H12417

NOAA Form 76-35A

U.S. Department of Commerce
National Oceanic and Atmospheric Administration
National Ocean Survey

DESCRIPTIVE REPORT

Type of Survey: Navigable AreaSupport USCG

Registry Number: H12417

LOCALITY

State: New York

General Locality: Long Island Sound

Sub-locality: Mt. Misery Pt. to Sound Beach, NY

2012

CHIEF OF PARTY
CDR Lawrence T. Krepp

LIBRARY & ARCHIVES

Date:

NOAA FORM 77-28
(11-72)

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

REGISTRY NUMBER:

HYDROGRAPHIC TITLE SHEET

H12417

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:	**Long Island Sound**
Sub-Locality:	**Mt. Misery Pt. to Sound Beach, NY**
Scale:	**5000**
Dates of Survey:	**05/19/2012 to 06/23/2012**
Instructions Dated:	**05/20/2012**
Project Number:	**OPR-B340-TJ-12**
Field Unit:	**NOAA Ship *Thomas Jefferson***
Chief of Party:	**CDR Lawrence T. Krepp**
Soundings by:	**Multibeam Echo Sounder**
Imagery by:	**Multibeam Echo Sounder Backscatter**
Verification by:	**Atlantic Hydrographic Branch**
Soundings Acquired in:	**meters at Mean Lower Low Water**
H-Cell Compilation Units:	***meters at Mean Lower Low Water***

Remarks:

The purpose of this survey is to provide contemporary surveys to update National Ocean Service (NOS) nautical charts. All separates are filed with the hydrographic data. Any revisions to the Descriptive Report (DR) generated during office processing are shown in bold red italic text. The processing branch maintains the DR as a field unit product, therefore, all information and recommendations within the body of the DR are considered preliminary unless otherwise noted. The final disposition of surveyed features is represented in the OCS nautical chart update products. All pertinent records for this survey, including the DR, are archived at the National Geophysical Data Center (NGDC) and can be retrieved via http://www.ngdc.noaa.gov/.

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Descriptive Report to Accompany Survey H12417

Project: OPR-B340-TJ-12

Locality: Long Island Sound

Sublocality: Mt. Misery Pt. to Sound Beach, NY

Scale: 1:5000

May 2012 - June 2012

NOAA Ship *Thomas Jefferson*

Chief of Party: CDR Lawrence T. Krepp

A. Area Surveyed

Survey sheet area is in the vicinity of Mt. Misery Point, NY.

A.1 Survey Limits

Data was acquired within the following survey limits:

Northeast Limit	Southwest Limit
41.025 N 72.9421666667 W	40.967 N 73.0708333333 W

Table 1: Survey Limits

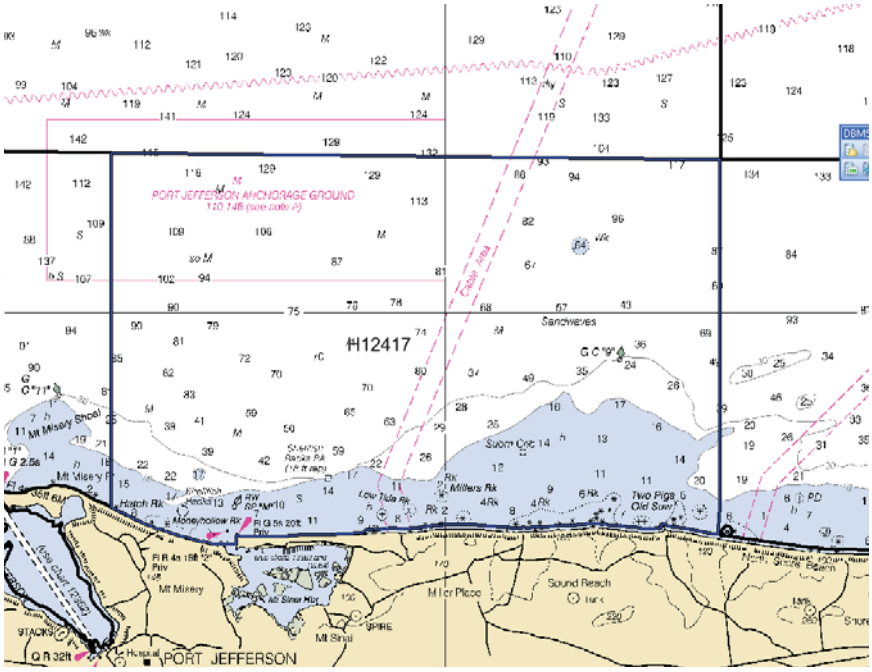


Figure 1: Survey limits for H12417

Survey Limits were acquired in accordance with the requirements in the Project Instructions and the HSSD.

A.2 Survey Purpose

The purpose of this survey is to support safe navigation by updating nautical charting products with contemporary hydrographic data. Additionally, data acquired by this survey will support the Long Island Seafloor Mapping Initiative for the states of Connecticut and New York. Finally, this project will assist the Coast Guard in establishing new achorage grounds in Long Island Sound.

A.3 Survey Quality

The entire survey is adequate to supersede previous data.

This hydrographic survey was completed as specified by Hydrographic Survey Letter Instructions OPR-B340-TJ-12, dated 24th April, 2012. No additional work is needed to complete this survey. No changes significant to navigation have been noted and it is recommended that this survey receive normal processing priority.

A.4 Survey Coverage

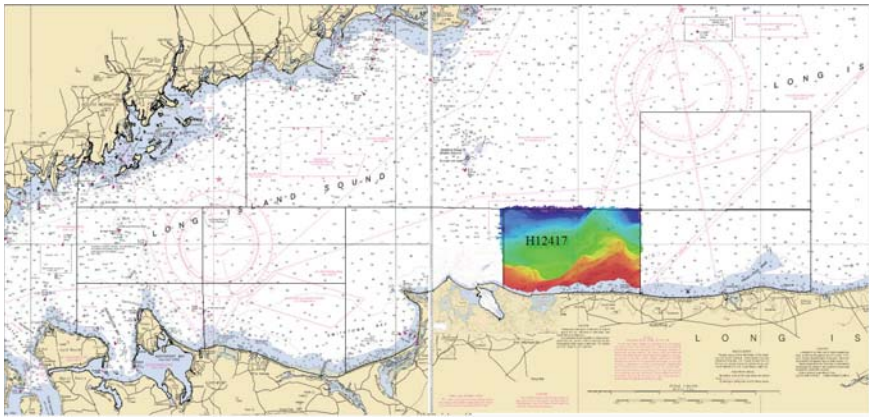


Figure 2: H12417 survey coverage.

In six areas, no longer than 165 meters across, the 4 meter nearshore limit of hydrography was not met due to launch safety concerns.

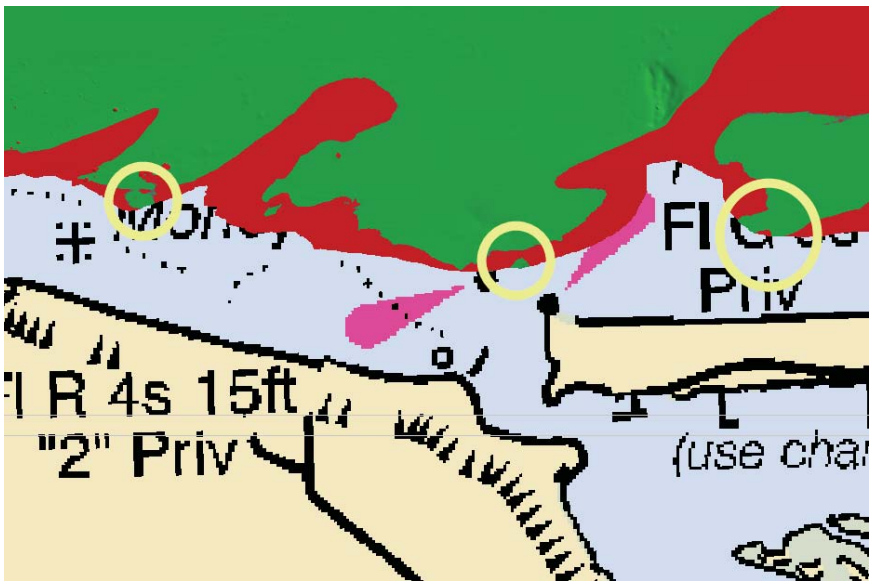


Figure 3: Circled locations indicate areas where the 4m limit was not reached on the western portion of the sheet.

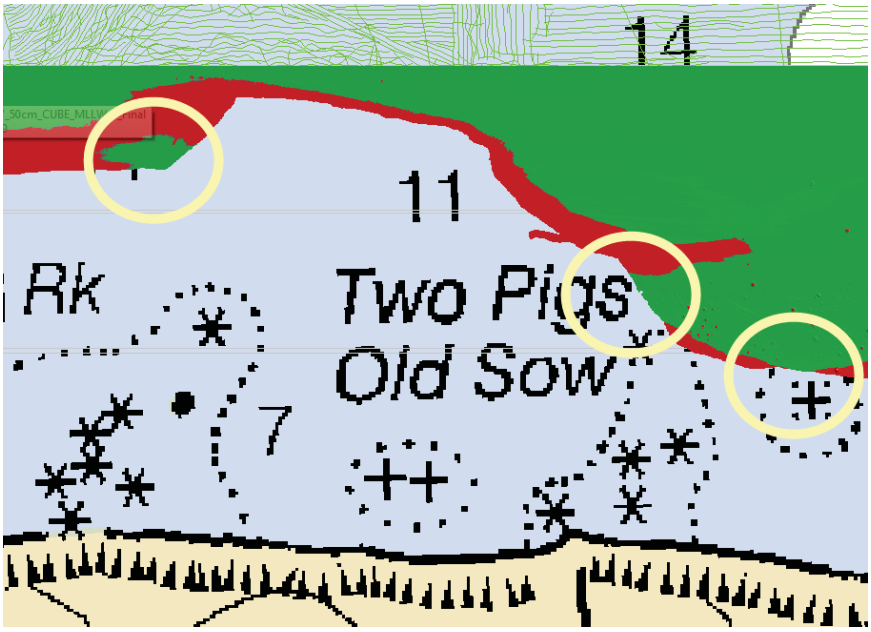


Figure 4: Circled locations indicate areas where the 4m limit was not reached on the eastern portion of the sheet.

A.5 Survey Statistics

The following table lists the mainscheme and crossline acquisition mileage for this survey:

	HULL ID	*S222*	*3101*	*3102*	*Total*
LNM	SBES Mainscheme	0	0	0	0
	MBES Mainscheme	386.78	494.52	189.38	1070.68
	Lidar Mainscheme	0	0	0	0
	SSS Mainscheme	0	0	0	0
	SBES/MBES Combo Mainscheme	0	0	0	0
	SBES/SSS Combo Mainscheme	0	0	0	0
	MBES/SSS Combo Mainscheme	0	0	0	0
	SBES/MBES Combo Crosslines	17.59	26.73	0	44.32
	Lidar Crosslines	0	0	0	0
Number of Bottom Samples					0
Number of DPs					0
Number of Items Items Investigated by Dive Ops					0
Total Number of SNM					19.06

Table 2: Hydrographic Survey Statistics

The following table lists the specific dates of data acquisition for this survey:

Survey Dates
05/19/2012
05/20/2012
05/22/2012
05/23/2012
05/24/2012
05/30/2012
05/31/2012
06/01/2012
06/02/2012
06/03/2012
06/04/2012
06/05/2012
06/06/2012
06/07/2012
06/08/2012
06/11/2012
06/12/2012
06/23/2012

Table 3: Dates of Hydrography

A.6 Shoreline

Shoreline was investigated in accordance with the Project Instructions and the HSSD.

A.7 Bottom Samples

Updated bottom sample locations were provided after the project instructions were given. There were no bottom samples included within the sheet limits for H12417 in the revised files.

B. Data Acquisition and Processing

B.1 Equipment and Vessels

Refer to the 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 discussed in the following sections.

B.1.1 Vessels

The following vessels were used for data acquisition during this survey:

Hull ID	***3102***	***3101***	***S222***
LOA	31 feet	31 feet	210 feet
Draft	3 feet	3 feet	14 feet

Table 4: Vessels Used

B.1.2 Equipment

The following major systems were used for data acquisition during this survey:

Manufacturer	**Model**	**Type**
Reson	7125 ROV	MBES
Reson	7125 SV1	MBES
Applanix	POSMV	Positioning and Attitude System
Seabird	Seacat19+	Conductivity, Temperature and Depth Sensor
Brooke Ocean	MVP100	Sound Speed System

Table 5: Major Systems Used

Data were acquired by NOAA Ship Thomas Jefferson, launch 3101 and launch 3102. NOAA Ship Thomas Jefferson, launch 3101 and launch 3102 acquired Reson 7125 multibeam echo sounder (MBES) soundings and sound velocity profiles. Vessel configurations, equipment operation and data acquisition and processing were consistent with specifications described in the DAPR.

B.2 Quality Control

B.2.1 Crosslines

Crossline comparison was conducted using the difference surface method in CARIS BathyDataBASE. Crosslines agreed very well with main scheme bathymetry, in most cases less than 10cm of difference was noticed. Computed statistics from the difference surface: mean: 0.02m, stdev: 0.19m. A maximum difference of 0.8m occurred in a small area where shifting sand waves were present. Nearby charted "Sandwaves" should be retained.

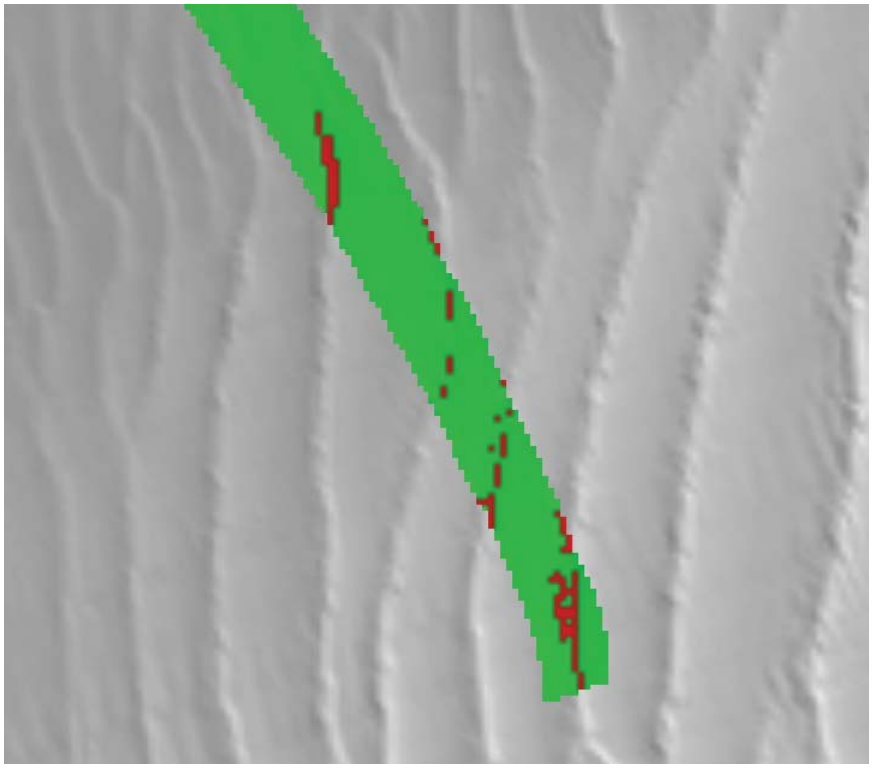


Figure 5: Red bands illustrate greater than 0.25m of difference between crossline and mainscheme in the area with the most prevalent sand wave movement.

