H12483

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

DESCRIPTIVE REPORT

Type of Survey:	Basic Hydrographic Survey
Registry Number:	H12483

LOCALITY

State(s):	New York
General Locality:	Long Island Sound
Sub-locality:	Mattituck Inlet to Greenport

2013

CHIEF OF PARTY
CAPT Lawrence T. Krepp, NOAA

LIBRARY & ARCHIVES

Date:

U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION	REGISTRY NUMBER:
HYDROGRAPHIC TITLE SHEET	**H12483**

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(s):	**New York**
General Locality:	**Long Island Sound**
Sub-Locality:	**Mattituck Inlet to Greenport**
Scale:	**20000**
Dates of Survey:	**03/30/2013 to 04/20/2013**
Instructions Dated:	**02/13/2013**
Project Number:	**OPR-B370-TJ-13**
Field Unit:	**NOAA Ship *Thomas Jefferson***
Chief of Party:	**CAPT Lawrence T. Krepp, NOAA**
Soundings by:	**Multibeam Echo Sounder**
Imagery by:	
Verification by:	**Atlantic Hydrographic Branch**
Soundings Acquired in:	**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 H12483

Project: OPR-B370-TJ-13

Locality: Long Island Sound

Sublocality: Mattituck Inlet to Greenport

Scale: 1:20000

March 2013 - April 2013

NOAA Ship *Thomas Jefferson*

Chief of Party: CAPT Lawrence T. Krepp, NOAA

A. Area Surveyed

This hydrographic survey was completed as specified by hydrographic survey project instructions OPR-B370-TJ-13, signed 13 February 2013 and all other applicable direction. This survey was conducted in Eastern Long Island Sound in the vicinity of Mattituck Inlet, NY.

A.1 Survey Limits

Data were acquired within the following survey limits:

Northwest Limit	Southeast Limit
41° 6" 21.6' N 72° 33" 21' W	41° 0" 24' N 72° 22" 45.6' W

Table 1: Survey Limits

An area of the survey area was not covered due to technical issues with the VDATUM model during data acquisition. An approximately 370 meter long holiday is present in the north east with a smaller holiday next to it. Other small holidays are present inshore.

A.2 Survey Purpose

This project is being conducted in support of NOAA's Office of Coast Survey to provide contemporary hydrographic data in order to update the nautical charting products and reduce the survey backlog within the area. Data from this project will support the Long Island Sound Seafloor Mapping Initiative in New York and Connecticut.

A.3 Survey Quality

The entire survey is adequate to supersede previous data.

A.4 Survey Coverage

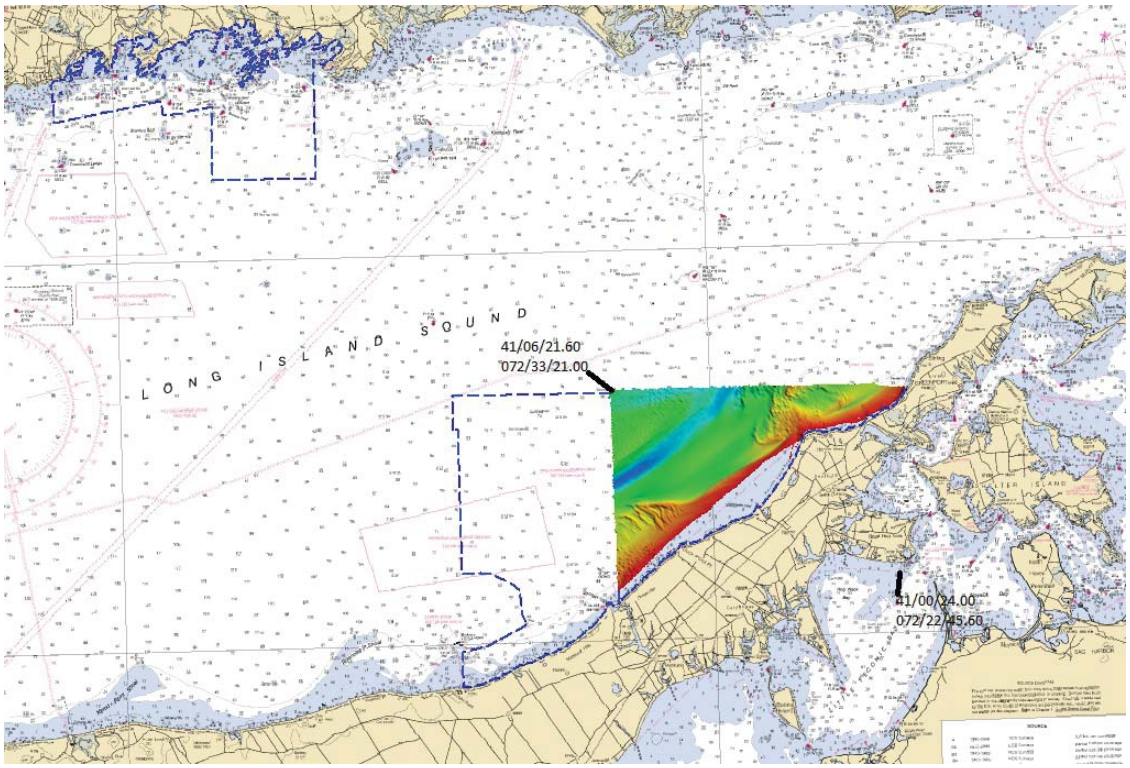


Figure 1: H12483 in Relation to the Project Area

Survey Coverage was in accordance with the requirements in the Project Instructions and the HSSD.

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	336.15	385.43	158.04	879.62
	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	17.41	0	0	17.41
	Lidar Crosslines	0	0	0	0
Number of Bottom Samples					0
Number AWOIS Items Investigated					1
Number Maritime Boundary Points Investigated					0
Number of DPs					0
Number of Items Items Investigated by Dive Ops					0
Total Number of SNM					20

Table 2: Hydrographic Survey Statistics

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

Survey Dates	Julian Day Number
03/30/2013	89
03/31/2013	90
04/05/2013	95
04/06/2013	96
04/07/2014	97
04/08/2013	98
04/09/2013	99
04/10/2013	100
04/11/2013	101
04/15/2013	105
04/16/2013	106
04/17/2013	107
04/18/2013	108
04/19/2013	109
04/20/2013	110

Table 3: Dates of Hydrography

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	*HSL 3102*	*HSL 3101*	*S222*
LOA	31 feet	31 feet	208 feet
Draft	5.2 feet	5.2 feet	15 feet

Table 4: Vessels Used

Data were acquired by NOAA Ship Thomas Jefferson and Hydrographic Survey Launches 3101 and 3102. NOAA Ship Thomas Jefferson acquired Reson 7125-ROV multibeam echosounder soundings, multibeam backscatter data; Brook Ocean Technology MVP100 sound velocity profiles, and Applanix position and attitude data. Both Hydrographic Survey Launches acquired Reson 7125-SV1 multibeam echosounder soundings, multibeam backscatter data; Seabird sound velocity profiles, SV-71 surface sound velocity readings, and Applanix position and attitude data.

B.1.2 Equipment

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

Manufacturer	Model	Type
Applanix	POS/MV version 4	Positioning and Attitude System
Seabird	Seacat 19+	Conductivity, Temperature, and Depth Sensor
Brook Ocean Technology	MVP 100	Conductivity, Temperature, and Depth Sensor
Reson	7125 SV1	MBES
Reson	7125 ROV	MBES
Reson	SV-71	Sound Speed System
Trimble	SPS351 DGPS Beacon Reciever	Positioning and Attitude System

Table 5: Major Systems Used

Vessel configurations, equipment operations, and data acquisition & processing were consistent with specifications described in the DAPR

B.2 Quality Control

B.2.1 Crosslines

Crosslines, acquired for this survey, totalled 1.9% of mainscheme acquisition.

Multibeam crosslines totaling 17.41 lineal nautical miles comprising 1.9% of hydrography, were acquired during the course of the survey. Only the ship acquired crosslines. Crosslines were compared to mainscheme using a difference surface created in CARIS BathyData Base. Using the difference surface, every instance of overlap was evaluated. The mean was -0.181m and the standard deviation was 0.153m. Survey H12483 does not comply with section 5.2.4.3 of the HSSD (2013 ed) only 1.9 percent of crosslines were acquired and 4% are required. It is not known why the launches did not acquire crosslines. Line plans were created for them.

B.2.2 Uncertainty

The following survey specific parameters were used for this survey:

Measured	Zoning
0 meters	0.102 meters
0 meters	0 meters

Table 6: Survey Specific Tide TPU Values

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

Table 7: Survey Specific Sound Speed TPU Values

The method used to calculate Total Propagated Uncertainty values for survey H12483 varied based on the process used to apply water level values to the data. The first method was applied to data reduced to MLLW using a POSPac IAPPK 3D positional solution and a VDatum separation model. For this data, realtime uncertainty values for roll, pitch, gyro, navigation, and elevation were supplied via a SBET RMS file generated by Applanix POSPac. The remaining sources of uncertainty were a combination of: field assigned values for sound speed uncertainties; Operations Branch assigned values for VDatum separation model uncertainty; and a priori values for sonar mounting and vessel speed based on Appendix 4, table 4.9 of the NOAA Field Procedures Manual (ed 2013). Field assigned values for TPU calculation are in tables 6 and 7, Operations Branch assigned values for the VDatum model are in row 2 of Table 6.

The second method used to calculate Total Propagated Uncertainty was applied to data reduced to MLLW via TCARI model. This data again used a POSPac IAPPK 3D positional solution, but used a zoned tide grid to reduce the data to MLLW. Uncertainties for this data also used an SBET RMS file for realtime pitch, roll, gyro, navigation, and elevation uncertainties, as well as a priori values for sonar mounting and vessel speed. However, uncertainties for tide gauge measurement, tidal datum computation error, and tidal zoning error were provided by the Center for Operational Oceanographic Products and Services (CO-OPS). CO-OPS assigned values for tidal uncertainty are in row 1 of Table 6. The CO-OPS uncertainty value was provided at the 95% confidence interval. It was divided by 1.96 to provide the 1-sigma value needed by CARIS.

Total Propagated Uncertainties for the entire survey were evaluated to ensure compliance with section 5.1.3 of NOAA's HSSD (ed 2013). First, the maximum allowable uncertainty for each node was calculated using the equation:
-Uncertainty/(0.5^2 +((Depth*0.013)^2)^0.5). Second, the ratio between the actual uncertainty and maximum allowed uncertainty was found for each node. Out of 138,499,649 nodes, 73,861 did not meet IHO order 1 standards (or 99.99% meet IHO order 1 uncertainty requirements). Most of the nodes that do not pass are on rocks and sandwaves.

B.2.3 Junctions

Three junction comparisons were made with this survey.

The following junctions were made with this survey:

Registry Number	Scale	Year	Field Unit	Relative Location
H12482	1:20000	2013	NOAA Ship THOMAS JEFFERSON	W
H11999	1:10000	2008	NOAA Ship THOMAS JEFFERSON	N
H11251	1:10000	2008	NOAA Ship THOMAS JEFFERSON	NE

Table 8: Junctioning Surveys

H12482

The difference between survey H12483 and H12482 ranged from -4.26m to 2.94m. The mean was -0.174m and the standard deviation was 0.167m. Out of 302,870 nodes, 302,712 nodes, or 99.9% are within 1 meter. The nodes exceeding 1 meter of difference are located on rocks and sandwaves.

H11999

The difference between survey H12483 and H11999 ranged from -2.82m to 5.28m. The mean was -0.171m and the standard deviation was 0.392m. Out of 353344 nodes, 328682 nodes, or 94% are within 1 meter. The nodes exceeding 1 meter of difference are located on sandwaves that shifted. Gaps of up to 50 meters are present on the east side.

