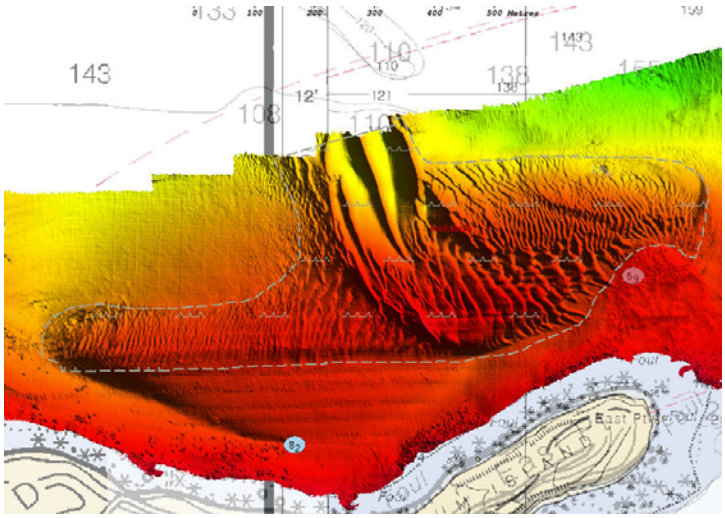
13212_1 Approaches to New London Harbor Edition 38 2008-01-11
13209_1 Block Island Sound Gardiners Bay Edition 25 2007-04-01
12354 Long Island Sound-Eastern Part Conn-NY Edition 42 2006-12-01

D.1.1 Hydrography

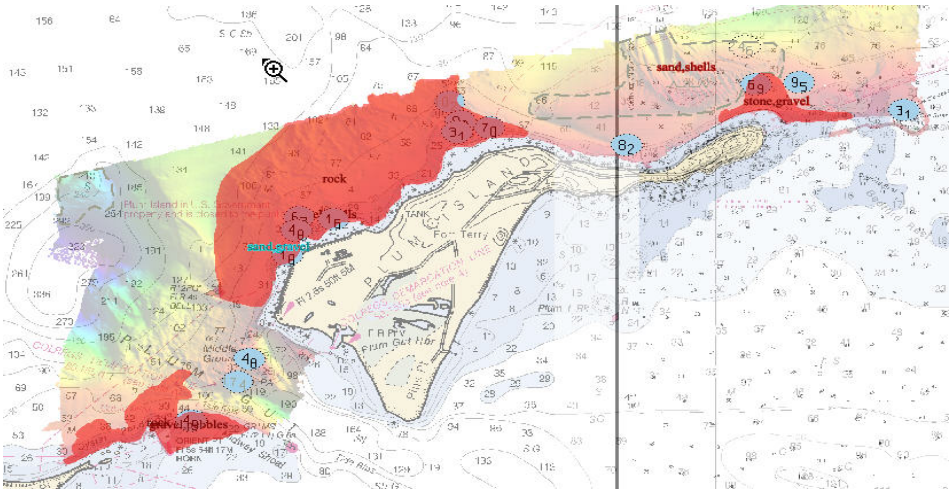
The charted hydrography originates with prior surveys and requires no further consideration. The hydrographer makes adequate chart comparisons in section "D" and Appendix 1 & 2 of the Descriptive Report, except for the following:

(a) The field unit obtained bottom samples as indicated in the Letter Instructions. The spatial and feature attributes of additional SBDARE point features were carried forward from the ENC (US5MA22M). SBDARE area features (rocky and sand wave area) were created by using the original grids and combined surface as a reference to delineate the specific sea bed area.

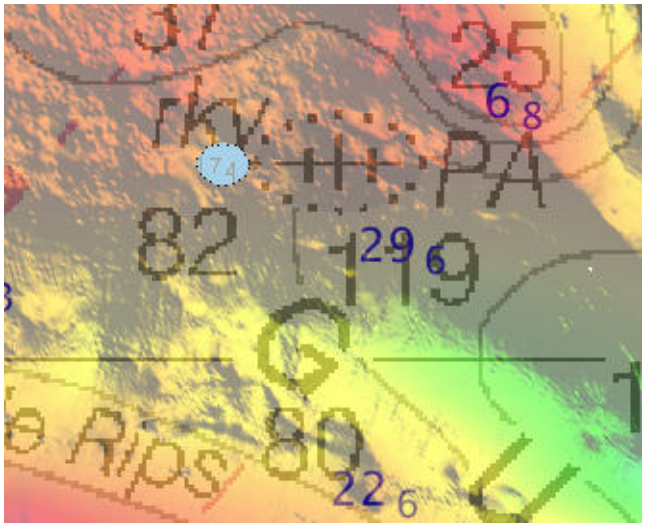
A. I. Sand wave area feature



A. II. Sea bed area survey overview

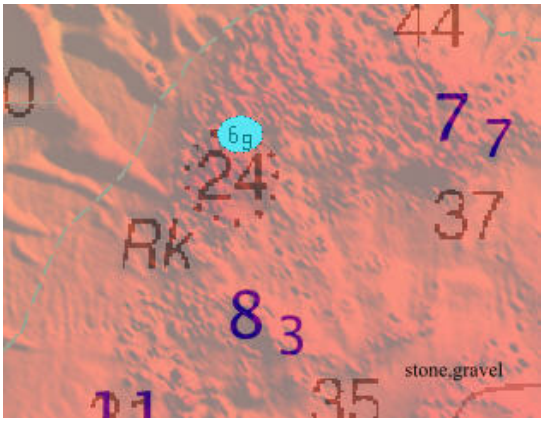


(b) AWOIS item # 13954 was redefined as an obstruction and relocated to 41-10-06.15153N 072-12-58.57239W at 17.3920m.



D.2. ADDITIONAL RESULTS

(a) DTON #1 location (41-11-39.75240N, 072-09-44.38275W) and depth (6.929000) was updated by the compiler. See DR Appendix I for details.



D.3. 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.

D.4. 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
H11445

Initial Approvals:

The completed survey has been inspected with regard to survey coverage, delineation of depth curves, representation 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 review per the Hydrographic Surveys Division Office Processing Manual and are verified to be accurate and complete except where noted.

Nicole Trenholm
Digitally signed by Nicole Trenholm
DN: cn=Nicole Trenholm, c=US, email=nicole.trenholm@noaa.gov
Date: 2009.06.05 13:47:21 -04'00'

Nicole Trenholm
Hydrographic Intern
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: 
Digitally signed by Shepard Smith
DN: cn=Shepard Smith, o=NOAA, ou=AHB, email=shep.smith@noaa.gov, c=US
Date: 2009.06.05 16:14:47 -04'00'

CDR Shepard M. Smith, NOAA
Chief, Atlantic Hydrographic Branch


Jeremy McHugh
AWOIS/SURF Check Completed
2009.06.11 09:52:56 -04'00'