B.2.2 Uncertainty

The following survey specific parameters were used for this survey:

Measured	Zoning
0meters	0.102meters
0meters	0meters

Table 6: Survey Specific Tide TPU Values

Hull ID	Measured - CTD	Measured - MVP	Surface
S222	N/A meters/second	1meters/second	0.2meters/second
3101	4meters/second	N/A meters/second	0.2meters/second
3102	4meters/second	N/A meters/second	0.2meters/second

Table 7: Survey Specific Sound Speed TPU Values

Data were initially processed to the ellipsoid using POSPac MMS Smoothed Best Estimate of Trajectories (SBET). These SBETs include horizontal and vertical error data and this data is included in the TPU computations. The tidal uncertainty values in the top row represent the uncertainties in the VDATUM solution for the area. All lines with GPS tides applied utilized tidal values in the top line.

CO-OPS provided tide uncertainty values for the TCARI surface and the VDATUM solution that is part of the Total Propagated Uncertainty (TPU) calculation. TPU is calculated and written to each line's HDCS file (CARIS processed data format). When surfaces are created, an uncertainty child layer is created. This child layer represents the amount of uncertainty for individual nodes in the surface based on a combination of a priori values from equipment vendors, values determined from environmental observation in the field, and from automated empirical analysis of data in real-time. Once all investigated features have been reviewed and least depths have been designated, surfaces are finalized. In finalization, the standard deviation for each node in the surface is multiplied by 1.96 to provide the 95% (2-sigma) confidence value for the node. This 2-sigma standard deviation is compared to the computed Total Vertical Uncertainty (TVU) for each node. The larger of the two values is retained as the finalized Uncertainty for each node. Uncertainty is reported in meters. IHO has established allowable TVU values for each order of survey. This survey meets IHO Order I TVU requirements in 100% of nodes in the final surface. All lines with TCARI as the final tidal corrector utilized the tidal uncertainty values in the second line in the table above.

B.2.3 Junctions

H12417 junctions with three surveys and sounding agreement is within 2 feet.

The following junctions were made with this survey:

Registry Number	Scale	Year	Field Unit	Relative Location
H12416	1:5000	2012	NOAA Ship THOMAS JEFFERSON	W
H12437	1:40000	2012	NOAA Ship THOMAS JEFFERSON	E
H11044	1:20000	2001	NOAA Ship RUDE	N

Table 8: Junctioning Surveys

H12416

Processing of H12416 had not been completed at the time this DR was written. A difference surface was created using a preliminary surface from H12416 and the combined surface. The mean difference was 1.8cm with a standard deviation of 11.7cm.

H12437

Sounding layers from H12437 and H12417 were compared using CARIS BathyDataBase and had a mean difference of 1.2cm with a standard deviation of 11cm.

H11044

No bathymetric data was provided for H11044. H12417 was compared to H11044 by performing a comparison between raster chart 12362 and a sounding layer generated by a combined 4 meter BASE surface from H12417. Compared soundings ranged from 96 feet to 132 feet and agreed to within 2 feet.

B.2.4 Sonar QC Checks

Sonar system quality control checks were conducted as detailed in the quality control section of the DAPR.

B.2.5 Equipment Effectiveness

B.2.5.1None Exist

There were no conditions or deficiencies that affected equipment operational effectiveness.

B.2.6 Factors Affecting Soundings

B.2.6.1 Shifting Sand Waves

Within H12417, an area in the southwestern portion of the sheet displayed significant sand wave patterns that appeared to shift during subsequent days of data acquisition. This is visible in the 50cm BASE surface as shown below.

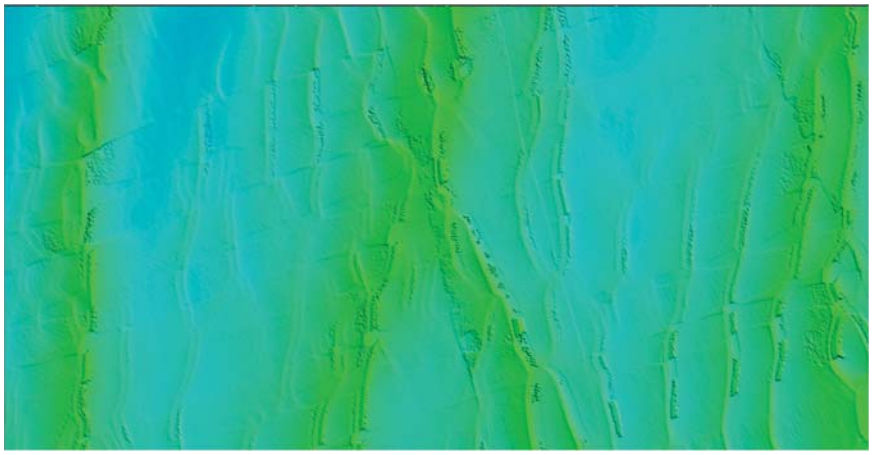


Figure 3: Shifting sand waves present in portion of H12417.

B.2.7 Sound Speed Methods

Sound Speed Cast Frequency: S-222 conducts Moving Vessel Profiler casts approximately every 20 minutes. The launches conduct CTD casts approximately once every two hours. All sound velocity correctors were applied to the data using the "nearest in time" option in CARIS HIPS/SIPS.

Throughout the data acquisition phase of H12417, sound velocity profiles were inspected and trends noted. These trends showed a well mixed water column with little variation in sound velocity throughout the day. The inshore area was divided into rectangular polygons designed to be completed every two hours. This allowed for one CTD cast to be taken per polygon.

B.2.8 Coverage Equipment and Methods

99.47% of nodes in H12417 contained 5 or more soundings.

B.3 Echo Sounding Corrections

B.3.1 Corrections to Echo Soundings

HDCS sounding data were reduced to mean lower low water (MLLW) primarily with a VDATUM solution. Several lines were processed to TCARI when issues with ERS processing did not allow for an SBET solution. See the Vertical and Horizontal Control Section for more information.

B.3.2 Calibrations

All sounding systems were calibrated as detailed in the DAPR.

B.3.3 Trueheave Application

On DN153, lines 153_1708, 153_1716, 153_1723, a gap in POS/MV data acquisition occurred. Trueheave was not applied to these lines, but conditions were calm and the affected lines were compared to adjacent lines with Trueheave applied and found to agree well. The hydrographer recommends that the lines be treated normally in further processing and sounding selection.

B.4 Backscatter

Backscatter was logged as a 7k file and submitted to the IOCM processing center and/or directly to NGDC, and is not included with the data submitted to the Branch.

B.5 Data Processing

B.5.1 Software Updates

There were no software configuration changes after the DAPR was submitted.

The following Feature Object Catalog was used: NOAAProfileField.xml v. 5.2

B.5.2 Surfaces

The following CARIS surfaces were submitted to the Processing Branch:

Surface Name	Surface Type	Resolution	Depth Range	Surface Parameter	Purpose
H12417_50cm_CUBE_MLLW	CUBE	0.5 meters	1.31 meters - 20 meters	NOAA_0.5m	Complete MBES
H12417_2m_CUBE_MLLW	CUBE	2 meters	18 meters - 40 meters	NOAA_2m	Complete MBES
H12417_4m_CUBE_MLLW	CUBE	4 meters	35 meters - 42.35 meters	NOAA_4m	Complete MBES
H12417_4m_CUBE_MLLW_ Combined_Final	CUBE	4 meters	1.31 meters - 42.35 meters	NOAA_32m	Complete MBES

Table 9: CARIS Surfaces

The final submitted surfaces is a combined surface of the first three submitted surfaces. It was combined using the FPM recommended combine rules in CARIS BathyDataBASE.

C. Vertical and Horizontal Control

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

C.1 Vertical Control

The vertical datum for this project is Mean Lower Low Water.

Standard Vertical Control Methods Used:

TCARI

The following National Water Level Observation Network (NWLON) stations served as datum control for this survey:

Station Name	Station ID
New Haven, CT	8465705
Bridgeport, CT	8467150
Kings Point, NY	8516945

Table 10: NWLON Tide Stations

File Name	Status
8465705.tid	Final Approved
8467150.tid	Final Approved
8516945.tid	Final Approved

Table 11: Water Level Files (.tid)

File Name	Status
B340TJ2012_Rev.tc	Final

Table 12: Tide Correctors (.zdf or .tc)

A request for final approved tides was sent to N/OPS1 on 06/12/2012. The final tide note was received on 07/31/2012.

Non-Standard Vertical Control Methods Used:

VDatum

Ellipsoid to Chart Datum Separation File:

Crosslines with and without SBETs applied were compared using Pydro's Time Series Comparison tool. Results of the comparison were: N,mean,stdev = 49994, 0.038, 0.049. See Appendix V for the interim deliverable memo and resulting VDATUM approval memo.
The majority, 98%, of H12417 was processed using SBETs. The majority of these lines were then processed to the ellipsoid and reduced to MLLW using the OPs provided VDATUM separation model to reduce data to MLLW.

The remaining 2% of lines from H12299 did not have SBETs applied (therefore no GPS tides were applied) and instead were processed with TCARI tides:
Launch 3101: DN140, line: 140_1845;
DN141, line: 141_1737;
DN143, line: 143_2033;
DN151, line: 151_1707;
DN153, lines: 153_1704, 153_1708, 153_1716, 153_1723, 153_1725, 153_1734, 153_1817, 153_1958.
Launch 3102: DN158, line: 158_1453, 158_2031, 158_2124.

Additionally, many of the lines have SBET and RMS correctors applied, but do not use GPS tides based inconsistencies in the vertical component of the SBET. Where this occurred, lines were re-merged with TCARI as the vertical corrector. For a listing of all lines utilizing TCARI, see Appendix V, file "H12417 TCARI lines.xlsx".

C.2 Horizontal Control

The horizontal datum for this project is North American Datum of 1983 (NAD83).

The following PPK methods were used for horizontal control:

Smart Base

The following CORS Stations were used for horizontal control:

HVCR Site ID	Base Station ID
NYRH	NYRH
CTDA	CTDA
CTGU	CTGU
MOR5	MOR5
MOR6	MOR6
NYCI	NYCI
ZNY1	ZNY1
NYRH	NYRH
RVDI	RVDI

Table 13: CORS Base Stations

The following DGPS Stations were used for horizontal control:

DGPS Stations
Moriches, NY
Acushnet, MA

Table 14: USCG DGPS Stations

D. Results and Recommendations

D.1 Chart Comparison

D.1.1 Raster Charts

The following are the largest scale raster charts, which cover the survey area:

Chart	Scale	Edition	Edition Date	LNM Date	NM Date
12354	1:80000	43	09/2010	08/24/2012	09/04/2012
12362	1:10000	17	02/2005	02/15/2005	02/19/2005

Table 15: Largest Scale Raster Charts

<u>12354</u>

Soundings from H12417 agreed well, within 2 feet, of charted soundings on raster chart 12354. There are several rocky areas that are not accurately charted but they are reflected in the FFF.

<u>12362</u>

Charted soundings generally agreed very well, within 1 foot of surveyed soundings. In the southwest corner of H12417, multiple rocks were discovered causing surveyed soundings to disagree with charted soundings by 6 to 10 feet.

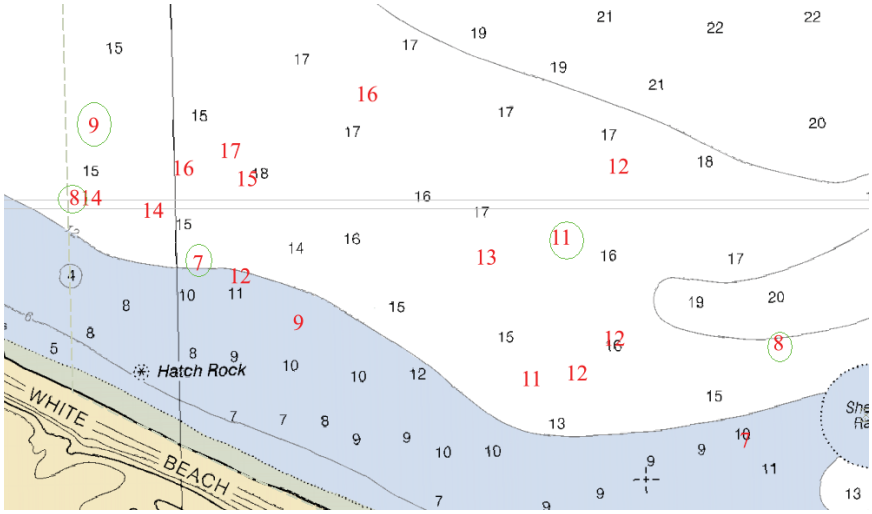


Figure 6: Southwest corner of H12417 showing designated soundings on rocks.

D.1.2 Electronic Navigational Charts

The following are the largest scale ENCs, which cover the survey area:

ENC	Scale	Edition	Update Application Date	Issue Date	Preliminary?
US4NY1GM	1:80000	20	08/25/2008	07/11/2011	NO
US5NY17M	1:10000	7	03/03/2011	03/03/2011	NO
US5CN10M	1:40000	2	10/02/2012	10/02/2012	NO

Table 16: Largest Scale ENCs

US4NY1GM

Charted soundings on ENC US4NY1GM agreed within 3 feet of surveyed soundings. There are several rocky areas that are not accurately charted but they are reflected in the FFF.

US5NY17M

Charted soundings from ENC US5NY17M generally agreed very well, within 1 foot of surveyed soundings. In the southwest corner of H12417, multiple rocks were discovered causing surveyed soundings to disagree with charted soundings by 6 to 10 feet. (See figure 6).

US5CN10M

Charted soundings from ENC US5CN10M generally agreed well, within 2 feet of surveyed soundings. There are several rocky areas that are not accurately charted but they are reflected in the FFF.

D.1.3 AWOIS Items

Number of AWOIS Items Addressed: 2
Number of AWOIS Items Not Addressed: 0

The survey contained two assigned AWOIS items and both were fully investigated.
AWOIS item #11825, a position approximate, 18 ft obstruction of shellfish racks was disproved by H12417.
AWOIS item #1766, a charted underwater wreck with a wire dragged depth of 64ft was found by by H12417. A new feature was created to show accurate position and least depth.

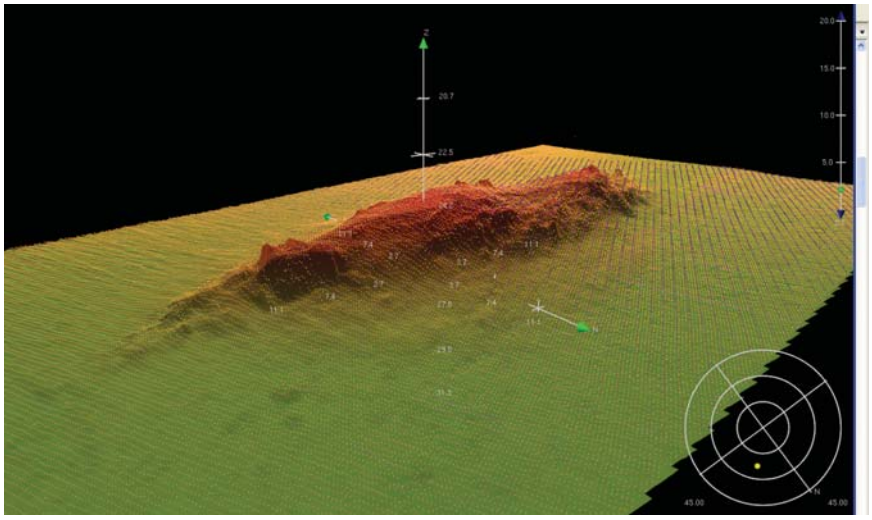


Figure 7: AWOIS item #1766, charted wreck located by H12417, least depth found to be 78ft.