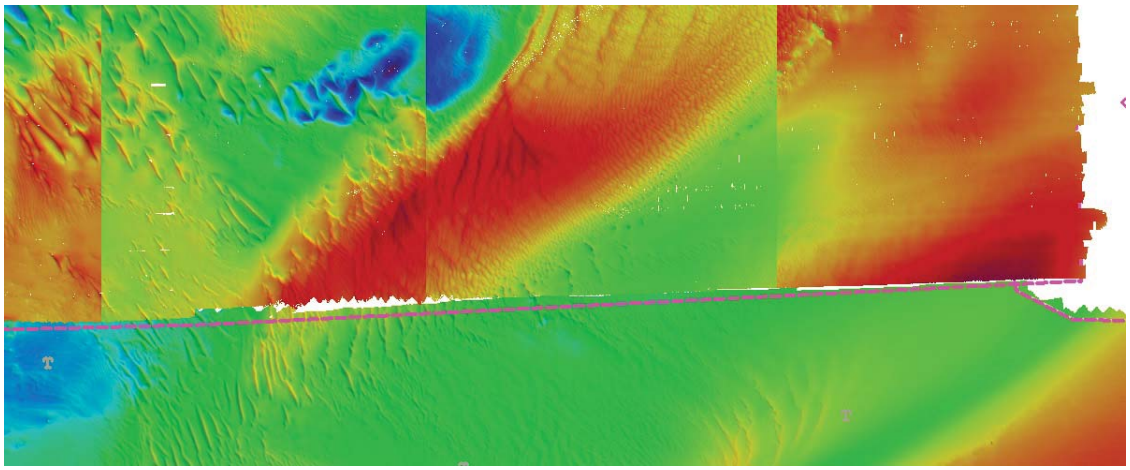


Figure 2: H12483 H11999 Junction Gap

H11251

The difference between survey H12483 and H11251 ranged from -0.29m to 1.63m. The mean was 0.105m and the standard deviation was 0.104m. Out of 88,076 nodes, 88,059 nodes, or 99.9% are within 1 meter. The nodes exceeding 1 meter of difference are located on rocks. A gap up to 160 meters is present on the east side.

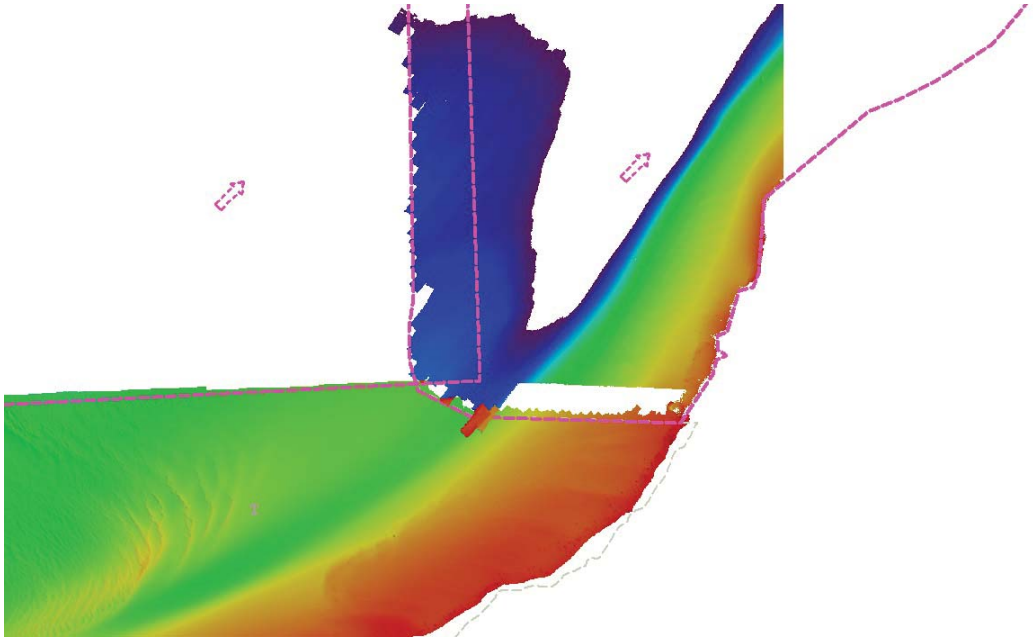


Figure 3: H12483 H11251 Junction GAP

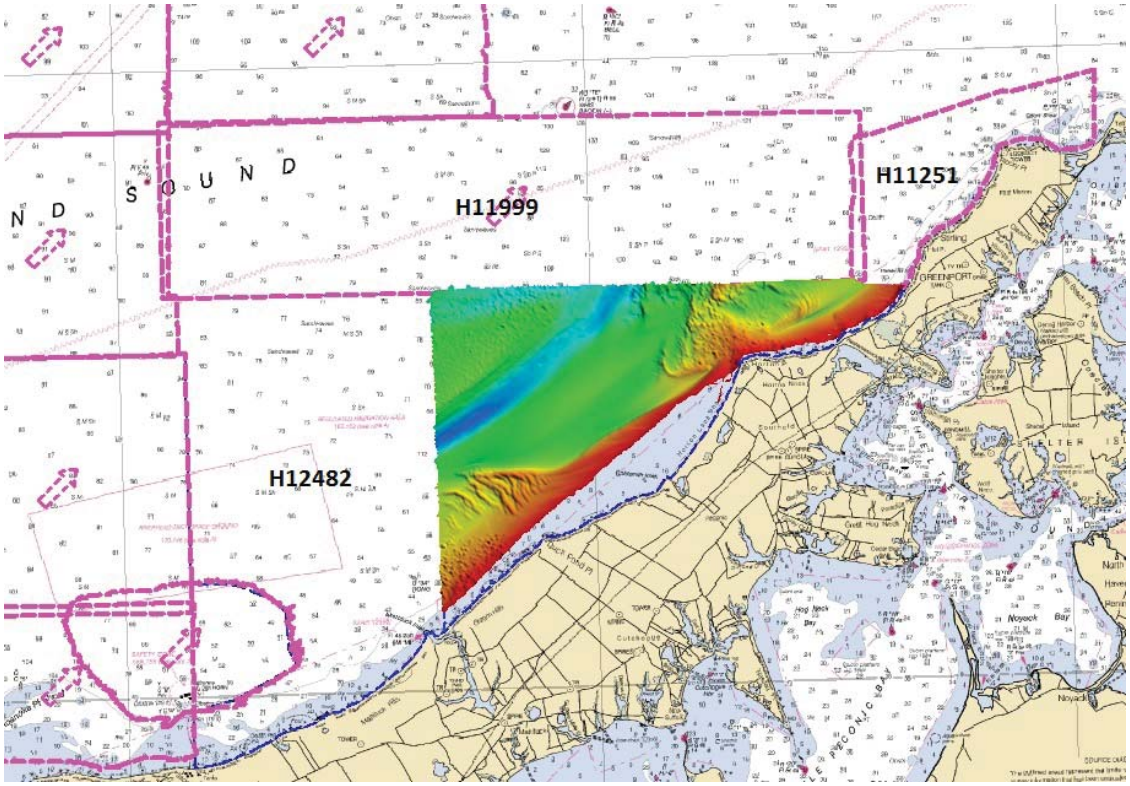


Figure 4: H12483 Junctions

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

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

B.2.6 Factors Affecting Soundings

There were no other factors that affected corrections to soundings.

B.2.7 Sound Speed Methods

Sound Speed Cast Frequency: NOAA Ship Thomas Jefferson MVP casts about once an hour. Survey launches 3101 and 3102 took CTDs about every four hours.

No sound speed zoning was required for this survey.

B.2.8 Coverage Equipment and Methods

All equipment and survey methods were used as detailed in the DAPR.

B.2.9 H12483 Density Compliance

Each finalized surface was filtered from 0 to 4. These were selected to get the number of soundings that did not meet density. The number of soundings for the entire data set was found by using the compute statistics function in Caris BASE Editor. Density is met 99% of the time for the 2 meter grid. The 0.5 meter grid meets density 98% of the time.

B.3 Echo Sounding Corrections

B.3.1 Corrections to Echo Soundings

All data reduction procedures conform to those detailed in the DAPR.

B.3.2 Calibrations

All sounding systems were calibrated as detailed in the DAPR.

B.4 Backscatter

Raw backscatter was logged as a 7k file and has been sent to the Atlantic Hydrographic Processing Branch. One line per vessel, per day was processed aboard the Thomas Jefferson in order to assess and ensure quality. No deficiencies were noted.

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: NOAA Profile V_5_3_2

B.5.2 Surfaces

The following surfaces and/or BAGs were submitted to the Processing Branch:

Surface Name	Surface Type	Resolution	Depth Range	Surface Parameter	Purpose
H12483_MB_50cm_MLLW_Final.csar	CUBE	0.5 meters	0.39 meters - 22 meters	NOAA_0.5m	Object Detection
H12483_MB_2m_MLLW_Final.csar	CUBE	2.0 meters	18 meters - 38.21 meters	NOAA_2m	Complete MBES

Table 9: Submitted Surfaces

B.5.3 Lines Without Trueheave Applied

The following HSL 3101 lines from day number 101 do not have trueheave applied. 101_1946, 101_1959, 101_2000, 101_2003, 101_2007, 101_2010, 101_2013, 101_2020, 101_2021, 101_2026, 101_2029, 101_2031, 101_2034, 101_2036, 101_2038, 101_2039, 101_2041, 101_2043, 101_2044, and 101_2045. Only 65 POSPAC files are applied to that days data. There is no mention in the acquisition log as to how many POSPAC files were acquired on that day or any reason that the POS/MV would have been turned off. Without the missing files, SBETS cannot be created for these lines.

B.5.4 Lines without SBETs/RMS

Launch 3101
DN 097 Line 097_1436 CARIS gave the following error when applying SBETs. The SBET time extents does not overlap the line. When applying RMS it gave the error all error files must either be POSMV or POSPAC. It was processed using trueheave only.
DN 101 Line 101_1516 would not take RMS. No error given. This line seems like it has other problems.
DN 106 Line 106_1725 has no RMS. CARIS execution failed. Error code 160510.

S222
DN 100 Line 17_18_22 CARIS gave the following error when applying SBETs. The SBET time extents does not overlap the line. This line has no RMS or GPS tides. It was processed using trueheave only.
DN 100 Line 17_52_32 CARIS gave the following error when applying SBETs. The SBET time extents does not overlap the line. This line has no RMS or GPS tides.It was processed using trueheave only.
DN 106 Line 500_1248 CARIS gave the following error when applying SBETs. The SBET time extents does not overlap the line.This line has no RMS. It was processed using trueheave only.
DN 106 Line 514_2016 Caris gave the following error when applying RMS. A gap of 269 seconds between 2013 04 16 20:16:40.00 and 2013 04 16 20:21:09.09 has been found in the records for the line. This line has no RMS or GPS tides. It was processed using trueheave only.

DN 107 Line 708_1954 CARIS gave the following error when applying SBETs. The SBET time extents does not overlap the line. It was processed using trueheave only.
DN 107 Line 903_1608 CARIS gave the following error when applying SBETs. An error occurred while applying SBET (tried twice). It was processed using trueheave only.

B.5.5 SSV Bowouts

Surface sound speed input into the RESON 7125-SV1 unit was periodically lost due to high sea state. The loss caused heavy refraction in the outerbeams. Areas where this occurred had the outer beams removed. Rejecting a particularly bad one left a holiday.

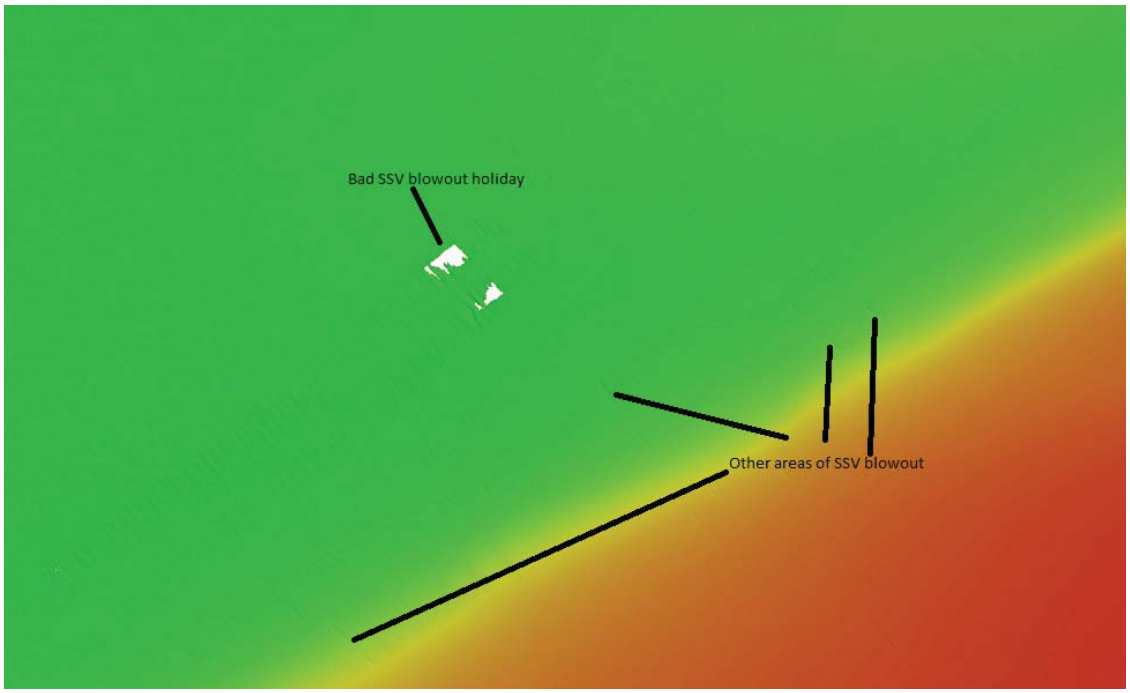


Figure 5: H12483 Examples of Areas with SSV Blowouts

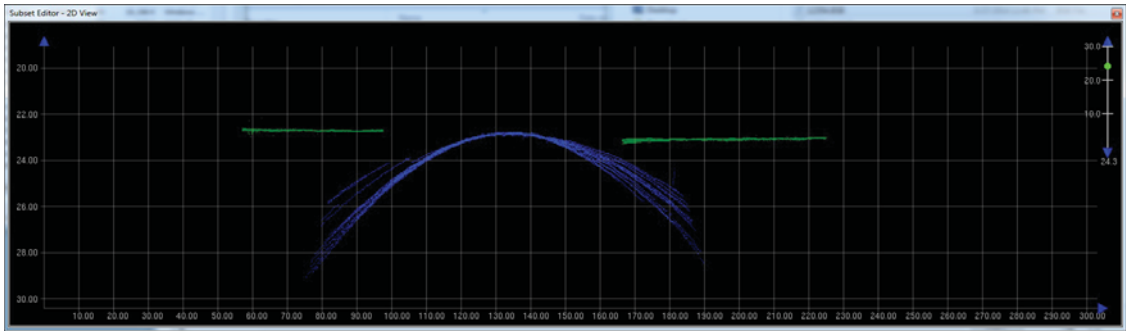


Figure 6: H12483 SSV Blowout Subset

B.5.6 Lines With Motion Artifacts

Motion artifacts are present in line 089_1826. This line is located in the inshore area and runs the entire length of the survey area. Line 100_1257 also has some motion artifacts. Sections of this line that did not leave holidays were removed. The outer beams had motion artifacts of up to 0.6 meters. Those outerbeams were removed.

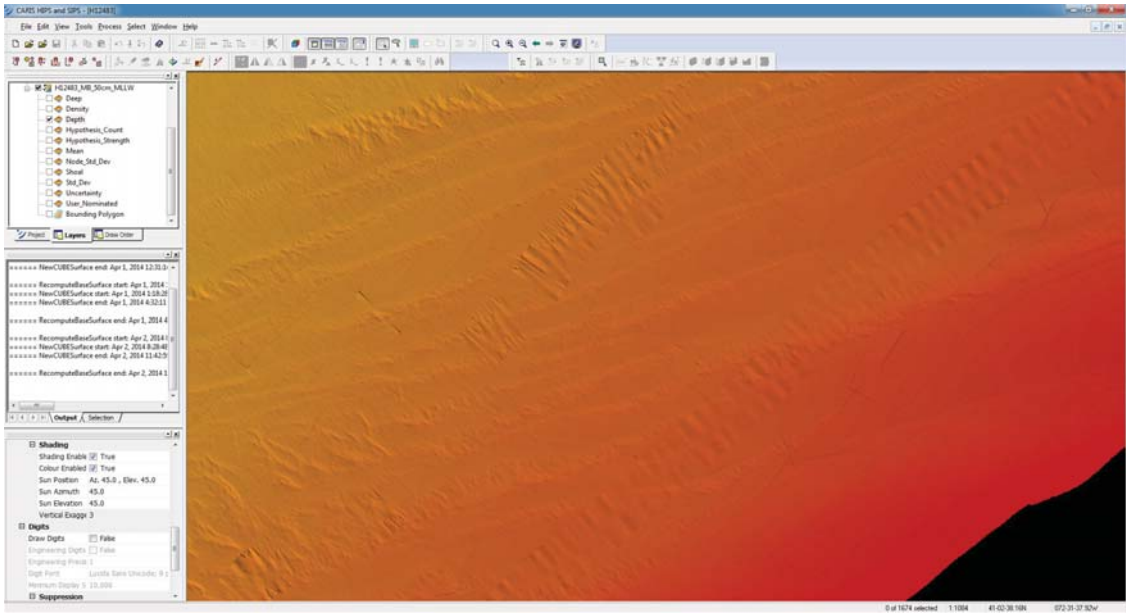


Figure 7: H12483 Motion Artifacts

B.5.7 Vertical Offset Anomaly

Vertical offsets are present mostly on the west side of survey H12483. The most noticeable separation is in the southwest area close to shore where the maximum value is 0.37 meters. The offset is caused by an unknown error causing the vertical element of the IAPPK solution to fail. Despite the offset the data remains within IHO order 1 specification.

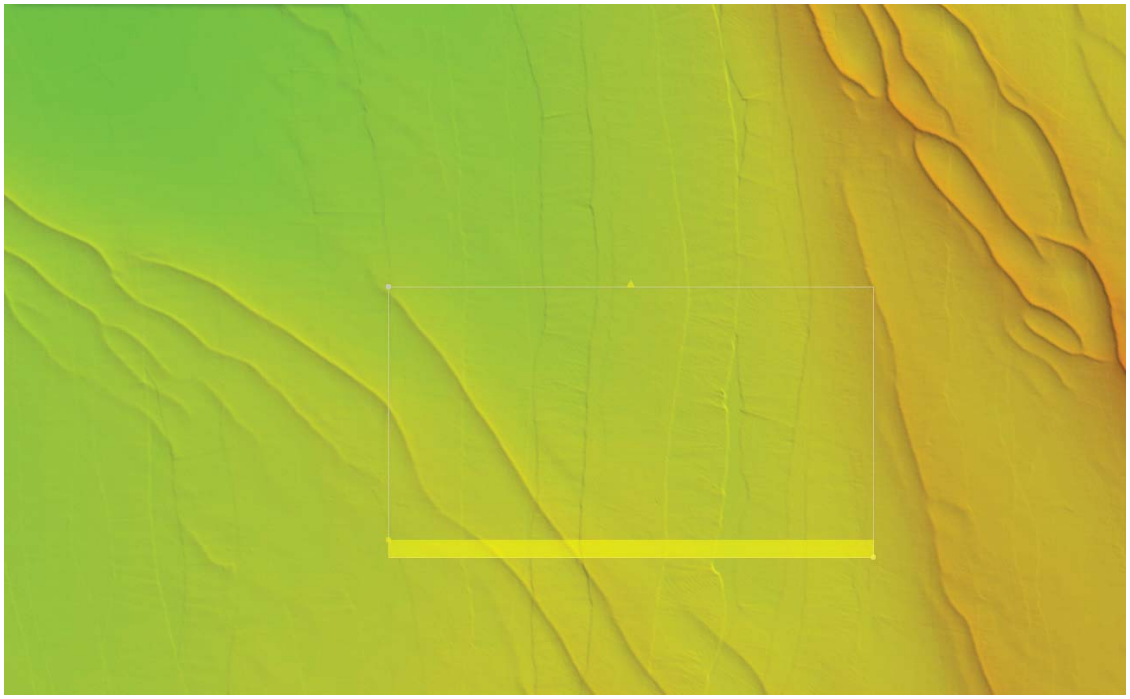


Figure 8: H12483 Vertical Offsets

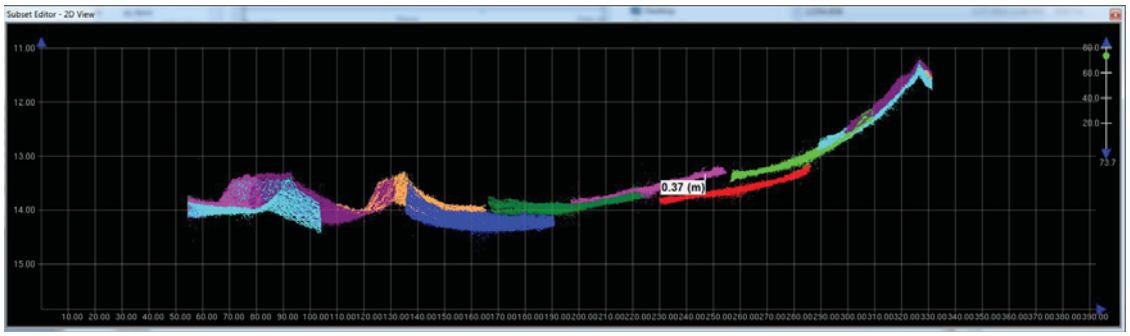


Figure 9: H12483 Vertical offsets in Subset Editor

C. Vertical and Horizontal Control

Additional information discussing the vertical or horizontal control for this survey can be found in the accompanying HVCR.

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 London, CT	8641490
New Haven, CT	8465705
Mattituck Inlet, Long Island, NY	8512668

Table 10: NWLON Tide Stations

File Name	Status
B370TJ2013.tc	Final Approved

Table 11: Water Level Files (.tid)

File Name	Status
8461490_verified.tid	Final
8465705_verified.tid	Final
8512668_verified.tid	Final

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

A request for final approved tides was sent to N/OPS1 on 04/22/2013. The final tide note was received on 06/07/2013.

The original TCARI file given is called B370TJ2013.tc. The new TCARI file given is called B370TJ20132_Final. The subordinate gauge Mattituck Inlet, NY was installed for this project.

Non-Standard Vertical Control Methods Used:

VDatum

Ellipsoid to Chart Datum Separation File:

2013_B370_VDatum_NAD83Ellip_MLLW_rev.xyz

C.2 Horizontal Control

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

The projection used for this project is UTM zone 18.

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
CTGR	CTGR
CTGU	CTGU
CTNE	CTNE
MOR5	MOR5
NYRH	NYRH
ZNY1	ZNY1
NYCl	NYCl
CTDA	CTDA
NHRH	NHRH
ZNY2	ZNY2

Table 13: CORS Base Stations

The following DGPS Stations were used for horizontal control:

DGPS Stations
Moriches, New York (293 kHz)

Table 14: USCG DGPS Stations

D. Results and Recommendations

D.1 Chart Comparison

A sounding plot of H12483 was created from the ENC and RNC charts.

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
12358	1:40000	21	07/2011	03/18/2014	03/29/2014

Table 15: Largest Scale Raster Charts

12358

In general the soundings agree within two feet. There are some areas on the south west side that are up to 23 feet deeper. There are rocks and sandwaves in the survey area.

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?
US5NY1IM	1:40000	6	06/05/2013	02/14/2014	NO

Table 16: Largest Scale ENCs

US5NY1IM

In general the soundings agree within 0.6 meters. There are some areas on the south west side that are up to 7 meters deeper. Figure 10 shows the areas that are shallower than charted and figure 11 shows the areas that are deeper than charted.