D.1.4 Charted Features

See AWOIS section.

D.1.5 Uncharted Features

No uncharted features exist for this survey.

D.1.6 Dangers to Navigation

The follwing DTON reports were submitted to the processing branch:

DTON Report Name	Date Submitted
H12417 DtoNs	2012-10-04

Table 17: DTON Reports

Danger to Navigation Reports are included in Appendix I of this report.

D.1.7 Shoal and Hazardous Features

An area of rocks in the SW corner of the sheet exists. Two of these rocks were reported as DtoNs and the others have been designated as rock features.

D.1.8 Channels

No channels exist for this survey. There are no designated anchorages, precautionary areas, safety fairways, traffic separation schemes, pilot boarding areas, or channel and range lines within the survey limits.

D.2 Additional Results

D.2.1 Shoreline

Shoreline was assigned in the Hydrographic Survey Project Instructions or Statement of Work, but was not investigated.

D.2.2 Prior Surveys

Prior survey comparisons exist for this survey, but were not investigated.

D.2.3 Aids to Navigation

Three AtoNs exist within the survey limits of H12417. All three AtoNs were confirmed to be functioning and positioned correctly.

D.2.4 Overhead Features

Overhead features do not exist for this survey.

D.2.5 Submarine Features

A cable area exists within the sheet limits, but evidence of cables on the sea floor was not detected in the MBES data. All cables are presumed to be properly buried.

D.2.6 Ferry Routes and Terminals

No ferry routes or terminals exist for this survey.

D.2.7 Platforms

No platforms exist for this survey.

D.2.8 Significant Features

In the eastern, central portion of the sheet near the AtoN GC "9," an area of shifting sand waves was noticed during the survey. The FFF outlines the limits of the sandwaves.

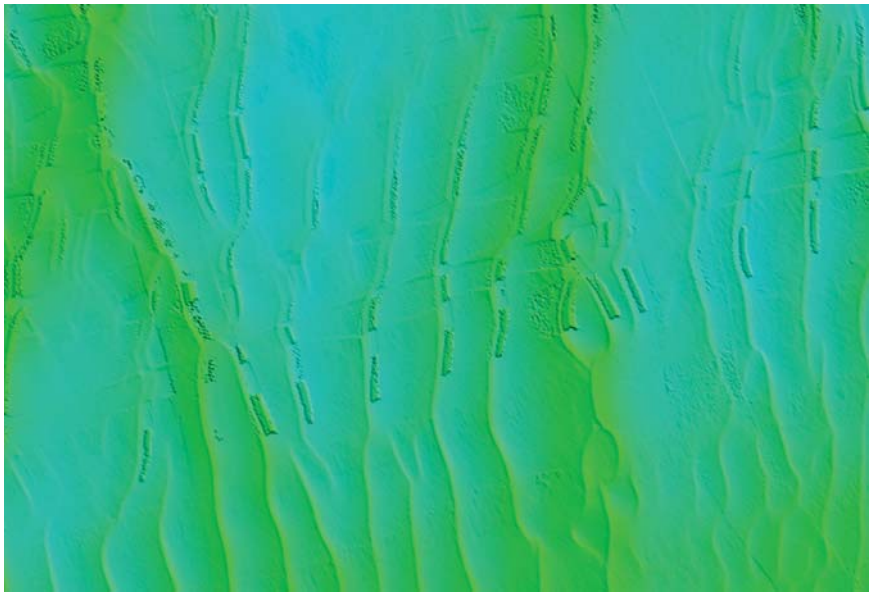


Figure 9: Sand wave activity noticed during acquisition of H12417.

D.2 Construction and Dredging

There is no present or planned construction or dredging within the survey limits.

E. Approval Sheet

As Chief of Party, Field operations for this hydrographic survey were conducted under my direct supervision, with frequent personal checks of progress and adequacy. I have reviewed the attached survey data and reports.

All field sheets, this Descriptive Report, and all accompanying records and data are approved. All records are forwarded for final review and processing to the Processing Branch.

The survey data meets or exceeds requirements as set forth in the NOS Hydrographic Surveys and Specifications Deliverables Manual, Field Procedures Manual, Standing and Letter Instructions, and all HSD Technical Directives. These data are adequate to supersede charted data in their common areas. This survey is complete and no additional work is required with the exception of deficiencies noted in the Descriptive Report.

Approver Name	Approver Title	Approval Date	Signature
ENS Andrew Clos	Sheet Manager	03/22/2013	
LT William Winner	Field Operations Officer	03/22/2013	
CDR Lawrence Krepp	Commanding Officer	03/22/2013	

F. Table of Acronyms

Acronym	Definition
AFF	Assigned Features File
AHB	Atlantic Hydrographic Branch
AST	Assistant Survey Technician
ATON	Aid to Navigation
AWOIS	Automated Wreck and Obstruction Information System
BAG	Bathymetric Attributed Grid
BASE	Bathymetry Associated with Statistical Error
CO	Commanding Officer
CO-OPS	Center for Operational Products and Services
CORS	Continually Operating Reference Staiton
CTD	Conductivity Temperature Depth
CEF	Chart Evaluation File
CSF	Composite Source File
CST	Chief Survey Technician
CUBE	Combined Uncertainty and Bathymetry Estimator
DAPR	Data Acquisition and Processing Report
DGPS	Differential Global Positioning System
DP	Detached Position
DR	Descriptive Report
DTON	Danger to Navigation
ENC	Electronic Navigational Chart
ERS	Ellipsoidal Referenced Survey
ERZT	Ellipsoidally Referenced Zoned Tides
FOO	Field Operations Officer
FPM	Field Procedures Manual
GAMS	GPS Azimuth Measurement Subsystem
GC	Geographic Cell
GPS	Global Positioning System
HIPS	Hydrographic Information Processing System
HSD	Hydrographic Surveys Division
HSSDM	Hydrographic Survey Specifications and Deliverables Manual

Acronym	Definition
HSTP	Hydrographic Systems Technology Programs
HSX	Hypack Hysweep File Format
HTD	Hydrographic Surveys Technical Directive
HVCR	Horizontal and Vertical Control Report
HVF	HIPS Vessel File
IHO	International Hydrographic Organization
IMU	Inertial Motion Unit
ITRF	International Terrestrial Reference Frame
LNM	Local Notice to Mariners
LNM	Linear Nautical Miles
MCD	Marine Chart Division
MHW	Mean High Water
MLLW	Mean Lower Low Water
NAD 83	North American Datum of 1983
NAIP	National Agriculture and Imagery Program
NALL	Navigable Area Limit Line
NM	Notice to Mariners
NMEA	National Marine Electronics Association
NOAA	National Oceanic and Atmospheric Administration
NOS	National Ocean Service
NRT	Navigation Response Team
NSD	Navigation Services Division
OCS	Office of Coast Survey
OMAO	Office of Marine and Aviation Operations (NOAA)
OPS	Operations Branch
MBES	Multibeam Echosounder
NWLON	National Water Level Observation Network
PDBS	Phase Differencing Bathymetric Sonar
PHB	Pacific Hydrographic Branch
POS/MV	Position and Orientation System for Marine Vessels
PPK	Post Processed Kinematic
PPP	Precise Point Positioning
PPS	Pulse per second

Acronym	Definition
PRF	Project Reference File
PS	Physical Scientist
PST	Physical Science Technician
RNC	Raster Navigational Chart
RTK	Real Time Kinematic
SBES	Singlebeam Echosounder
SBET	Smooth Best Estimate and Trajectory
SNM	Square Nautical Miles
SSS	Side Scan Sonar
ST	Survey Technician
SVP	Sound Velocity Profiler
TCARI	Tidal Constituent And Residual Interpolation
TPU	Total Porpagated Error
TPU	Topside Processing Unit
USACE	United States Army Corps of Engineers
USCG	United Stated Coast Guard
UTM	Universal Transverse Mercator
XO	Exectutive Officer
ZDA	Global Positiong System timing message
ZDF	Zone Definition File

APPENDIX I

TIDES AND WATER LEVELS

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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE : October 10, 2012

HYDROGRAPHIC BRANCH: Atlantic
HYDROGRAPHIC PROJECT: OPR-B340-TJ-2012
HYDROGRAPHIC SHEET: H12417

LOCALITY: Mt. Misery Pt. to Sound Beach, NY
TIME PERIOD: May 19 - June 23, 2012

TIDE STATION USED: New Haven, CT 846-5705
Lat.41° 17.0' N Long. 72° 54.5' W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 1.946 meters

TIDE STATION USED: Bridgeport, CT 846-7150
Lat. 41° 10.4' N Long. 73° 10.9' W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 2.129 meters

Tide STATION USED: Kings Point, NY 851-6945
Lat. 40° 48.6' Long. 73° 45.9' W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 2.268 meters

REMARKS: RECOMMENDED GRID

Please use the TCARI grid "B340TJ2012_Rev.tc" as the final grid for project OPR-B340-TJ-2012, Registry No. H12417, during the time period between May 19 and June 23, 2012.

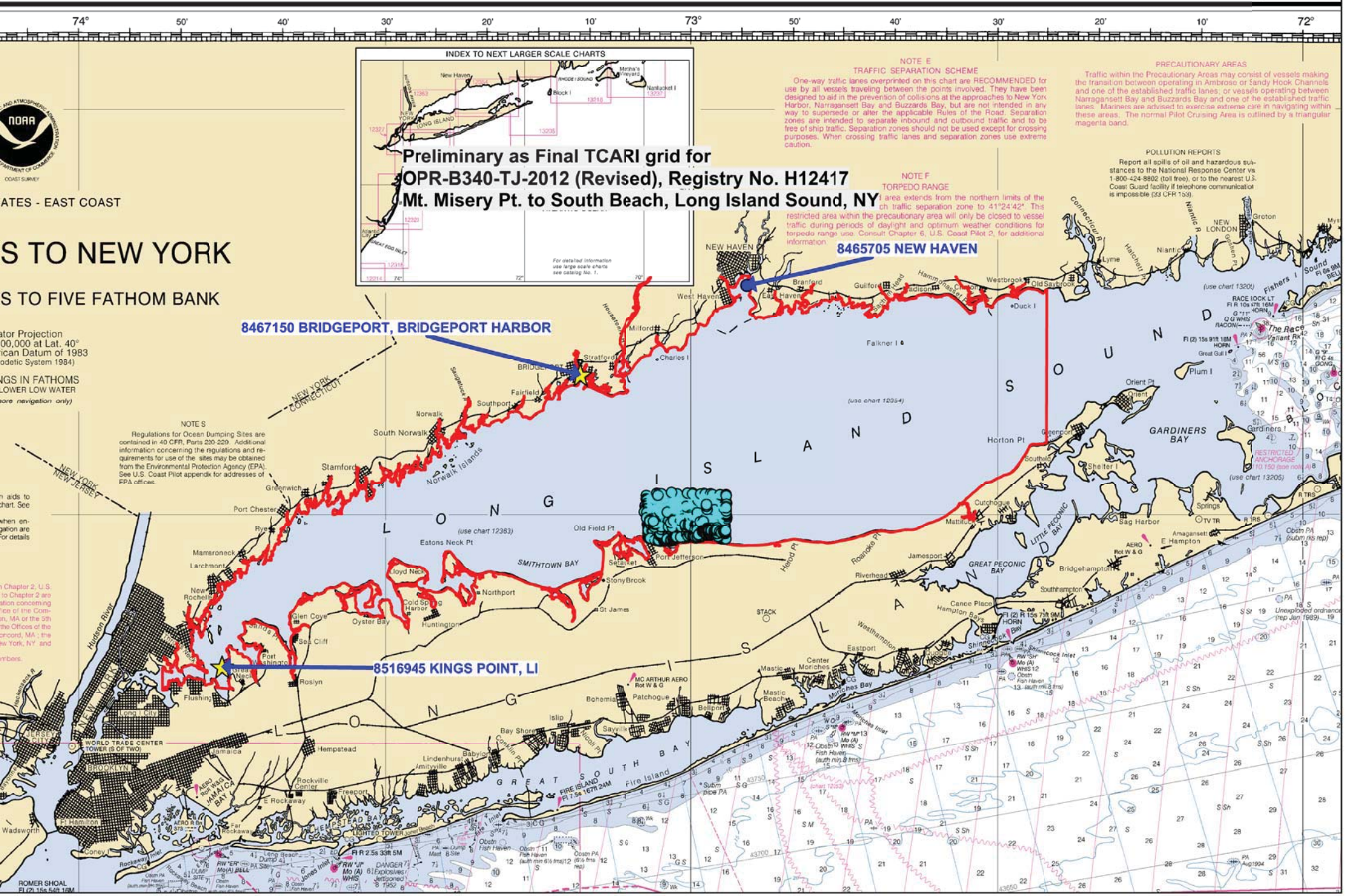
Refer to attachments for grid information.

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).

HOVIS.GERALD.THOMAS.1365860250

Digitally signed by HOVIS.GERALD.THOMAS.1365860250
DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=OTHER, cn=HOVIS.GERALD.THOMAS.1365860250
Date: 2012.10.11 08:35:38 -04'00'

CHIEF, PRODUCTS AND SERVICES BRANCH


Preliminary as Final TCARI grid for
OPR-B340-TJ-2012 (Revised), Registry No. H12417
Mt. Misery Pt. to South Beach, Long Island Sound, NY
8465705 NEW HAVEN
8467150 BRIDGEPORT, BRIDGEPORT HARBOR
8516945 KINGS POINT, LI
INDEX TO NEXT LARGER SCALE CHARTS
NOTE E
TRAFFIC SEPARATION SCHEME
NOTE F
TORPEDO RANGE
PRECAUTIONARY AREAS
POLLUTION REPORTS
NOTE S
ATES - EAST COAST
S TO NEW YORK
S TO FIVE FATHOM BANK
LONG ISLAND SOUND
GARDINERS BAY
GREAT SOUTH BAY
SMITHTOWN BAY
GREAT PECONIC BAY
LITTLE PECONIC BAY
NEW YORK
CONNECTICUT
NEW JERSEY
NEW HAVEN
BRIDGEPORT
Stratford
Milford
Branford
Guilford
Madison
Westbrook
Old Saybrook
Lyme
Niantic
NEW LONDON
Groton
Norwalk
South Norwalk
Stamford
Greenwich
Port Chester
Rye
Mamaroneck
Larchmont
New Rochelle
Glen Cove
Oyster Bay
Huntington
Northport
Cold Spring Harbor
St James
Stony Brook
Port Jefferson
Setauket
Eatons Neck Pt
Old Field Pt
Sag Harbor
Southampton
Bridgehampton
Amagansett
E Hampton
Montauk
Flushing
Roslyn
Hempstead
Jamaica
Rockaway
Freeport
Islip
Bay Shore
Babylon
Bellport
Patchogue
Bohemia
Mastic
Mastic Beach
Center Moriches
Eastport
Westhampton
Riverhead
Jamesport
Cutchogue
Mattituck
Greenport
Orient Pt
Plum I
Falkner I
Horton Pt
Shelter I
Gardiners I
Fisher I
Coney
Rockaway Inlet
Jones Inlet
Fire Island
Hudson River
Long Island Sound
(use chart 12354)
(use chart 12363)
(use chart 12320)
(use chart 13205)
(use chart 12353)
ROMER SHOAL
Fl (2) 15s 54ft 16M
Fl R 2.5s 33ft 5M
FIRE ISLAND
Fl 7.5s 167ft 24M
MC ARTHUR AERO
Rot W & G
WORLD TRADE CENTER
TOWER (S OF TWO)
Fl Hamilton
Wadsworth
Rockaway Point
Far Rockaway
Rockville Center
Lindenhurst
Amityville
Sayville
Cutchogue
Southold
Shelter I
Springs
Sag Harbor
Cane Place
Hampton Bays
Shinnecock Inlet
Moriches Inlet
Moriches Bay
Westhampton
Eastport
Mastic
Mastic Beach
Bellport
Patchogue
Bohemia
Islip
Bay Shore
Babylon
Lindenhurst
Amityville
Sayville
Fire Island
Jones Inlet
Rockaway Inlet
Coney
Far Rockaway
Rockaway Point
Roslyn
Port Washington
Sea Cliff
Glen Cove
Oyster Bay
Huntington
Northport
Cold Spring Harbor
St James
Stony Brook
Port Jefferson
Setauket
Eatons Neck Pt
Old Field Pt
Smithtown Bay
Lloyd Neck
Mamaroneck
Larchmont
New Rochelle
Port Chester
Rye
Greenwich
Stamford
Norwalk
South Norwalk
Southport
Fairfield
Bridgeport
Stratford
Milford
Charles I
West Haven
East Haven
Branford
Guilford
Madison
Westbrook
Old Saybrook
Duck I
Lyme
Niantic
NEW LONDON
Groton
Falkner I
Plum I
Orient Pt
Greenport
Horton Pt
Shelter I
Gardiners I
Fisher I
Sag Harbor
Southampton
Bridgehampton
Amagansett
E Hampton
Montauk
Riverhead
Jamesport
Cutchogue
Mattituck
Cane Place
Hampton Bays
Shinnecock Inlet
Moriches Inlet
Moriches Bay
Westhampton
Eastport
Mastic
Mastic Beach
Center Moriches