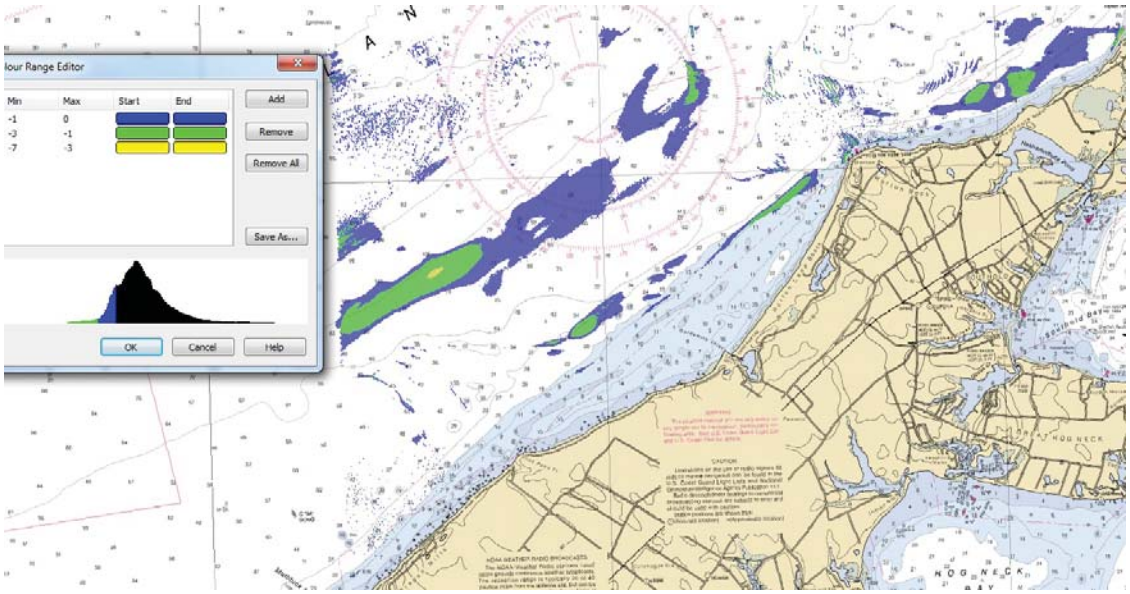


Figure 10: H12483 Shallower Areas

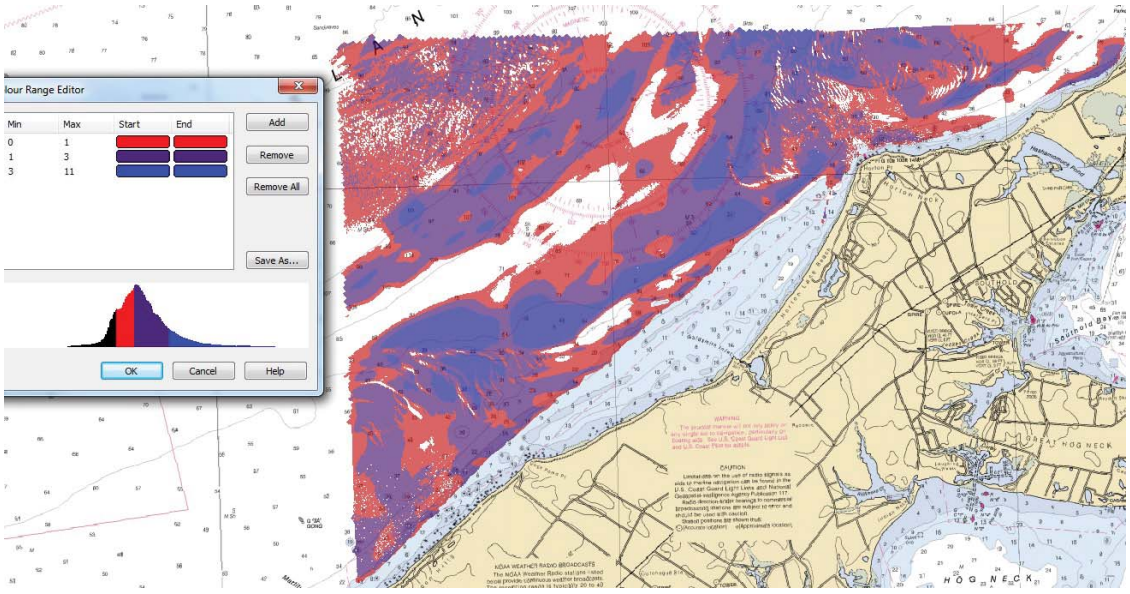


Figure 11: H12483 Deeper Areas

D.1.3 AWOIS Items

One AWOIS item is present in the survey area. It is addressed. Consult the H12483_FFF for information about the AWOIS item in the survey area.

D.1.4 Maritime Boundary Points

No Maritime Boundary Points were assigned for this survey.

D.1.5 Charted Features

Four charted items are present in the survey area. Consult the H12483_FFF.hob for more information about the charted features in the survey area.

D.1.6 Uncharted Features

Forty uncharted features were found. Consult the H12483_FFF.hob for more information about the uncharted features in the survey area.

D.1.7 Dangers to Navigation

A danger to navigation report containing thirteen dangerous rocks was submitted on 28 March 2014.

D.1.8 Shoal and Hazardous Features

Numerous rocks exist throughout the survey area. These were acquired with Reson 7125 object detection multibeam. The tallest rocks have designated soundings. Thirteen rocks were submitted as DTONs.

D.1.9 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.1.10 Bottom Samples

Bottom samples were assigned for this survey. They were acquired. The target files have been lost and are not recoverable. No bottom samples are in the FFF.

D.2 Additional Results

D.2.1 Shoreline

The CSF was compared to the area covered. Some features and the shoreline were outside the survey coverage.

D.2.2 Prior Surveys

Comparisons were only made to the chart.

D.2.3 Aids to Navigation

No Aids to navigation (ATONs) exist for this survey.

D.2.4 Overhead Features

No overhead features exist for this survey.

D.2.5 Submarine Features

No submarine features exist for this survey.

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

No significant features exist for this survey.

D.2.9 Construction and Dredging

No present or planned construction or dredging exist 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
CDR James M. Crocker, NOAA	Commanding Officer	04/10/2014	James Crocker cn=James Crocker, o=CO, NOAA Ship Thomas Jefferson, ou=CDR/NOAA, email=james.m.crocker@noaa.gov, c=US
LT Megan Guberski, NOAA	Field Operations Officer	04/10/2014	Megan Guberski 2014.04.17 11:30:19 Z
LT(jg) Charles Wisotzkey, NOAA	Acquisition Manager	04/10/2014	Digitally signed by Charles J. Wisotzkey DN: cn=Charles J. Wisotzkey, o=NOAA, ou=THOMAS JEFFERSON, email=charles.j.wisotzkey@noaa.gov, c=US Date: 2014.04.17 12:14:14 Z
HST Kimberly Glomb	Sheet Manager	04/10/2014	

F. Table of Acronyms

Acronym	Definition
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
FFF	Final Feature File
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
HSSD	Hydrographic Survey Specifications and Deliverables

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	Executive Officer
ZDA	Global Positiong System timing message
ZDF	Zone Definition File

APPENDIX I

TIDE NOTE AND GRAPHICS

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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE : June 7, 2013

HYDROGRAPHIC BRANCH: Atlantic
HYDROGRAPHIC PROJECT: OPR-B370-TJ-2013
HYDROGRAPHIC SHEET: H12483

LOCALITY: Mattituck Inlet to Greenport, Long Island Sound
TIME PERIOD: March 30 - April 20, 2013

TIDE STATION USED: 8461490 New London, CT
Lat.41° 21.7′ N Long. 72° 05.4' W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 0.839 meters

TIDE STATION USED: 8465705 New Haven, CT
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: 8512668 Mattituck Inlet, NY
Lat. 41° 0.9′ Long. 72° 33.7' W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 1.611 meters

REMARKS: RECOMMENDED GRID

Please use the TCARI grid "B370TJ2013_Final.tc" as the final grid for project OPR-B370-TJ-2013, H12483, during the time period between March 30 - April 20, 2013.

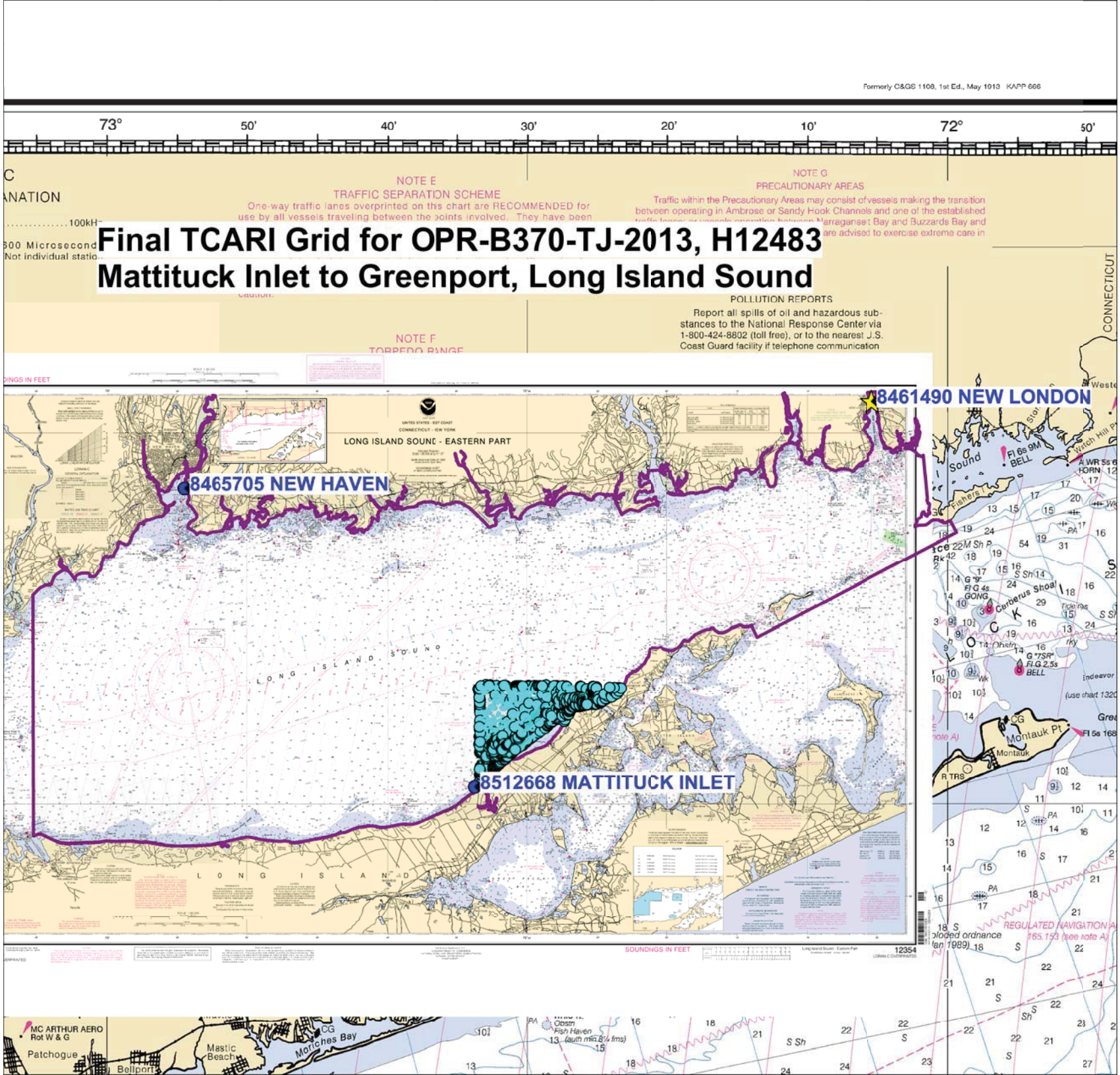
Refer to attachments for grid information.

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: 2013.06.11 08:53:39 -04'00'

CHIEF, PRODUCTS AND SERVICES BRANCH


Formerly C&GS 1108, 1st Ed., May 1913 KAPP 666
73°
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40'
30'
20'
10'
72°
50'
NOTE E
TRAFFIC SEPARATION SCHEME
One-way traffic lanes overprinted on this chart are RECOMMENDED for use by all vessels traveling between the points involved. They have been
NOTE G
PRECAUTIONARY AREAS
Traffic within the Precautionary Areas may consist of vessels making the transition between operating in Ambrose or Sandy Hook Channels and one of the established
are advised to exercise extreme care in
Final TCARI Grid for OPR-B370-TJ-2013, H12483
Mattituck Inlet to Greenport, Long Island Sound
POLLUTION REPORTS
Report all spills of oil and hazardous substances to the National Response Center via 1-800-424-8802 (toll free), or to the nearest U.S. Coast Guard facility if telephone communication
NOTE F
CONNECTICUT
8461490 NEW LONDON
8465705 NEW HAVEN
8512668 MATTITUCK INLET
LONG ISLAND SOUND - EASTERN PART
LONG ISLAND SOUND
LONG ISLAND
Cerberus Shoal
Montauk Pt
Montauk
Fl 6s 9M BELL
Fl G 4s GONG
G "1SR" Fl G 2.5s BELL
SOUNDINGS IN FEET
12354
MC ARTHUR AERO
Rot W & G
Patchogue
Bellport
Mastic Beach
Moriches Bay
Obstn
Fish Haven
(auth min 8½ fms)
S Sh
REGULATED NAVIGATION A
165.153 (see note A)

APPENDIX II

SUPPLEMENTAL SURVEY RECORDS AND CORRESPONDENCE

https://mail.google.c... OPR-B370-TJ-13, H12483 D...

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kimberly.glomb@...

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Drafts
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Misc
Priority
More

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_OMAO MOA CO...
_OMAO MOA XO...
Brent Pounds - N...
Charles Wisotzke...
Christian Rathke -...
Denise Gruccio -...
fishcntr2
ibayswim
Megan Guberski -...
noaa.furlough

Move to Inbox More

5 of 105

OPR-B370-TJ-13, H12483 DTONs

Inbox x

Kimberly Glomb - NOAA Federal Mar 28 (4 days ago)
to OCS, _OMAO, Megan, Brent, Paul

Attached is a DTON report for project OPR-B370-TJ-13 registry number H12483

H12483_DTONs.zip

NDB E-Mail Account 4:12 PM (17 hours ago)
to _NOS, Allen, Andrew, Benjamin, Brian, Castle, Craig, Daniel,

L-758/14 and DD-24445 have been registered by the Nautical Data Branch and directed to PBC for processing.

The DtoNs reported are a number of rocks in Long Island Sound, NY.

The following charts are affected:
12358 kapp 2219
12354 kapp 2221

The following ENCs are affected:
US5NY1IM
US4NY1JM

References:

25 more

OCS NDB - NOAA Servic...
NOS

Show details

OPR-B370-TJ-13, H12483 DTONs

Inbox x

Kimberly Glomb - NOAA Federal Attached is a D Mar 28 (4 days ago)

NDB E-Mail Account 4:12 PM (17 hours ago)

to _NOS, Allen, Andrew, Benjamin, Brian, Castle, Craig, Daniel,

L-758/14 and DD-24445 have been registered by the Nautical Data Branch and directed to PBC for processing.

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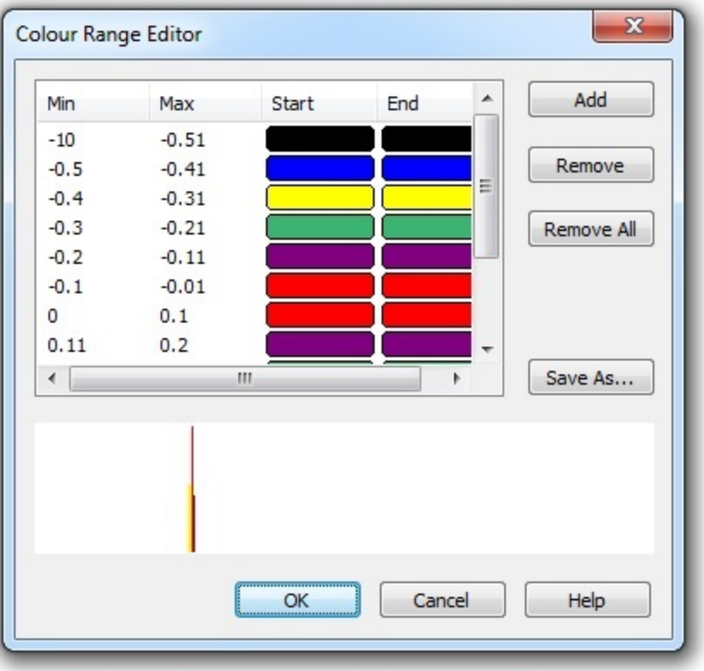
12358 kapp 2219
12354 kapp 2221

The following ENCs are affected:
US5NY1IM
US4NY1JM

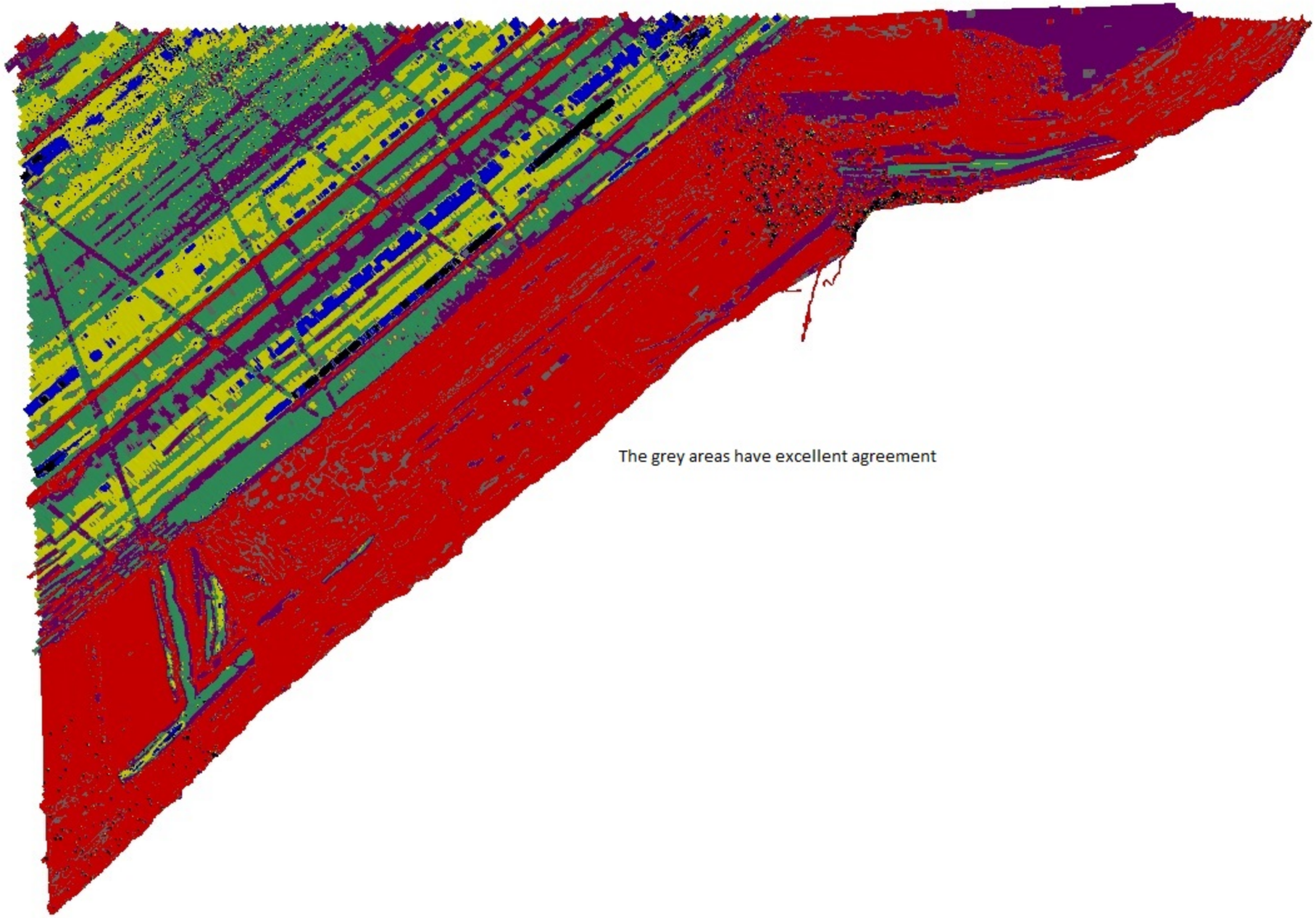
References:
H12483
OPR-B370-TJ-13

This information was discovered and submitted by the NOAA ship THOMAS JEFFERSON.
&nb sp;
From: Kimberly Glomb - NOAA Federal [mailto:kimberly.glomb@noaa.gov]
Sent: Friday, March 28, 2014 1:38 PM
To: OCS NDB - NOAA Service Account; _OMAO MOA CO Thomas Jefferson; Megan Guberski - NOAA Federal; Brent Pounds - NOAA Federal; Paul Turner - NOAA Federal
Subject: OPR-B370-TJ-13, H12483 DTONs

...



The Color Patterns repeat for the positive side



The grey areas have excellent agreement

APPENDIX III

SURVEY FEATURES REPORT

DToNs - five
AWOIS - one
Wrecks - none

Maritime Boundaries - none

H12483_Feature Report

Registry Number: H12483

State: New York

Locality: Long Island Sound

Sub-locality: Mattituck Inlet to Greenport

Project Number: OPR-B370-TJ-13

Survey Date: 03/30/2013 to 04/20/2013

Charts Affected

Number	Edition	Date	Scale (RNC)	RNC Correction(s)*
12358	20th	04/01/2008	1:40,000 (12358_1)	[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 6928 - Dangerous sunken wreck, least depth unknown.	GP	[None]	41° 05' 24.3" N	072° 25' 54.6" W	AWOIS #6928
2.1	16 foot dangerous underwater rock	Rock	5.07 m	41° 01' 34.3" N	072° 33' 18.4" W	---
2.2	24 foot dangerous underwater rock	Rock	7.37 m	41° 01' 41.2" N	072° 33' 14.4" W	---
2.3	24 foot dangerous underwater rock	Rock	7.53 m	41° 01' 52.8" N	072° 33' 06.0" W	---
2.4	13 foot dangerous underwater rock	Rock	3.86 m	41° 01' 38.5" N	072° 32' 59.7" W	---
2.5	6 foot dangerous underwater rock	Rock	1.81 m	41° 01' 48.1" N	072° 32' 43.3" W	---
2.6	26 foot dangerous underwater rock	Rock	8.07 m	41° 02' 23.3" N	072° 32' 12.1" W	---
2.7	31 foot dangerous underwater rock	Rock	9.50 m	41° 05' 06.6" N	072° 27' 43.6" W	---
2.8	28 foot dangerous underwater rock	Rock	8.55 m	41° 05' 15.8" N	072° 27' 24.1" W	---
2.9	23 foot dangerous underwater rock	Rock	6.93 m	41° 05' 30.9" N	072° 26' 57.4" W	---
2.10	4 foot dangerous underwater rock	Rock	1.44 m	41° 05' 05.6" N	072° 26' 57.0" W	---

2.11	17 foot dangerous underwater rock	Rock	5.34 m	41° 05' 23.9" N	072° 26' 34.4" W	---
2.12	10 foot dangerous underwater rock	Rock	3.22 m	41° 05' 21.3" N	072° 26' 07.6" W	---
2.13	5 foot dangerous underwater rock	Rock	1.67 m	41° 05' 23.3" N	072° 25' 21.5" W	---

1.1) AWOIS 6928 - Dangerous sunken wreck, least depth unknown.

Feature for AWOIS Item #6928

Search Position:	41° 05' 24.3" N, 072° 25' 54.6" W
Historical Depth:	[None]
Search Radius:	200
Search Technique:	Type: L. W.B.C. CO.3, Itemstatus: ASSIGNED, Searchtype: FULL, Technique: S2 MBES
Technique Notes:	

History Notes:

History

CL416/43--DOD; AS A RESULT OF DAMAGE INCURRED DURING A SEVERE WIND STORM A BARGE SANK 3/4 MILE EAST OF HORTON POINT LIGHTHOUSE AND 1/4 MILE OFF HASHAMOMUCK BEACH LONG ISLAND; LOCATED IN LAT 41-05-24N LONG 72-26-00W (SCALED FROM CHART; CHARTED POSITION DETERMINED FROM MARKED UP COPY OF CHART SUBMITTED BY THE WAR DEPARTMENT); WIND AND WAVE ACTION RESULTED IN WRECKAGE EXTENDING FROM HORTON POINT LIGHTHOUSE TO APPROXIMATELY LAT 41-05-18N LONG 72-25-00W; NOT CONSIDERED ENOUGH OF A HAZARD TO JUSTIFY REMOVAL. (ENTERED MSM 11/88)

Survey Summary

Survey Position:	41° 05' 24.3" N, 072° 25' 54.6" W
Least Depth:	[None]
TPU (±1.96σ):	**THU (TPEh)** [None] ; **TVU (TPEv)** [None]
Timestamp:	2013-110.00:00:00.000 (04/20/2013)
Dataset:	H12483_Features for PYDRO_2.000
FOID:	0_ 0001149170 00001(FFFE001188F20001)
Charts Affected:	12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

$CSYMB/remrks: AWOIS #6928 disproved with Reson 7125 object detection multibeam. Seach radius inshore of the NALL was not covered.

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12483_Features for PYDRO_2.000	0_ 0001149170 00001	0.00	000.0	Primary
H12483_Features for PYDRO_2.000	0_ 0001149170 00001	0.00	000.0	Secondary (grouped)

Hydrographer Recommendations

Update database with survey findings.

S-57 Data

Geo object 1:	Cartographic symbol ($CSYMB)
Attributes:	NINFOM - Delete Wreck
	NTXTDS - US5NY1IM, Ed #7, Update 1
	SORDAT - 20130420
	SORIND - US,US,graph,H12483

Office Notes

SAR: AWOIS feature disproved at survey position with object detection multibeam; however the search radius intersected the NALL and was not fully covered. As per 2013 HSSD recommend to retain, but defer final charting disposition to AHB Compile Team.

COMPILATION: Concur with conditions. Consider item disproved. The item was not located to the north, east or west, and to the south there was no indication up to 13 feet of water. The wreck would have been visible in depths that shoal. It is recommended the charted dangerous sunken wreck, least depth unknown is considered disproved and deleted from the chart.