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Office of Coast Survey
Silver Spring, Maryland 20910-3282

August 3, 2012

MEMORANDUM FOR: CDR Larry Krepp, NOAA
Commanding Officer, NOAA Ship *Thomas Jefferson*

FROM: Jeffrey Ferguson 2012.08.03 12:25:19 -04'00'
Chief, Hydrographic Surveys Division

SUBJECT: Vertical Datum Transformation Technique,
OPR-B340-TJ-12, Long Island Sound, NY

Hydrographic survey H12417 is approved for vertical reduction to chart datum, Mean Lower Low Water (MLLW), using the NOAA Vertical Datum Transformation (VDatum) (http://vdatum.noaa.gov) derived separation (SEP) model provided on the project CD/DVD.

Approval of VDatum, in lieu of the NOAA Center for Operational Oceanographic Products and Services (CO-OPS) TCARI package as per the Project Instructions, is based on your recommendation and the review of comparison results you included in your memo from July 26, 2012, Subject "H12417 Interim Deliverables".

The results of the data analysis show that ellipsoidally referenced survey (ERS) techniques with VDatum used as the vertical datum reducer to MLLW in this area indicate a better internal consistency of the survey data and produces final sounding values that meet or exceed horizontal and vertical specifications for hydrographic surveys.

The comparison techniques are in line with the procedures that were developed and approved as part of the CSDL Ellipsoidally Referenced Survey (ERS) project. These procedures and deliverables were added to the April 2012 edition of the NOS Hydrographic Surveys Specifications and Deliverables Manual and Field Procedures Manual documents.

You shall include a description of your ERS processing procedures and the comparisons you conducted between ERS and traditional tides in the appropriate Descriptive Report (DR), Horizontal and Vertical Control Report and/or Data Acquisition and Processing Report.

This memo and your memo, shall be included in the supplemental correspondence Appendix of the DR.

APPENDIX II

SUPPLEMENTAL SURVEY RECORDS AND CORRESPONDENCE

Subject: Re: Bottom Sample submission
From: Gene Parker <Castle.E.Parker@noaa.gov>
Date: Mon, 31 Jan 2011 11:47:48 -0500
To: "ops.thomas.jefferson" <OPS.Thomas.Jefferson@noaa.gov>

Good day Mark,
Submit both. HSSD specifies both in two areas of the document. First one needs to comply with HSSD; if the TJ wants to make the Hob file, then they have gone beyond the minimum requirements. If the TJ doesn't do it, then AHB would have to as long as the BS is within the Pydro PSS. Reference HSSD Section 8.2 S57 Feature File, paragraph 6:

> The S-57 feature file contains all the attributed information on specific objects that cannot be portrayed in a simple depth grid. Features to include in the S-57 feature file include; wrecks, obstructions, shoreline, rocks, islets, oil platforms, nature of seabed (bottom samples) and all other objects that may need to be compiled to a navigational product and require additional information that cannot be included in the BAG.

The Pydro PSS is in lieu of the S57 format file.

We could make the hob from the table, but since the TJ has done this, submit both the Hob file and the table contained in DR Appendix 5. Place the Hob file in the PSS directory which has contained all features in NOAA PSS format as in the past. If the TJ is going to submit the hob file, the source would be the table, so HSSD specifies delivery of both. If the TJ only submitted the table, AHB would have to generate the feature objects. If the TJ creates the hob file, then submit it.
gene

ops.thomas.jefferson wrote:

> Gene,
> We will be submitting .HOB files for the bottom samples in addition to the summary table found in the supplemental survey records and correspondence section of the DR. It is my understanding that the table is only used to create the .HOB anyways. A recommendation will need to be made that either the table either be omitted or be used in place of the .hob file. Only the summary table is mention in the HSSD april 2010 version. If there are any other issues with this idea please let us know.
> Mark

Castle Eugene Parker <castle.e.parker@noaa.gov>
Physical Scientist - Hydrographic Team Lead
Atlantic Hydrographic Branch
NOAA Office of Coast Survey

Subject: Re: Crossline comparison
From: Chris van Westendorp <Christiaan.VanWestendorp@noaa.gov>
Date: Thu, 10 Sep 2009 13:00:35 -0400
To: "mark.blankenship" <Mark.Blankenship@noaa.gov>
CC: LCDR Rick Brennan <Richard.T.Brennan@noaa.gov>, Castle Parker <Castle.E.Parker@noaa.gov>, Edward Owens <Edward.Owens@noaa.gov>, LT Jasper Schaer <jasper.schaer@noaa.gov>, CDR Shep Smith <Shep.Smith@noaa.gov>, Daniel Wright <Daniel.Wright@noaa.gov>

Mark,

Per 5.1.4.3 of the HSSD, AHB authorizes TJ to use the Standard Deviation layer to conduct surface difference comparison and analysis on future survey submissions of multibeam data. This meets the crossline comparison requirement laid out in HSSD.

Please let me know if you have any questions or need for further clarification.

R/
LCDR Chris van Westendorp, NOAA

mark.blankenship wrote:

> Chris,
> You mentioned in the meeting today that AHB was not going to require the multiple CUBE surface comparison, instead allowing us to use a single surface standard deviation layer to do our checks with. Is there any memo coming out for that?
> Mark

LCDR Chris van Westendorp <christiaan.vanwestendorp@noaa.gov>
Atlantic Hydrographic Branch
NOAA OCS

APPENDIX III

SURVEY FEATURES REPORT

DtoNs - seven
AWOIS - two
Maritime Boundary - none
Wrecks - one; See AWOIS section

H12417 Danger to Navigation

Registry Number: H12417
State: New York
Locality: Long Island Sound
Sub-locality: Mt Misery Point to Sound Beach
Project Number: OPR-B340-TJ-12
Survey Date: 065/19/2012 - 06/23/2012

Charts Affected

Number	Edition	Date	Scale (RNC)	RNC Correction(s)*
12362	17th	02/01/2005	1:10,000 (12362_1)	[L]NTM: ?
12364	38th	07/01/2008	1:40,000 (12364_21)	[L]NTM: ?
12354	42nd	12/01/2006	1:80,000 (12354_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	9.5 ft rock	Rock	2.90 m	40° 58' 24.5" N	073° 04' 05.2" W	---
1.2	8ft rock.	Rock	2.64 m	40° 58' 12.8" N	073° 03' 20.1" W	---
1.3	20 ft rock	Rock	6.05 m	40° 58' 33.2" N	073° 03' 09.7" W	---
1.4	27 ft rock	Rock	8.17 m	40° 58' 39.8" N	073° 02' 37.1" W	---
1.5	31 ft rock	Rock	9.45 m	40° 58' 41.7" N	073° 02' 19.4" W	---
1.6	23 ft rock	Rock	7.14 m	40° 58' 29.0" N	073° 02' 13.5" W	---
1.7	12 ft rock	Rock	3.67 m	40° 58' 22.6" N	072° 56' 47.5" W	---

1 - DtoN

1.1) 9.5 ft rock

DANGER TO NAVIGATION

Survey Summary

Survey Position:	40° 58' 24.5" N, 073° 04' 05.2" W
Least Depth:	2.90 m (= 9.53 ft = 1.588 fm = 1 fm 3.53 ft)
TPU (±1.96σ):	**THU (TPEh)** [None] ; **TVU (TPEv)** [None]
Timestamp:	2012-175.00:00:00.000 (06/23/2012)
Dataset:	H12417_DTON.000
FOID:	0_ 0004240743 00001(FFFE0040B5670001)
Charts Affected:	12362_1, 12364_21, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

UWTROC/remrks: Rock found by MBES. Data processed to the ellipsoid and reduced to MLLW using VDATUM.

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12417_DTON.000	0_ 0004240743 00001	0.00	000.0	Primary

Hydrographer Recommendations

Chart underwater rock outside of the surrounding depth area.

Cartographically-Rounded Depth (Affected Charts):

9ft (12362_1, 12364_21, 12354_1)

1 ½fm (12300_1, 13006_1, 13003_1)

2.9m (5161_1)

S-57 Data

Geo object 1:	Underwater rock / awash rock (UWTROC)
Attributes:	EXPSOU - 2:shoaler than range of depth of the surrounding depth area
	NINFOM - Chart rock
	QUASOU - 6:least depth known

SORDAT - 20120623

SORIND - US,US,graph,H12417

TECSOU - 3:found by multi-beam

VALSOU - 2.904 m

WATLEV - 3:always under water/submerged

Office Notes

SAR Note: The feature is visible in the object detection MBES coverage data. The SAR reviewer observes that the rock is approximately 5 feet (1.5 meters) tall as opposed to the 9 ft submitted by the field unit in the DtoN report.

COMPILE: Delete charted rock. Chart new 9.5 ft rock at survey position. Note that rock rises 5 feet from the seafloor, not 9 feet from the seafloor as submitted by the field unit.