Feature Images

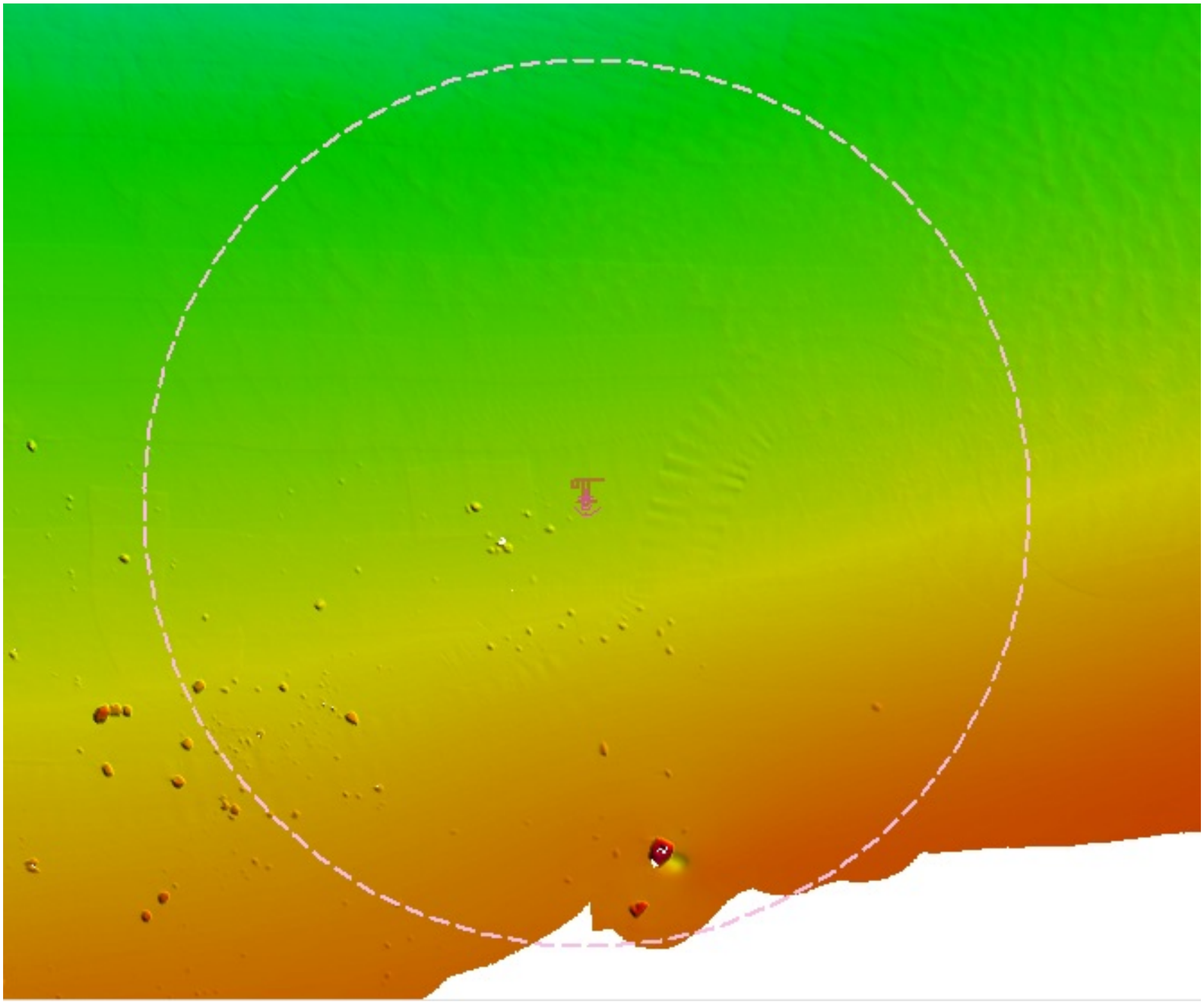


Figure 1.1.1

2 - Dangers To Navigation

2.1) 16 foot dangerous underwater rock

DANGER TO NAVIGATION

Survey Summary

Survey Position:	41° 01' 34.3" N, 072° 33' 18.4" W
Least Depth:	5.07 m (= 16.64 ft = 2.773 fm = 2 fm 4.64 ft)
TPU (±1.96σ):	**THU (TPEh)** [None] ; **TVU (TPEv)** [None]
Timestamp:	2013-110.00:00:00.000 (04/20/2013)
Dataset:	H12483_Features for PYDRO.000
FOID:	0_ 0001149142 00001(FFFE001188D60001)
Charts Affected:	12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

UWTROC/remrks: Dangeous rock found with Reson 7125 object detection multibeam. Soundings are corrected to MLLW with VDATUM solution. This rock is just outside the survey area.

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12483_Features for PYDRO.000	0_ 0001149142 00001	0.00	000.0	Primary

Hydrographer Recommendations

Chart dangerous rock.

Cartographically-Rounded Depth (Affected Charts):

16ft (12358_1, 12354_1)

2 ¾fm (12300_1, 13006_1, 13003_1)

5.0m (5161_1)

S-57 Data

Geo object 1:	Underwater rock / awash rock (UWTROC)
Attributes:	NINFOM - DO NOT CHART
	QUASOU - 6:least depth known
	SORDAT - 20130420

SORIND - US,US,graph,H12483

TECSOU - 3:found by multi-beam

VALSOU - 5.071 m

WATLEV - 3:always under water/submerged

Office Notes

SAR: Danger to navigation located at survey position with objection detection multibeam. The original DTON submission was applied to the current charts.

COMPILATION: Concur with conditions. This feature is a part of junction survey H12482. It is not a part of the present survey. DO NOT CHART.

Feature Images

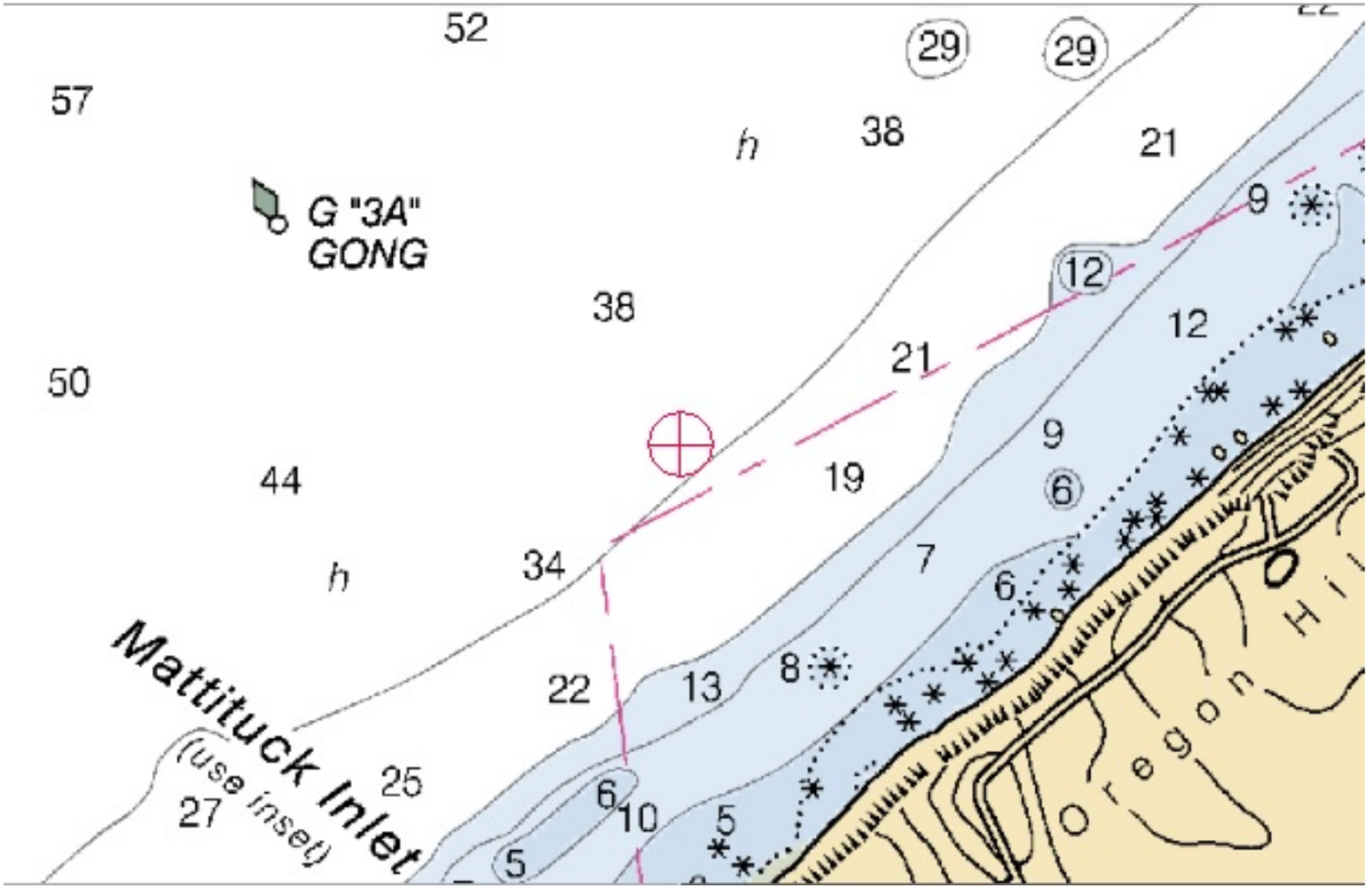
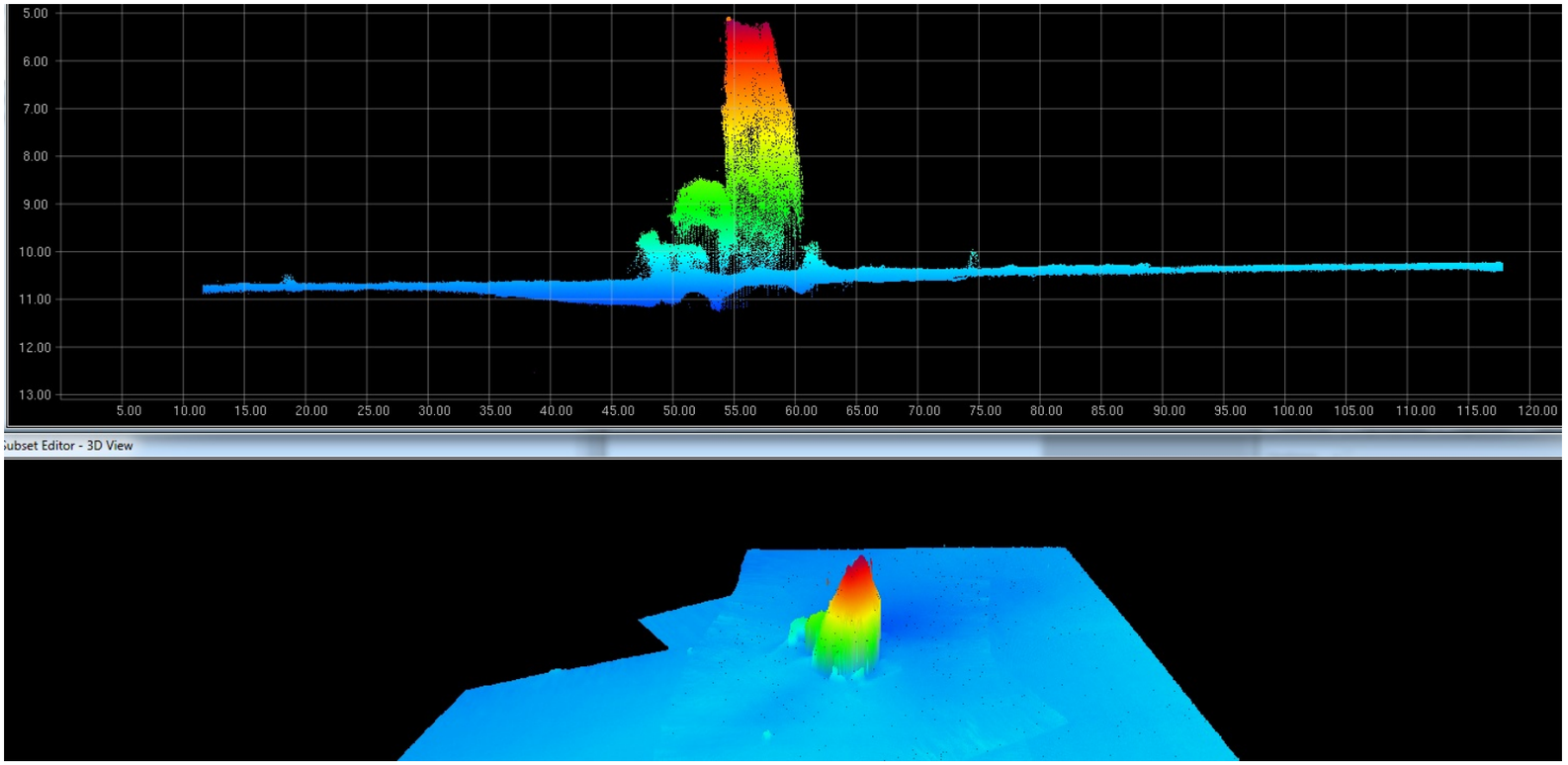


Figure 2.1.1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ubset Editor - 3D View

Figure 2.1.2

2.2) 24 foot dangerous underwater rock

DANGER TO NAVIGATION

Survey Summary

Survey Position:	41° 01' 41.2" N, 072° 33' 14.4" W
Least Depth:	7.37 m (= 24.18 ft = 4.030 fm = 4 fm 0.18 ft)
TPU (±1.96σ):	**THU (TPEh)** [None] ; **TVU (TPEv)** [None]
Timestamp:	2013-110.00:00:00.000 (04/20/2013)
Dataset:	H12483_Features for PYDRO.000
FOID:	0_ 0001149148 00001(FFFE001188DC0001)
Charts Affected:	12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

UWTROC/remrks: Dangerous rock found with Reson 7125 object detection multibeam. Soundings are corrected to MLLW with VDATUM solution.

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12483_Features for PYDRO.000	0_ 0001149148 00001	0.00	000.0	Primary

Hydrographer Recommendations

Chart dangerous rock.

Cartographically-Rounded Depth (Affected Charts):

24ft (12358_1, 12354_1)

4fm (12300_1, 13006_1, 13003_1)

7.3m (5161_1)

S-57 Data

Geo object 1:	Underwater rock / awash rock (UWTROC)
Attributes:	NINFOM - DO NOT CHART
	QUASOU - 6:least depth known
	SORDAT - 20130420
	SORIND - US,US,graph,H12483

TECSOU - 3:found by multi-beam

VALSOU - 7.370 m

WATLEV - 3:always under water/submerged

Office Notes

SAR: Danger to navigation located at survey position with objection detection multibeam. The original DTON submission was applied to the current charts. Depth value is slightly shoaler than reported with DtoN submisison; the rock least depth remains as 24ft.

COMPILATION: Concur with conditions. This feature is covered inside the limits of junctional survey H12482.

Feature Images

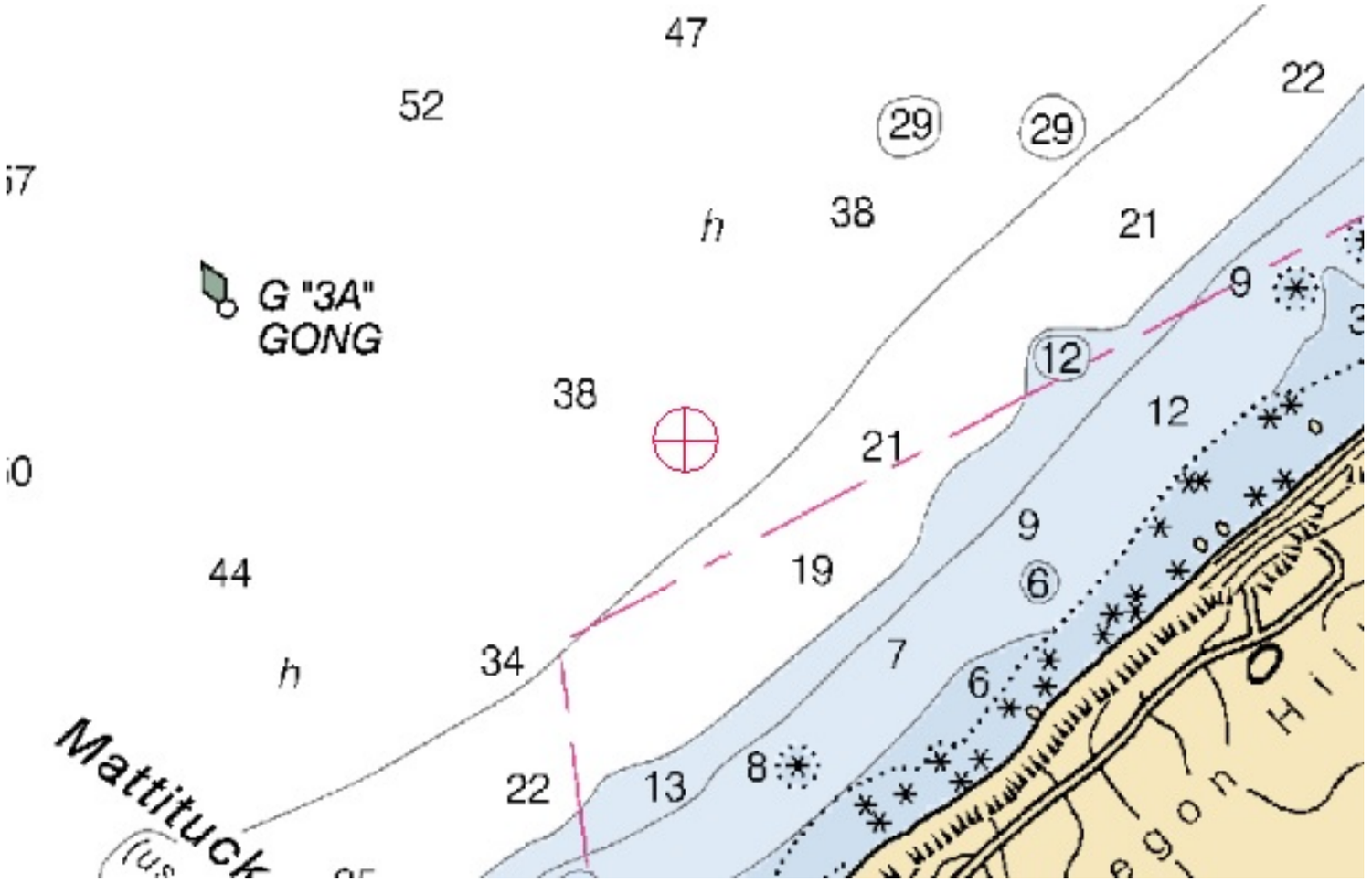
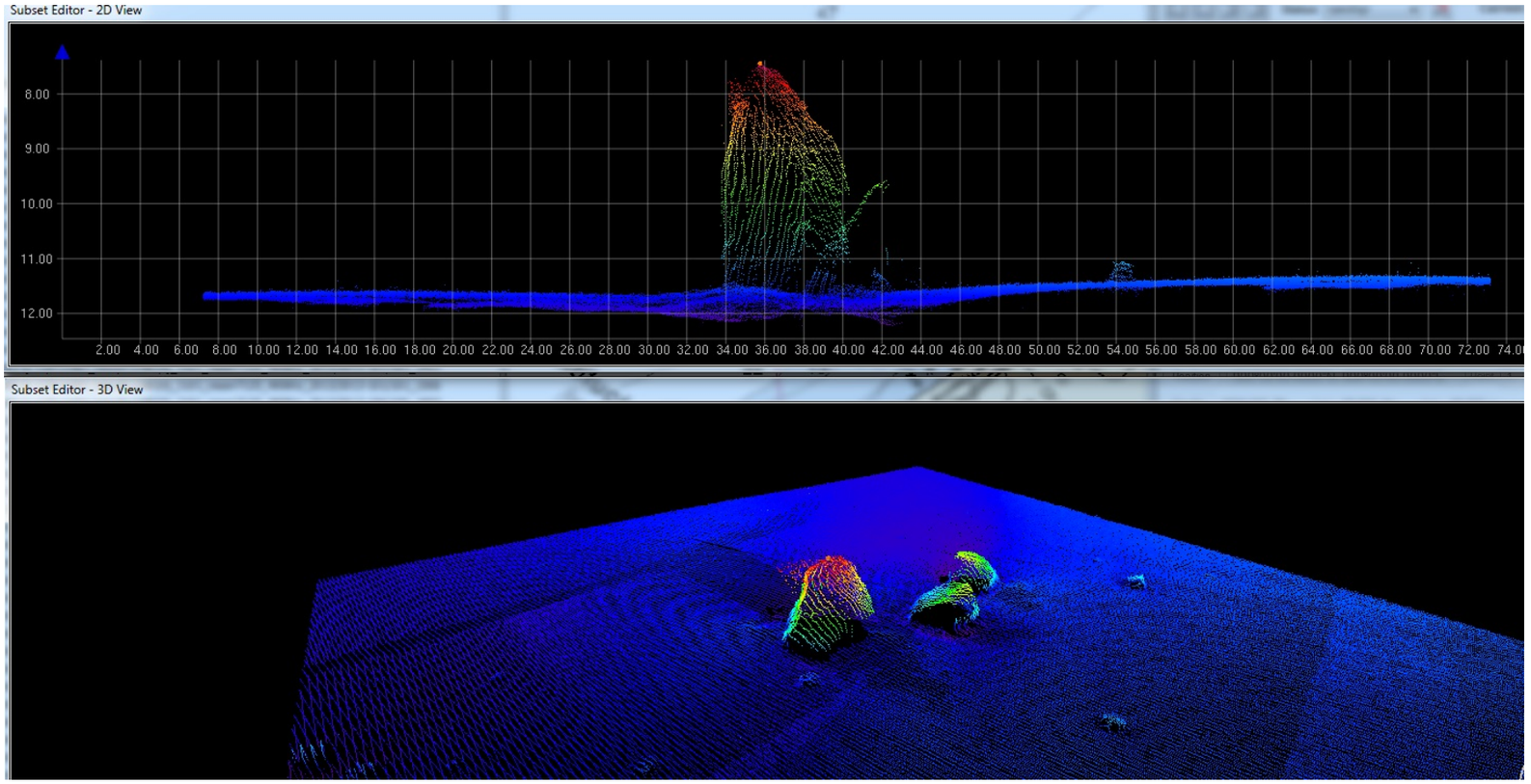


Figure 2.2.1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Subset Editor - 3D View

Figure 2.2.2

2.3) 24 foot dangerous underwater rock

DANGER TO NAVIGATION

Survey Summary

Survey Position:	41° 01' 52.8" N, 072° 33' 06.0" W
Least Depth:	7.53 m (= 24.69 ft = 4.115 fm = 4 fm 0.69 ft)
TPU (±1.96σ):	**THU (TPEh)** [None] ; **TVU (TPEv)** [None]
Timestamp:	2013-110.00:00:00.000 (04/20/2013)
Dataset:	H12483_Features for PYDRO.000
FOID:	0_ 0001149149 00001(FFFE001188DD0001)
Charts Affected:	12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

UWTROC/remrks: Dangerous rock found with Reson 7125 object detection multibeam. Soundings are corrected to MLLW with VDATUM solution.

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12483_Features for PYDRO.000	0_ 0001149149 00001	0.00	000.0	Primary

Hydrographer Recommendations

Chart dangerous rock.

Cartographically-Rounded Depth (Affected Charts):

24ft (12358_1, 12354_1)

4fm (12300_1, 13006_1, 13003_1)

7.5m (5161_1)

S-57 Data

Geo object 1:	Underwater rock / awash rock (UWTROC)
Attributes:	NINFOM - DO NOT CHART
	QUASOU - 6:least depth known
	SORDAT - 20130420
	SORIND - US,US,graph,H12483

TECSOU - 3:found by multi-beam

VALSOU - 7.526 m

WATLEV - 3:always under water/submerged

Office Notes

SAR: Danger to navigation located at survey position with objection detection multibeam. The original DTON submission was applied to the current charts. Location of least depth remains as charted; depth value requires revision to 24ft.

COMPILATION: Concur with conditions. This feature falls inside the 30 foot contour and is between newly charted 24 foot and 26 foot depths in a new rocky seabed area. Chart a 24 foot depth in a rocky area considering other depths to be charted, instead of a sounding on a rock.