Feature Images

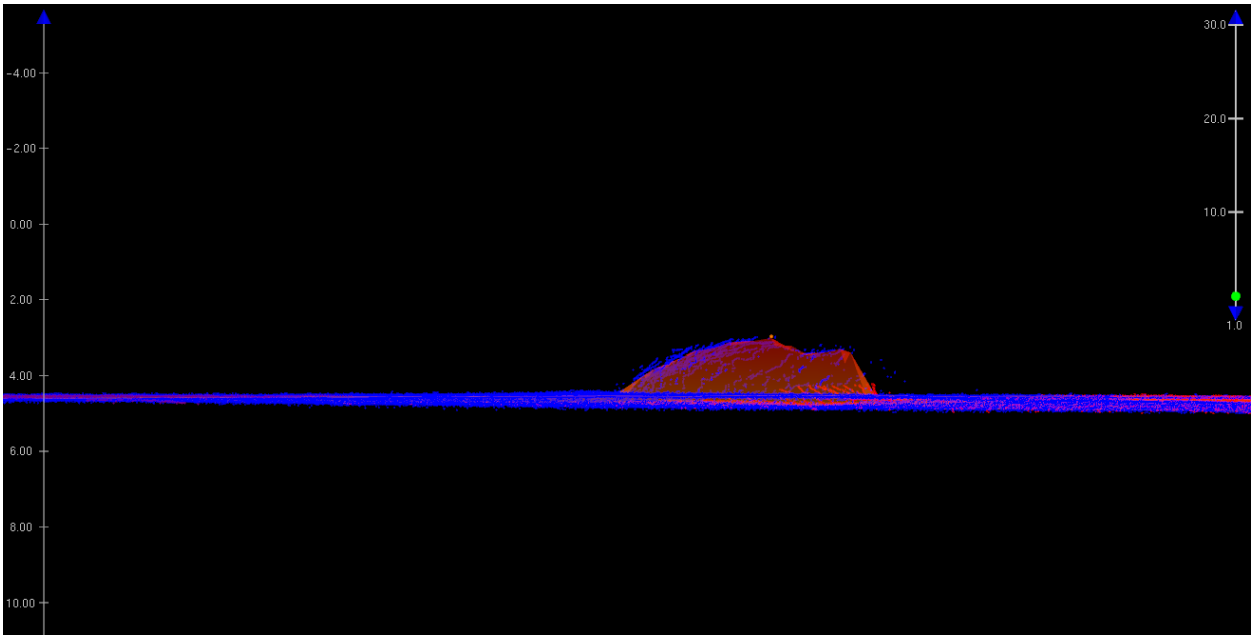


Figure 1.1.1

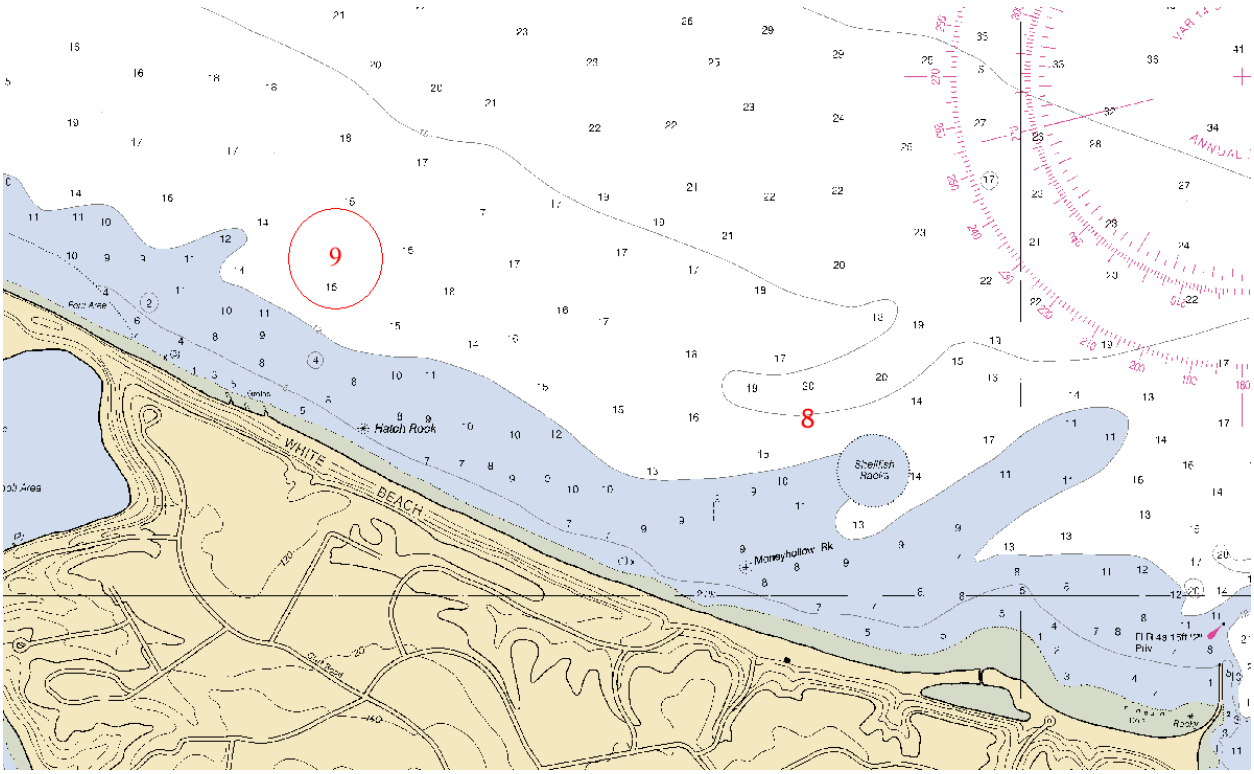


Figure 1.1.2

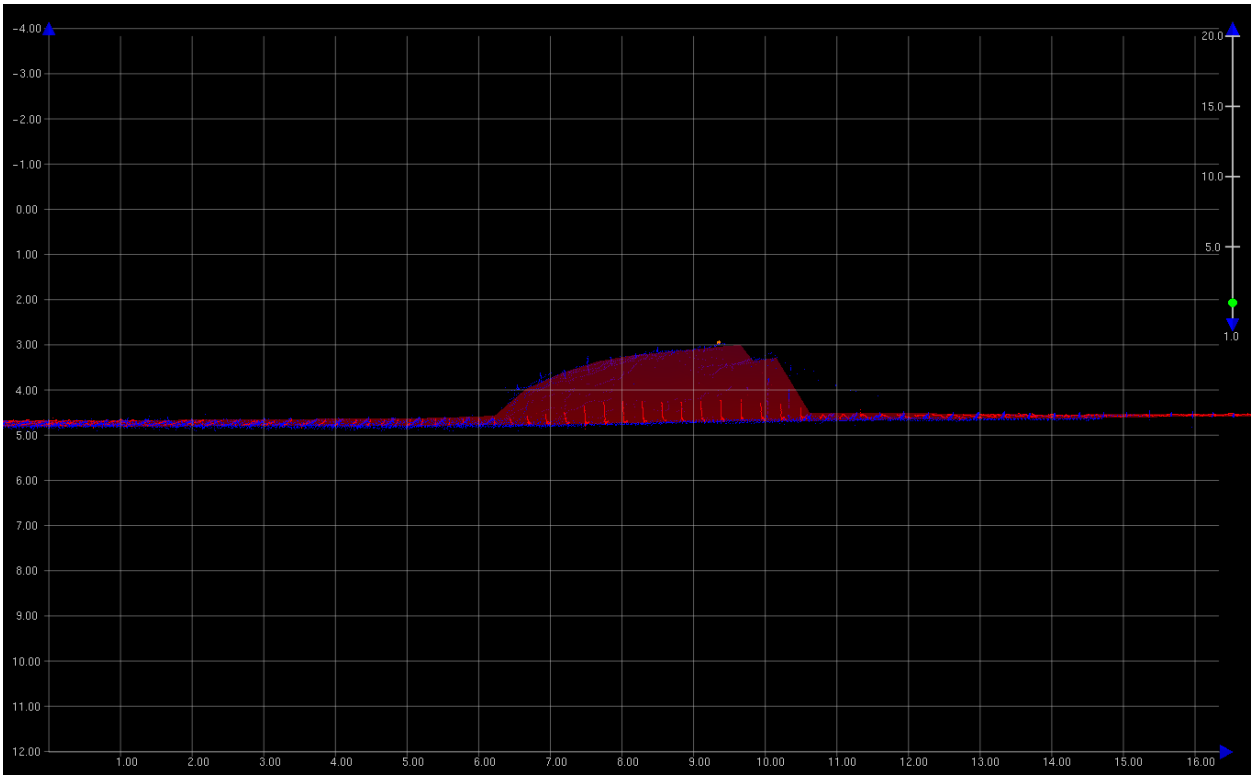


Figure 1.1.3

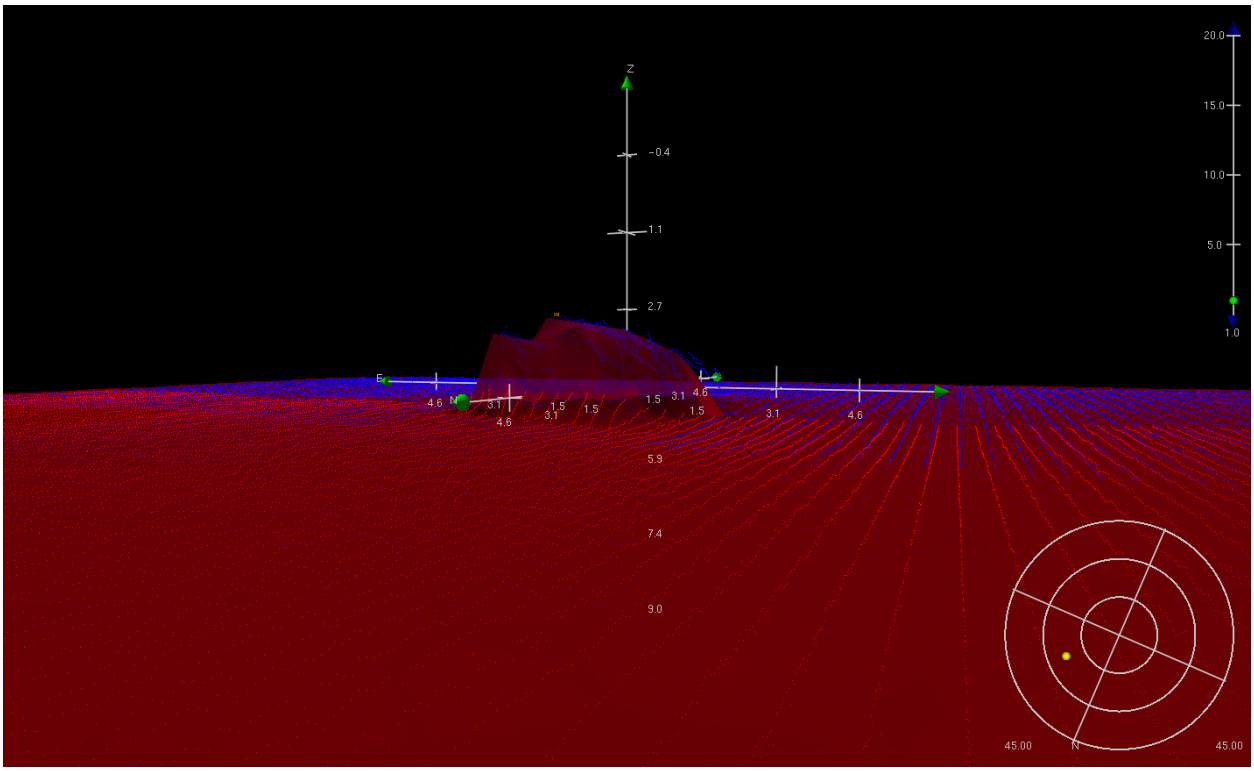


Figure 1.1.4

1.2) 8ft rock.

DANGER TO NAVIGATION

Survey Summary

Survey Position:	40° 58' 12.8" N, 073° 03' 20.1" W
Least Depth:	2.64 m (= 8.65 ft = 1.442 fm = 1 fm 2.65 ft)
TPU (±1.96σ):	**THU (TPEh)** [None] ; **TVU (TPEv)** [None]
Timestamp:	2012-175.00:00:00.000 (06/23/2012)
Dataset:	H12417_DTON.000
FOID:	0_ 0004240738 00001(FFFE0040B5620001)
Charts Affected:	12362_1, 12364_21, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

UWTROC/remrks: Rock found by MBES. Data processed to the ellipsoid and reduced to MLLW using VDATUM.

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12417_DTON.000	0_ 0004240738 00001	0.00	000.0	Primary

Hydrographer Recommendations

Chart underwater rock outside of the surrounding depth area.

Cartographically-Rounded Depth (Affected Charts):

8ft (12362_1, 12364_21, 12354_1)

1 ½fm (12300_1, 13006_1, 13003_1)

2.6m (5161_1)

S-57 Data

Geo object 1:	Underwater rock / awash rock (UWTROC)
Attributes:	EXPSOU - 2:shoaler than range of depth of the surrounding depth area
	NINFOM - Chart rock
	QUASOU - 6:least depth known

SORDAT - 20120623

SORIND - US,US,graph,H12417

TECSOU - 3:found by multi-beam

VALSOU - 2.637 m

WATLEV - 3:always under water/submerged

Office Notes

SAR Note: The feature was seen in the object detection coverage MBES data.

COMPILE: Delete charted rock. Chart new 8.65 ft rock at survey position.

Feature Images

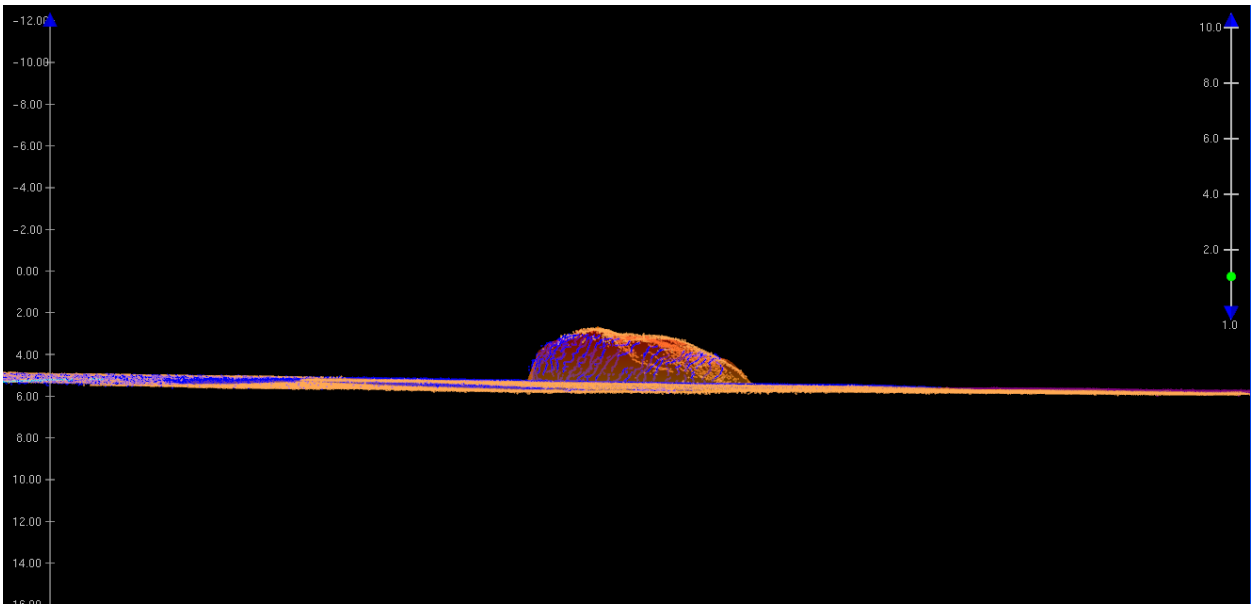


Figure 1.2.1

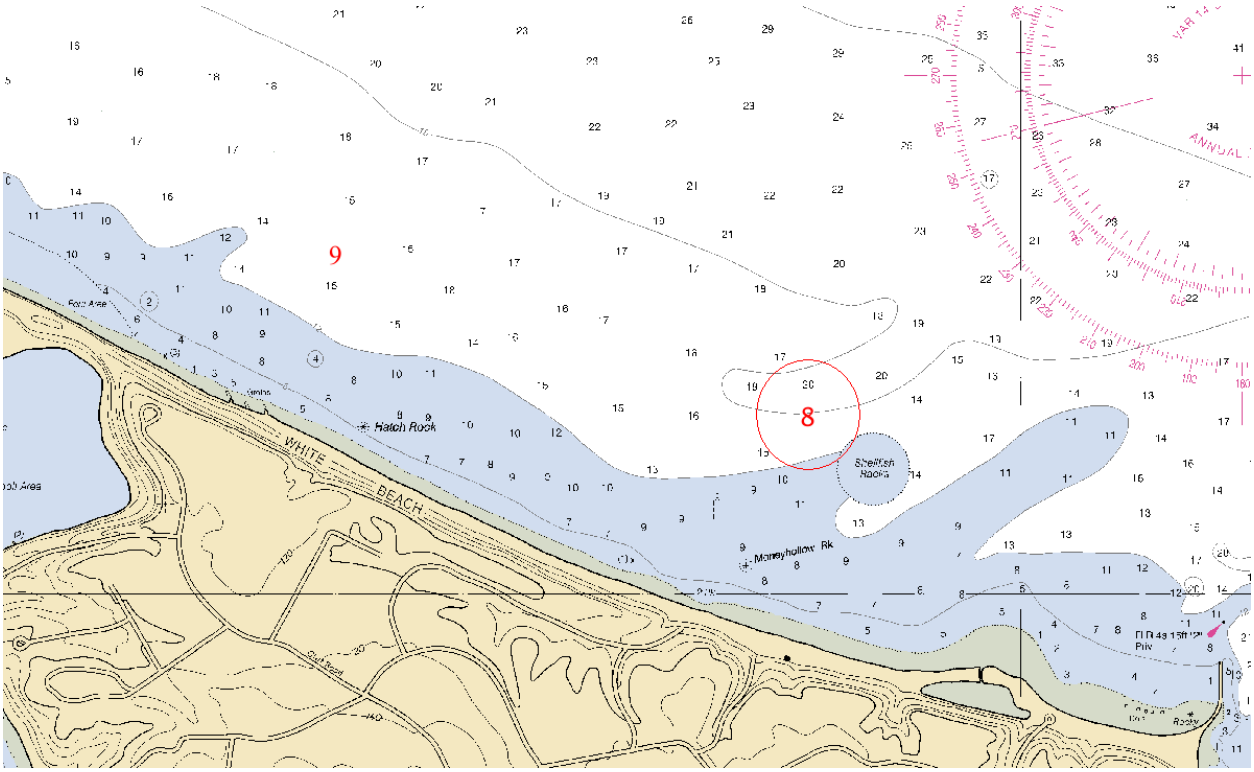


Figure 1.2.2

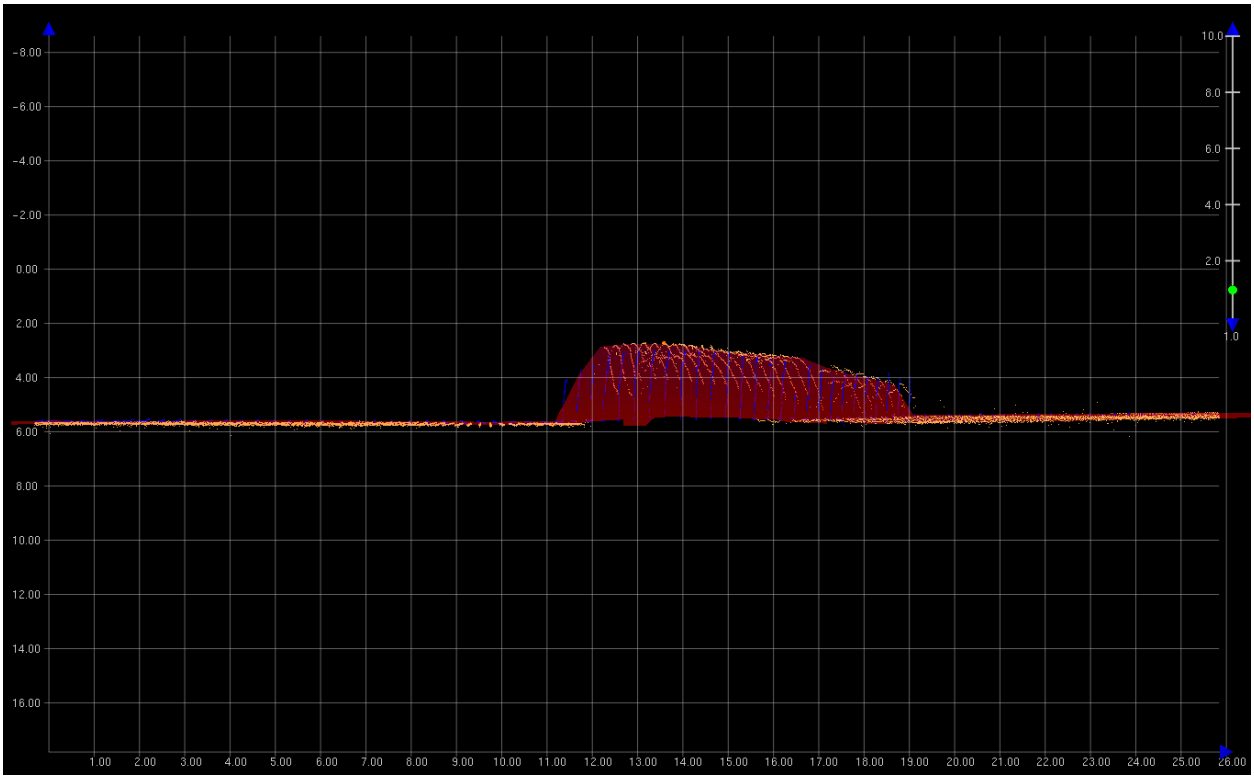


Figure 1.2.3

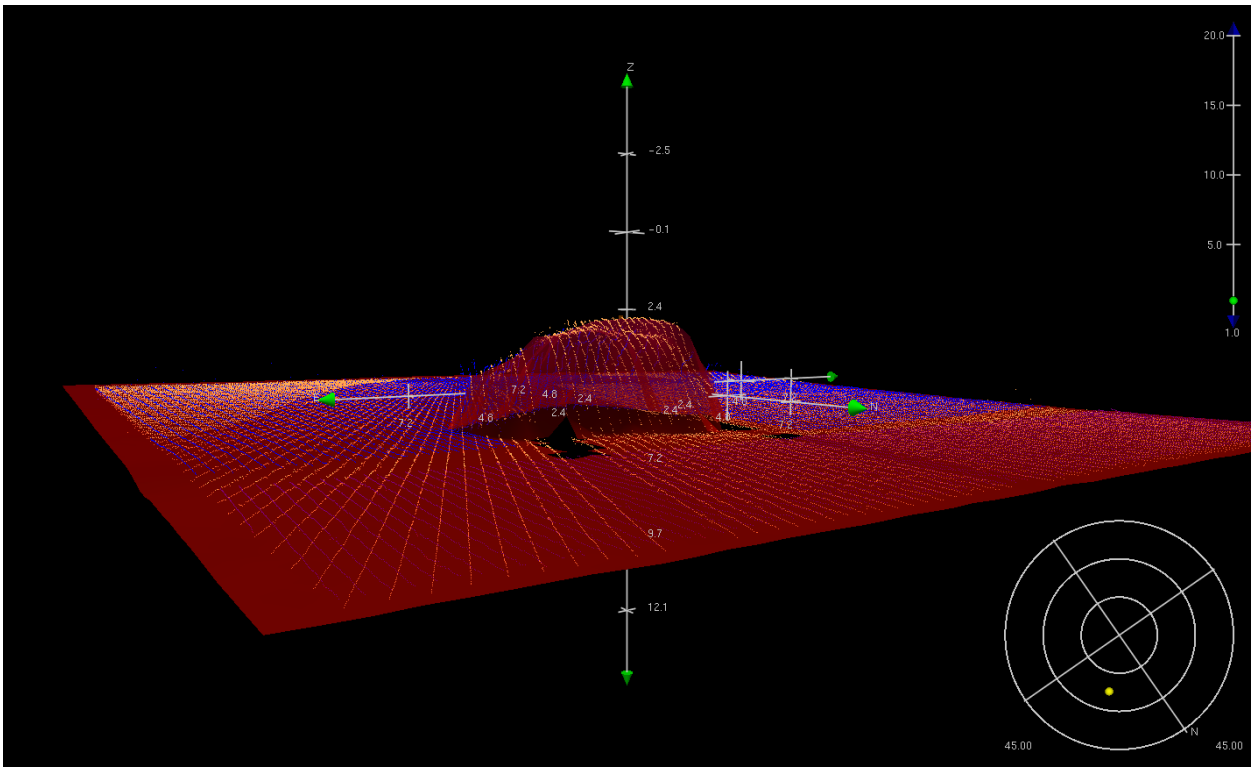


Figure 1.2.4

1.3) 20 ft rock

DANGER TO NAVIGATION

Survey Summary

Survey Position: 40° 58' 33.2" N, 073° 03' 09.7" W

Least Depth: 6.05 m (= 19.85 ft = 3.308 fm = 3 fm 1.85 ft)

TPU (±1.96σ): **THU (TPEh)** [None] ; **TVU (TPEv)** [None]

Timestamp: 2012-175.00:00:00.000 (06/23/2012)

Dataset: H12417_DTON.000

FOID: 0_ 0004240740 00001(FFFE0040B5640001)

Charts Affected: 12362_1, 12364_21, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

[None]

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12417_DTON.000	0_ 0004240740 00001	0.00	000.0	Primary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

20ft (12362_1, 12364_21, 12354_1)

3 ¼fm (12300_1, 13006_1, 13003_1)

6.0m (5161_1)

S-57 Data

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

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

NINFOM - Chart rock

QUASOU - 6:least depth known

SORDAT - 20120623

SORIND - US,US,graph,H12417

TECSOU - 3:found by multi-beam

VALSOU - 6.049 m

WATLEV - 3:always under water/submerged

Office Notes

SAR Note: The feature was added to the feature file by the SAR reviewer. The feature is visible in the object detection coverage MBES data.

COMPILE: Delete charted rock. Chart new 19.85 ft rock at survey position.

Feature Images

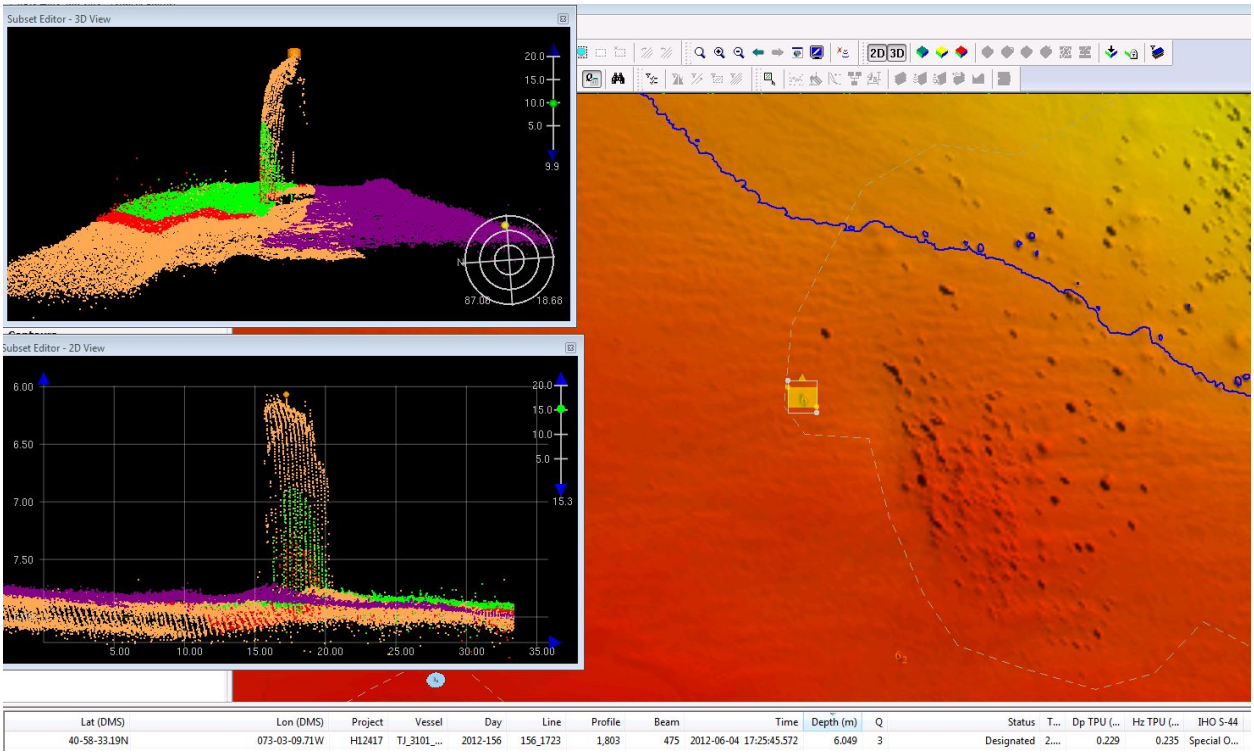


Figure 1.3.1

1.4) 27 ft rock

DANGER TO NAVIGATION

Survey Summary

Survey Position: 40° 58' 39.8" N, 073° 02' 37.1" W

Least Depth: 8.17 m (= 26.82 ft = 4.470 fm = 4 fm 2.82 ft)

TPU (±1.96σ): **THU (TPEh)** [None] ; **TVU (TPEv)** [None]

Timestamp: 2012-175.00:00:00.000 (06/23/2012)

Dataset: H12417_DTON.000

FOID: 0_ 0004240742 00001(FFFE0040B5660001)

Charts Affected: 12362_1, 12364_21, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

UWTROC/remrks: Rock found by MBES.

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12417_DTON.000	0_ 0004240742 00001	0.00	000.0	Primary

Hydrographer Recommendations

Chart rock found by MBES.

Cartographically-Rounded Depth (Affected Charts):

27ft (12362_1, 12364_21, 12354_1)

4 ½fm (12300_1, 13006_1, 13003_1)

8.1m (5161_1)

S-57 Data

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

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

NINFOM - Chart rock

QUASOU - 6:least depth known

SORDAT - 20120623

SORIND - US,US,graph,H12417

TECSOU - 3:found by multi-beam

VALSOU - 8.174 m

WATLEV - 3:always under water/submerged

Office Notes

SAR Note: The feature is visible in the object detection coverage MBES data.

COMPILE: Delete charted rock. Chart new 26.82 ft rock at survey position.

Feature Images

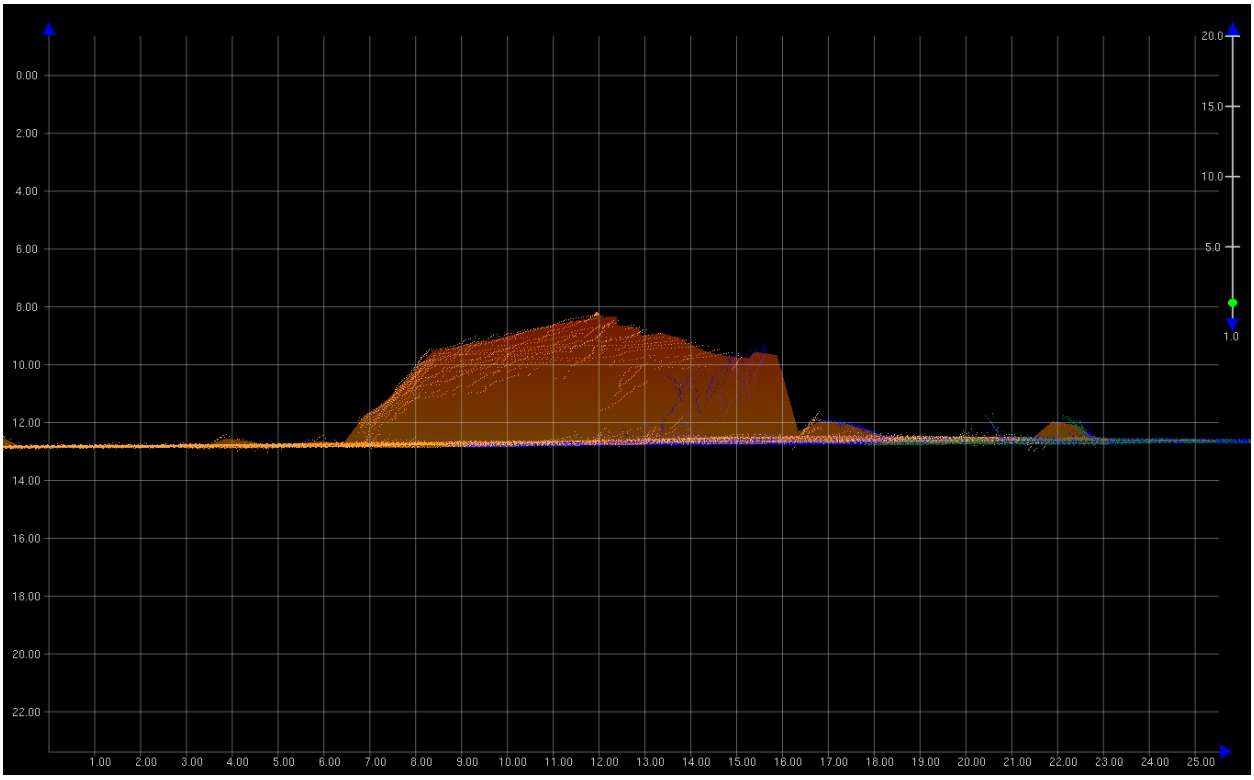


Figure 1.4.1

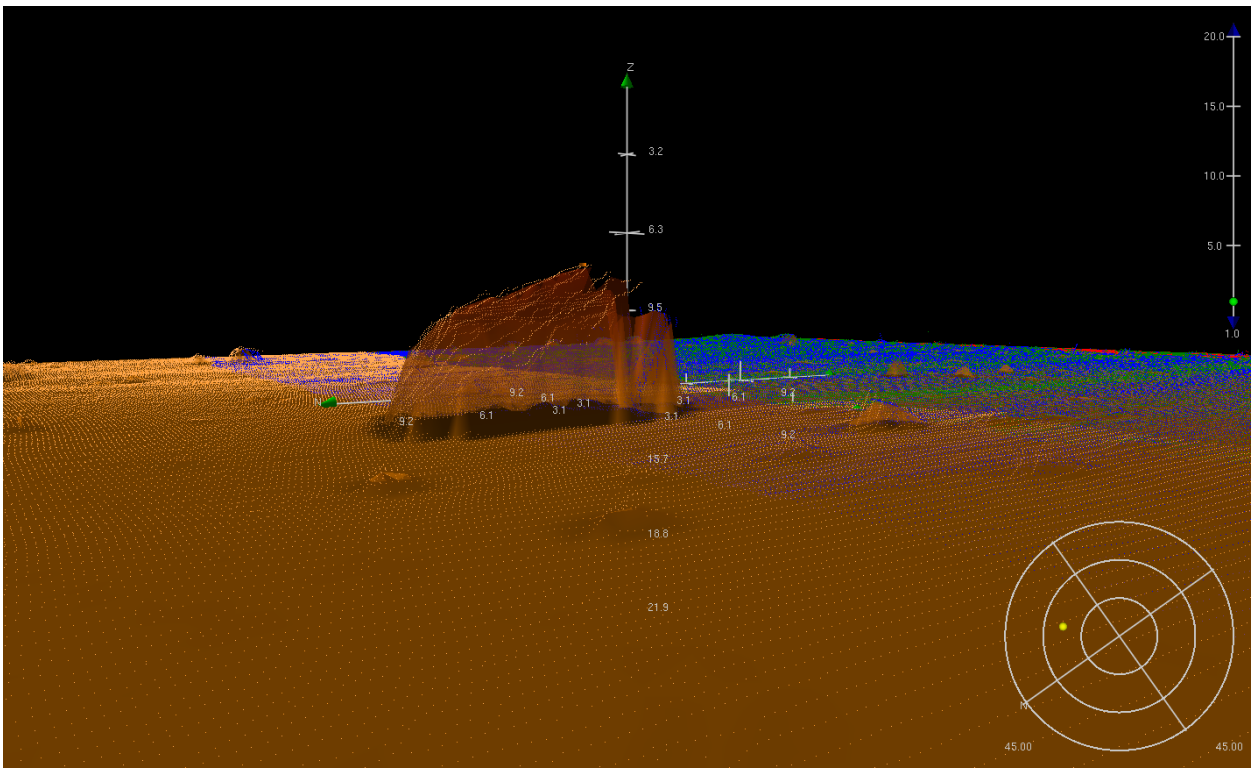


Figure 1.4.2

1.5) 31 ft rock

DANGER TO NAVIGATION

Survey Summary

Survey Position:	40° 58' 41.7" N, 073° 02' 19.4" W
Least Depth:	9.45 m (= 30.99 ft = 5.166 fm = 5 fm 0.99 ft)
TPU (±1.96σ):	**THU (TPEh)** [None] ; **TVU (TPEv)** [None]
Timestamp:	2012-175.00:00:00.000 (06/23/2012)
Dataset:	H12417_DTON.000
FOID:	0_ 0004240741 00001(FFFE0040B5650001)
Charts Affected:	12362_1, 12364_21, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

UWTROC/remrks: Rock found with 9.45m least depth.

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12417_DTON.000	0_ 0004240741 00001	0.00	000.0	Primary

Hydrographer Recommendations

Chart under water rock, depth known.

Cartographically-Rounded Depth (Affected Charts):

31ft (12362_1, 12364_21, 12354_1)

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

9.4m (5161_1)

S-57 Data

Geo object 1:	Underwater rock / awash rock (UWTROC)
Attributes:	EXPSOU - 2:shoaler than range of depth of the surrounding depth area
	INFORM - Underwater rock found with MBES, least depth 9.45m
	NINFOM - Chart rock
	QUASOU - 6:least depth known

SORDAT - 20120623

SORIND - US,US,graph,H12417

TECSOU - 3:found by multi-beam

VALSOU - 9.447 m

WATLEV - 3:always under water/submerged

Office Notes

SAR Note: The feature is visible in the object detection coverage MBES data.

COMPILE: Delete charted rock. Chart new 30.99 ft rock at survey position.

Feature Images

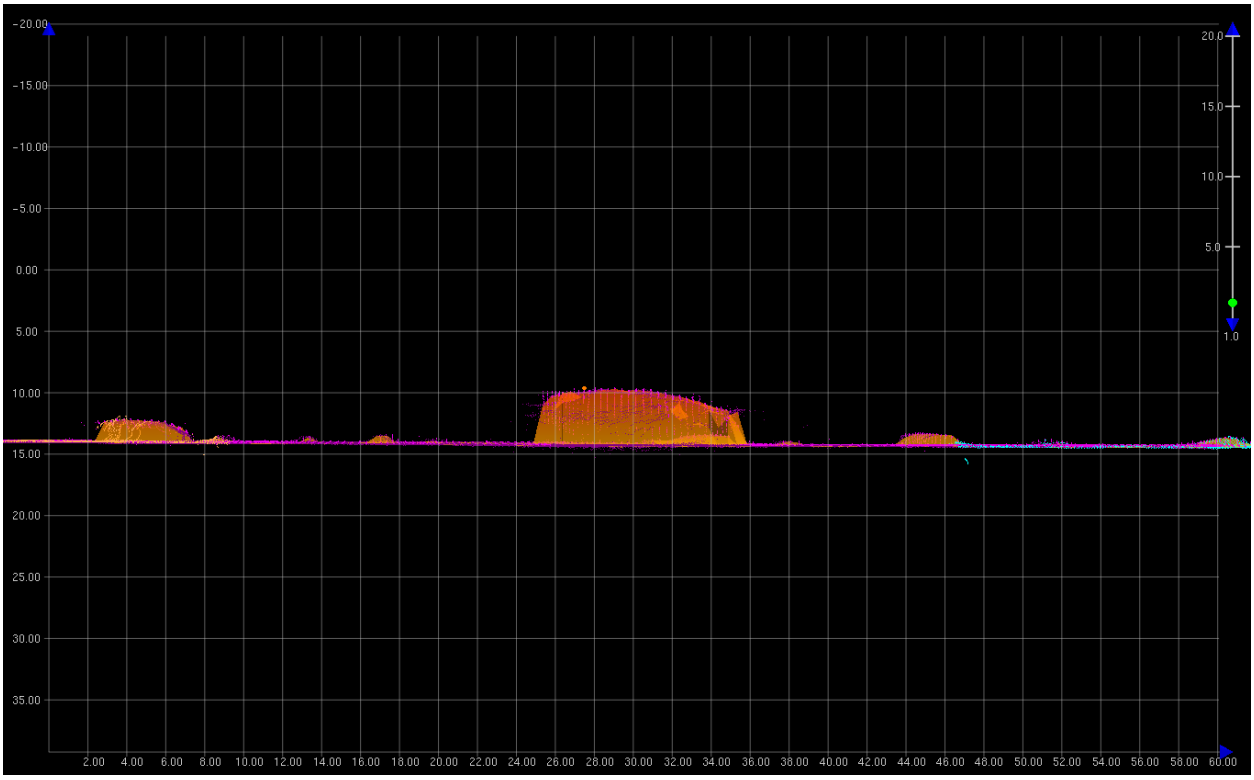


Figure 1.5.1

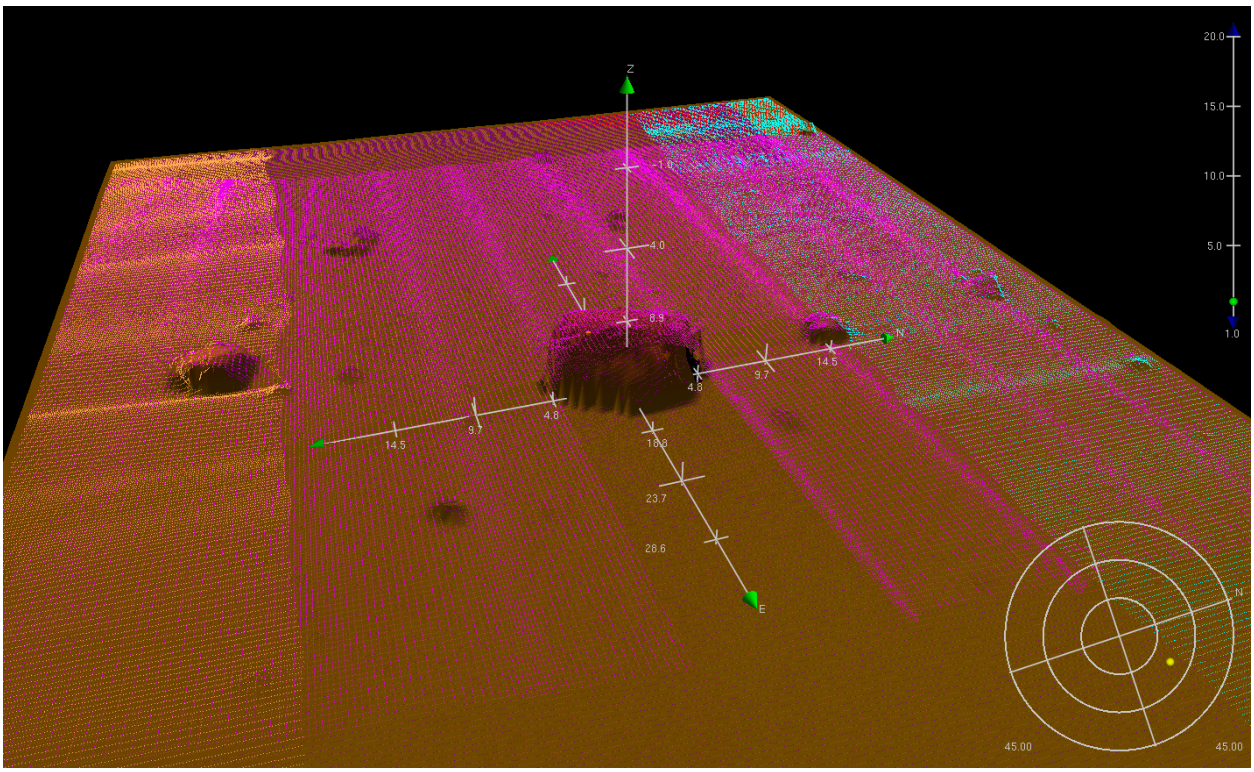


Figure 1.5.2

1.6) 23 ft rock

DANGER TO NAVIGATION

Survey Summary

Survey Position: 40° 58' 29.0" N, 073° 02' 13.5" W

Least Depth: 7.14 m (= 23.43 ft = 3.905 fm = 3 fm 5.43 ft)

TPU (±1.96σ): **THU (TPEh)** [None] ; **TVU (TPEv)** [None]

Timestamp: 2012-175.00:00:00.000 (06/23/2012)

Dataset: H12417_DTON.000

FOID: 0_ 0004240739 00001(FFFE0040B5630001)

Charts Affected: 12362_1, 12364_21, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

[None]

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12417_DTON.000	0_ 0004240739 00001	0.00	000.0	Primary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

23ft (12362_1, 12364_21, 12354_1)

3 ¾fm (12300_1, 13006_1, 13003_1)

7.1m (5161_1)

S-57 Data

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

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

NINFOM - Chart rock

QUASOU - 6:least depth known

SORDAT - 20120623

SORIND - US,US,graph,H12417

TECSOU - 3:found by multi-beam

VALSOU - 7.141 m

WATLEV - 3:always under water/submerged

Office Notes

SAR Note: The DTON is visible in the full coverage MBES data.

COMPILE: Delete charted rock. Chart new 23.43 ft rock at survey position.

Feature Images

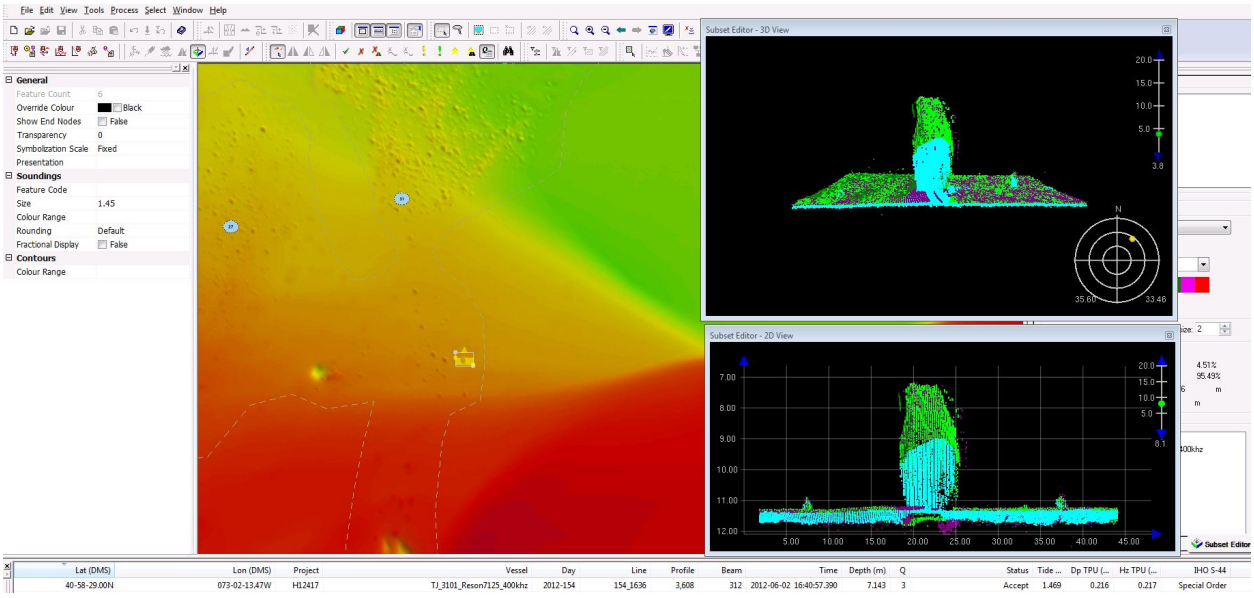


Figure 1.6.1

1.7) 12 ft rock

DANGER TO NAVIGATION

Survey Summary

Survey Position: 40° 58' 22.6" N, 072° 56' 47.5" W

Least Depth: 3.67 m (= 12.06 ft = 2.010 fm = 2 fm 0.06 ft)

TPU (±1.96σ): **THU (TPEh)** [None] ; **TVU (TPEv)** [None]

Timestamp: 2012-175.00:00:00.000 (06/23/2012)

Dataset: H12417_DTON.000

FOID: 0_ 0004240737 00001(FFFE0040B5610001)

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

Remarks:

UWTROC/remrks: An uncharted rock was found with Reson 7125 OD MBES. Data were processed to the ellipsoid and were reduced to MLLW using VDATUM.

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12417_DTON.000	0_ 0004240737 00001	0.00	000.0	Primary

Hydrographer Recommendations

Chart rock found by MBES.

Cartographically-Rounded Depth (Affected Charts):

12ft (12354_1)

2fm (12300_1, 13006_1, 13003_1)

3.7m (5161_1)

S-57 Data

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

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

NINFOM - Chart rock

QUASOU - 6:least depth known

SORDAT - 20120623

SORIND - US,US,graph,H12417

TECSOU - 3:found by multi-beam

VALSOU - 3.675 m

WATLEV - 3:always under water/submerged

Office Notes

SAR Note: The feature is visible in the object detection coverage MBES data.

COMPILE: Delete charted rock. Chart new 12.06 ft rock at survey position.

Feature Images

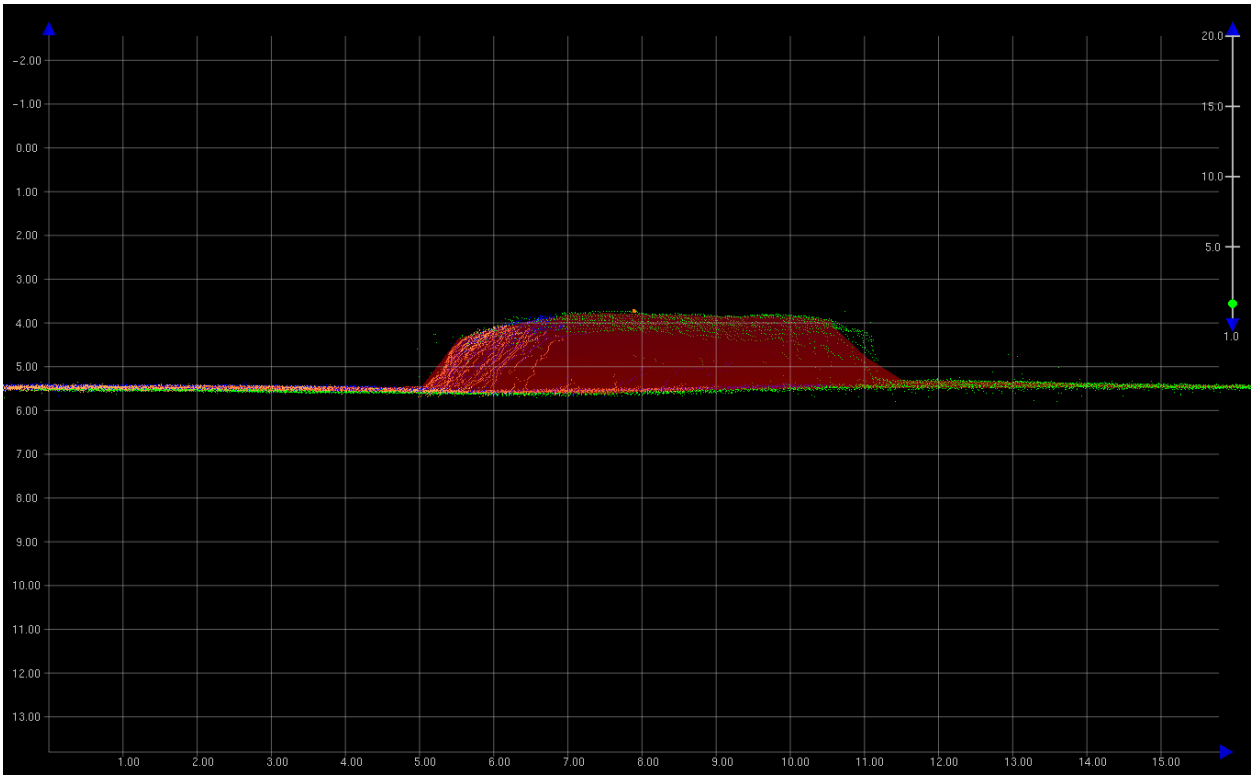


Figure 1.7.1

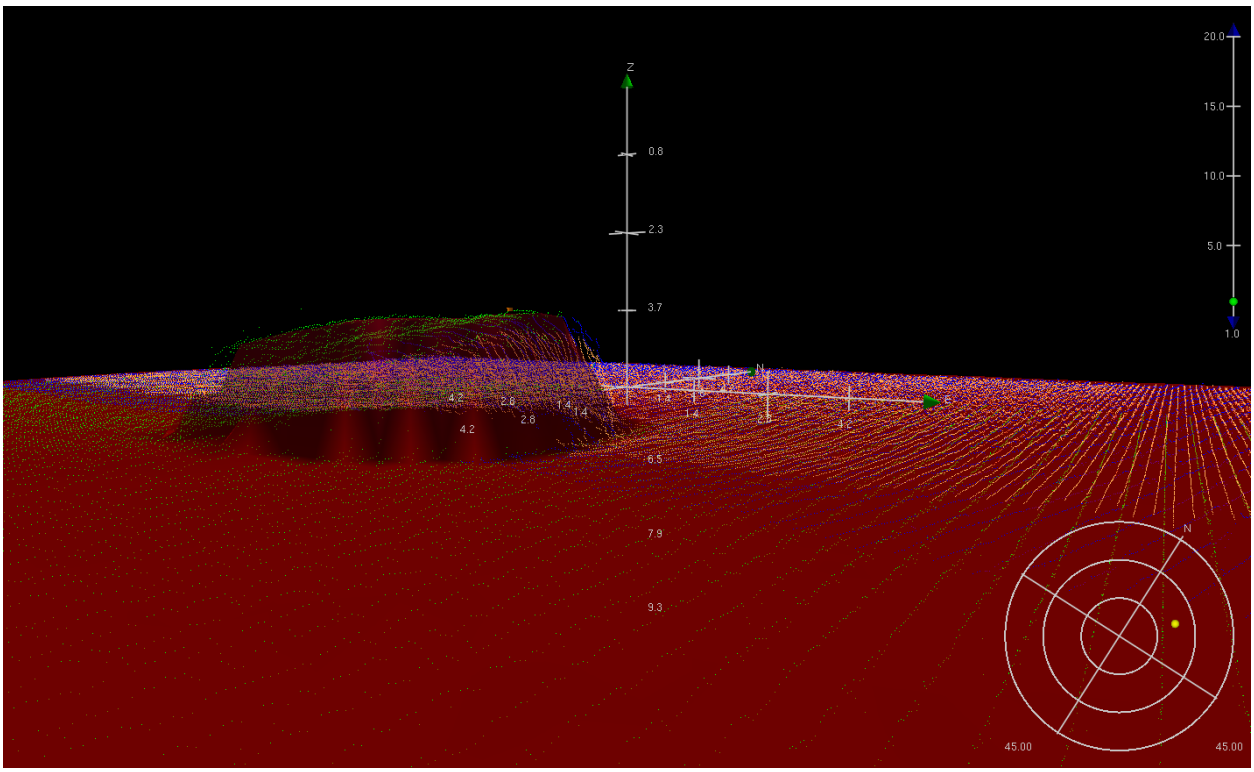


Figure 1.7.2

H12417 AWOIS

Registry Number: H12417
State: New York
Locality: Long Island Sound
Sub-locality: Mt. Misery Point to Sound Beach
Project Number: OPR-B340-TJ-12
Survey Dates: 05/19/2012 - 06/23/2013

Charts Affected

Number	Edition	Date	Scale (RNC)	RNC Correction(s)*
12362	17th	02/01/2005	1:10,000 (12362_1)	[L]NTM: ?
12364	38th	07/01/2008	1:40,000 (12364_21)	[L]NTM: ?
12354	42nd	12/01/2006	1:80,000 (12354_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 11825	GP	[None]	40° 58' 27.0" N	073° 01' 27.0" W	
1.2	AWOIS 1766	Wreck	23.68 m	41° 00' 40.0" N	072° 58' 21.5" W	1766

1 - AWOIS Features

1.1) AWOIS 11825

Feature for AWOIS Item

Search Position: 40° 58' 27.0" N, 073° 01' 27.0" W
Historical Depth: [None]
Search Radius: [unknown]
Search Technique: [unknown]
Technique Notes:

History Notes:
[unknown]

Survey Summary

Survey Position: 40° 58' 27.0" N, 073° 01' 27.0" W
Least Depth: [None]
TPU (±1.96σ): **THU (TPEh)** [None] ; **TVU (TPEv)** [None]
Timestamp: 1981-001.00:00:00.000 (01/01/1981)
Dataset: H12417_AWOIS.000
FOID: 0_ 0004240749 00001(FFFE0040B56D0001)

Charts Affected: 12362_1, 12364_21, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:
[None]

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12417_AWOIS.000	0_ 0004240749 00001	0.00	000.0	Primary

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Cartographic symbol ($CSYMB)

Attributes: NINFOM - Delete shellfish racks

NTXTDS - ENC US5NY17M,ED9, Update 7

Office Notes

SAR Note: The feature is not seen in the object detection coverage multibeam data.

COMPILE: Delete charted shellfish racks.

1.2) AWOIS 1766

Feature for AWOIS Item #1766

Search Position:	41° 00' 40.0" N, 072° 58' 21.5" W
Historical Depth:	23.68 m
Search Radius:	[unknown]
Search Technique:	Type: UNKNOWN, Itemstatus: COMPLETED, Searchtype: INFOMATION, Technique:
Technique Notes:	

History Notes:

History

" NM19/42--BUOY ESTABLISHED 6.8 MI 70.5 DEGREES FROM OLD FIELD LIGHT TO MARK ìWRECK ABOUT 200 FT SOUTHWARD; POS.41-00-54N, 72-58-42W. NM34/44--SCHOONER WRECK LIGHTED BUOY 9A ABOUT 7 MI 73.5 DEGREES FROM OLD FIELD POINT LIGHT DISCONTINUED, WK DISPERSED TO CLEAR DEPTH OF 50 FT.; POS.41-00-38N, 72-58-18W. H8967/67-68--OPR-474; NO INDICATION OF WRECK FOUND ON PRESENT SURVEY. R/H MAR 9/30/82--SSS BEGUN, NOT COMPLETED. R/H MAR 10/26/82--100% SIDE SCAN SONAR BOTTOM COVERAGE FOR 1 NM; RADIUS; FOUND BY SSS AT POS.41-00-39.74N, 72-58-23.47W;WD CLEARED TO 64 FT ED. DIVERS OBSERVE VERY DETERIORATED WK WITH RIBS PROTRUDING. POOR VISIBILITY, UNABLE TO GET LD. ITEM 9 FE241WD/82--OPR-B660-RU/HE-82; ITEM 9; LOCATED BY SIDE SCAN SONAR INVESTIGATION; 100% COVERAGE FOR 1 NM RADIUS; DIVER INVESTIGATION; VERY DETERIORATED WITH RIBS PROTRUDING FROM MAIN BODY OF WRECK; DIVER LEAST DEPTH NOT POSSIBLE DUE TO POOR VISIBILITY; LAUNCH DRAG OPERATIONS CLEARED ITEM TO 64 FT; EVALUATOR RECOMMENDED CHARTING WRECK CLEARED BY 64 FT IN LAT 41-00-39.74N, LONG 72-58-23.47W. (UPDATED MSM 9/89) DESCRIPTION **** LORAN C RATES PROVIDED BY MR. RICHARD TARACKA, GREENWICH, ìCT., POLICE DEPARTMENT, TEL. 203-622-8007; 9960-X 26571.1; 9960-Y ì43937.4. (ENTERED MSM 2/89) SURVEY REQUIREMENTSWIRE DRAG; CLEAR TO MINIMUM 55 FT ED FOR 1 NM RADIUS. SIDE SCAN SONAR INVESTIGATION AREA; CIRCLE 1 NM RADIUS, INITIAL SEARCH LINE SPACING; 200M, RANGE SCALE; 125 M, TOWING DEPTH; 40 FT ABOVE BOTTOM, SEARCH AREA SLOPES FROM DEEP WATER (100 FT) TO THE NORTH TO ROUGHLY THE 30 FT. CONTOUR IN THE SOUTH PER CHART 12354 , BOTTOM CHAR; ""GREY MUD"" AND ""SOFT"", CONTACT POTENTIAL; FAIR. IF NOT LOCATED BY INITIAL SEARCH, LINE SPACING SHALL BE SPLIT TO 100M. ASSIGNED; OPR-B660-RU/HE-82. ITEM 9 (COMPLETE: SEE FE-241WD)"

Survey Summary

Survey Position:	41° 00' 40.0" N, 072° 58' 21.5" W
Least Depth:	23.68 m (= 77.68 ft = 12.947 fm = 12 fm 5.68 ft)
TPU (±1.96σ):	**THU (TPEh)** [None] ; **TVU (TPEv)** [None]
Timestamp:	2012-175.00:00:00.000 (06/23/2012)
Dataset:	H12417_AWOIS.000

FOID: 0_ 0004240746 00001(FFFE0040B56A0001)

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

Remarks:

WRECKS/remrks: Underwater wreck found by MBES, least depth 23.9m.

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12417_AWOIS.000	0_ 0004240746 00001	0.00	000.0	Primary

Hydrographer Recommendations

Update charted wreck depth and sounding method.

Cartographically-Rounded Depth (Affected Charts):

77ft (12354_1)

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

23m (5161_1)

S-57 Data

Geo object 1: Wreck (WRECKS)

Attributes:

CATWRK - 1:non-dangerous wreck

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

INFORM - Wreck confirmed, least depth 23.9m

NINFOM - Chart wreck

QUASOU - 6:least depth known

SORDAT - 20120623

SORIND - US,US,graph,H12417

TECSOU - 3:found by multi-beam

VALSOU - 23.678 m

WATLEV - 3:always under water/submerged

Office Notes

SAR Note: The wreck is visible in the object detection coverage MBES data.

COMPILE NOTE: Delete charted 64 ft wreck. Chart new 77.68 ft wreck (AWOIS 1766) at surveyed position.

Feature Images

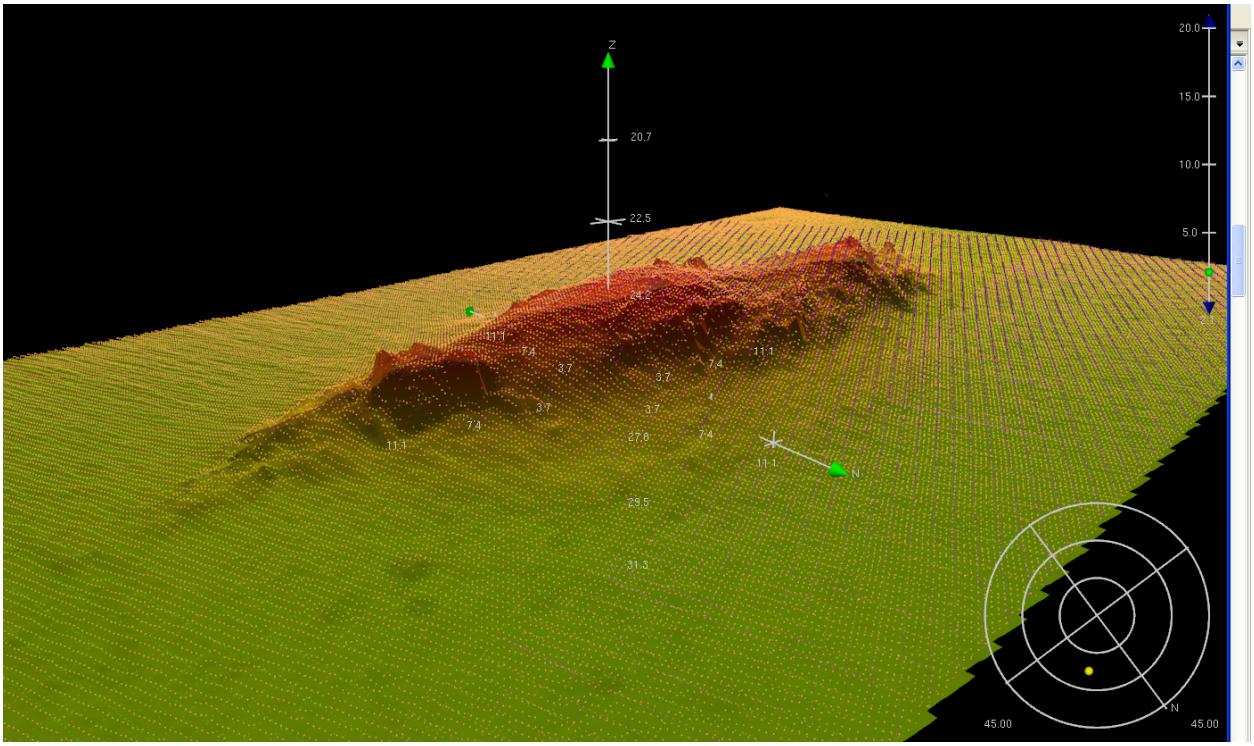


Figure 1.2.1

APPROVAL PAGE

H12417

Data meet or exceed current specifications as certified by the OCS survey acceptance review process. Descriptive Report and survey data except where noted are adequate to supersede prior surveys and nautical charts in the common area.

The following products will be sent to NGDC for archive

- H12417_DR.pdf
- Collection of depth varied resolution BAGS
- Processed survey data and records
- H12417_GeoImage.pdf

The survey evaluation and verification has been conducted according current OCS Specifications, and the survey has been approved for dissemination and usage of updating NOAA's suite of nautical charts.

Digitally signed by
OWENS.EDWARD.A.1365816804
DN: c=US, o=U.S. Government,
ou=DoD, ou=PKI, ou=OTHER,
cn=OWENS.EDWARD.A.1365816804
Date: 2015.01.27 12:27:42 -05'00'

Approved:_____

Lieutenant Commander Matthew Jaskoski, NOAA
Chief, Atlantic Hydrographic Branch