Feature Images

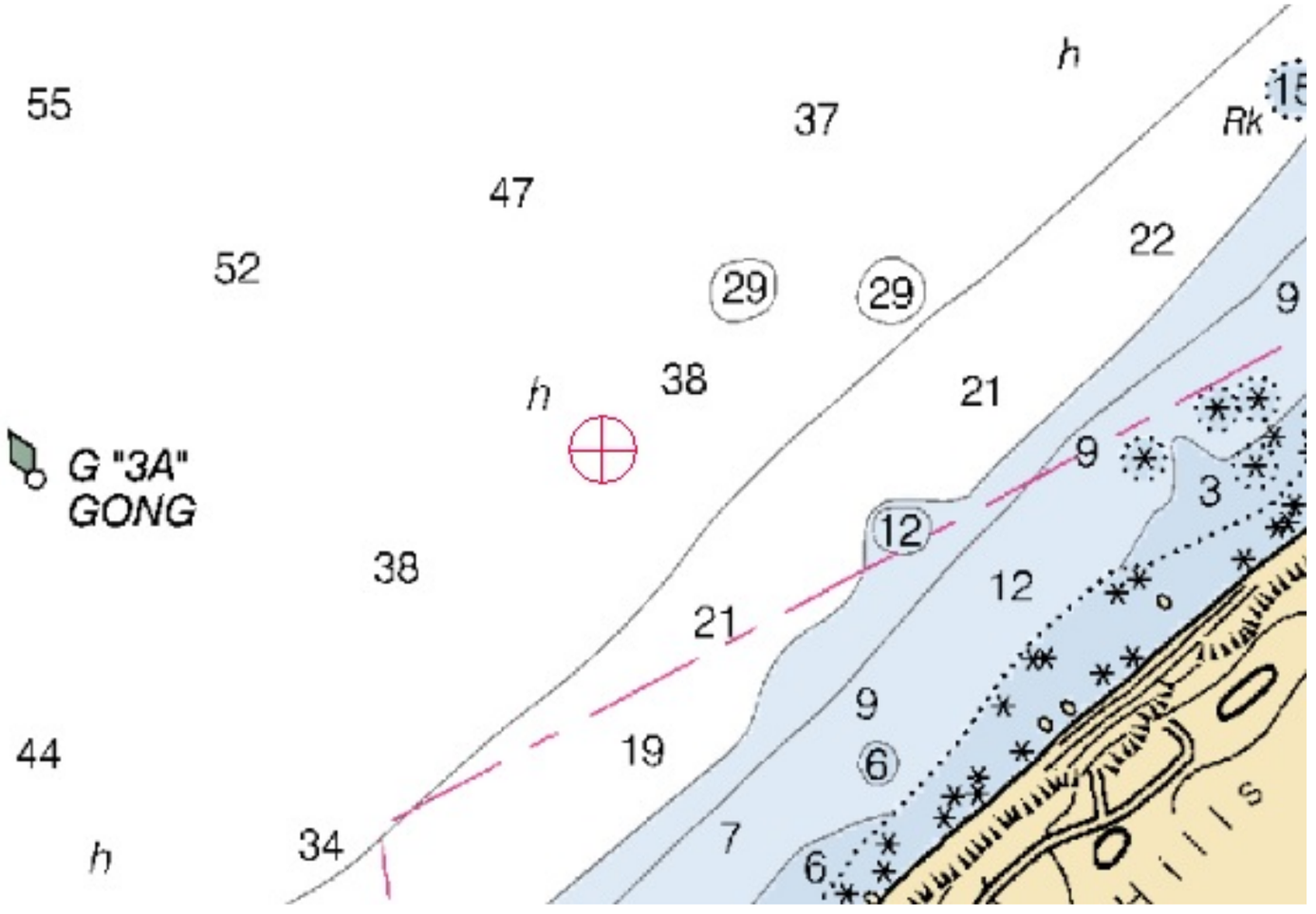

Figure 2.3.1

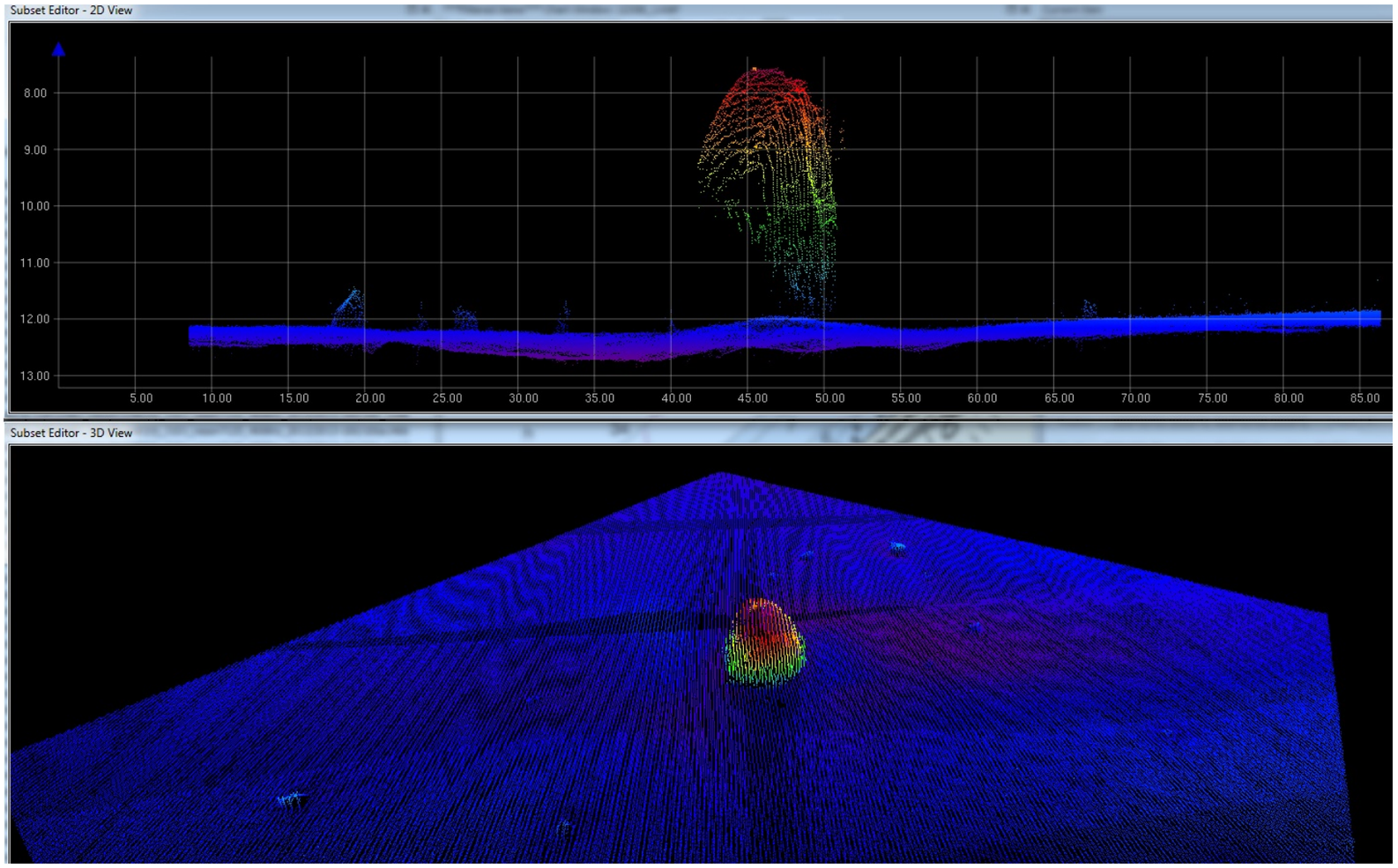
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Figure 2.3.2

2.4) 13 foot dangerous underwater rock

DANGER TO NAVIGATION

Survey Summary

Survey Position:	41° 01' 38.5" N, 072° 32' 59.7" W
Least Depth:	3.86 m (= 12.66 ft = 2.110 fm = 2 fm 0.66 ft)
TPU (±1.96σ):	**THU (TPEh)** [None] ; **TVU (TPEv)** [None]
Timestamp:	2013-110.00:00:00.000 (04/20/2013)
Dataset:	H12483_Features for PYDRO.000
FOID:	0_ 0001149143 00001(FFFE001188D70001)
Charts Affected:	12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

UWTROC/remrks: Dangeround rock found with Reson 7125 object detection multibeam. Soundings are corrected to MLLW with VDATUM solution.

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12483_Features for PYDRO.000	0_ 0001149143 00001	0.00	000.0	Primary

Hydrographer Recommendations

Chart dangerous rock.

Cartographically-Rounded Depth (Affected Charts):

12ft (12358_1, 12354_1)

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

3.8m (5161_1)

S-57 Data

Geo object 1:	Underwater rock / awash rock (UWTROC)
Attributes:	NINFOM - DO NOT CHART
	QUASOU - 6:least depth known
	SORDAT - 20130420

SORIND - US,US,graph,H12483

TECSOU - 3:found by multi-beam

VALSOU - 3.859 m

WATLEV - 3:always under water/submerged

Office Notes

SAR: Danger to navigation located at survey position with objection detection multibeam. The original DTON submission was applied to the current charts. Depth value requires updating on chart.

COMPILATION: Concur with conditions. This feature is insignificant comparted to the 11 ft depth in the vicinity . DO NOT CHART.

Feature Images

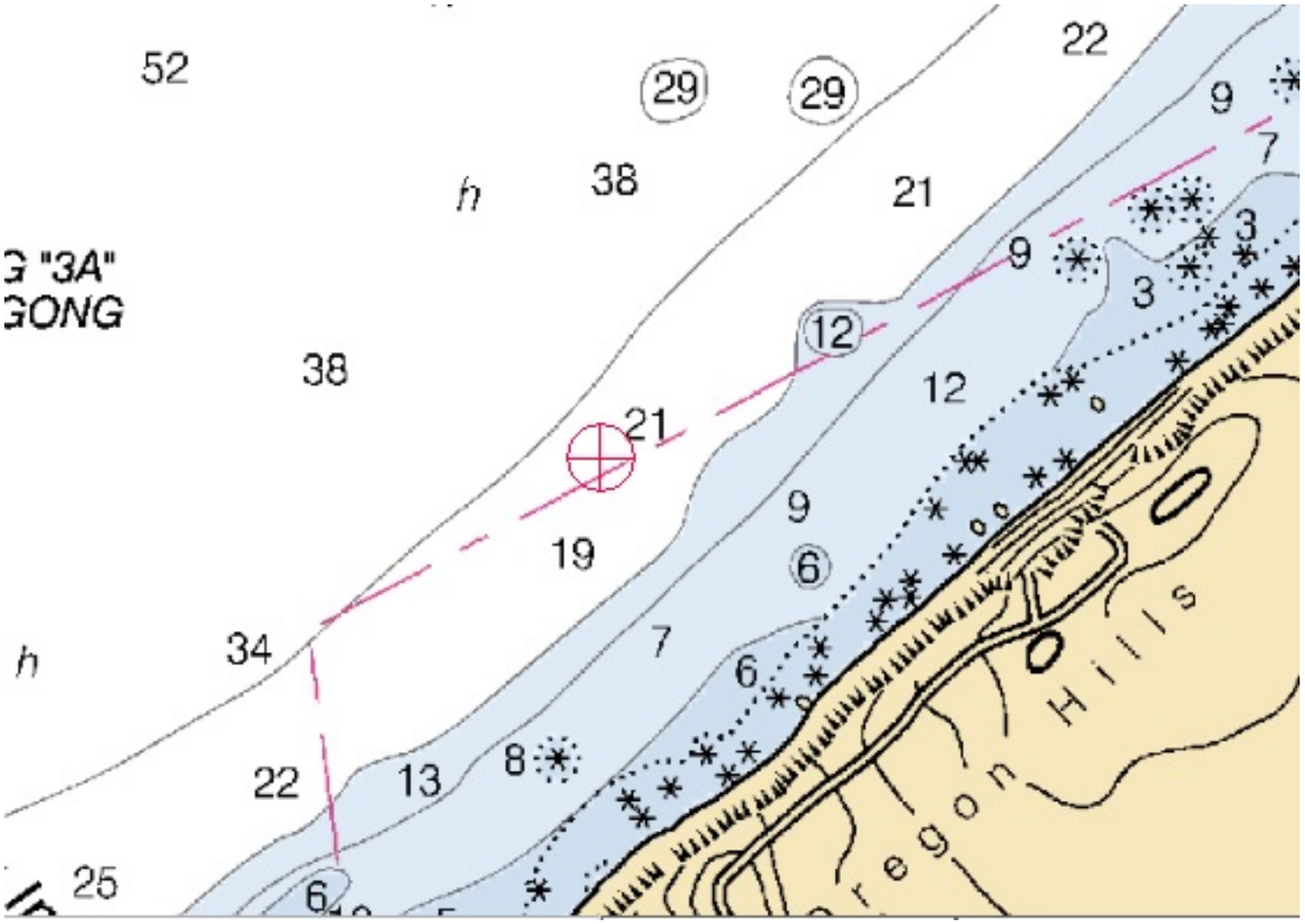
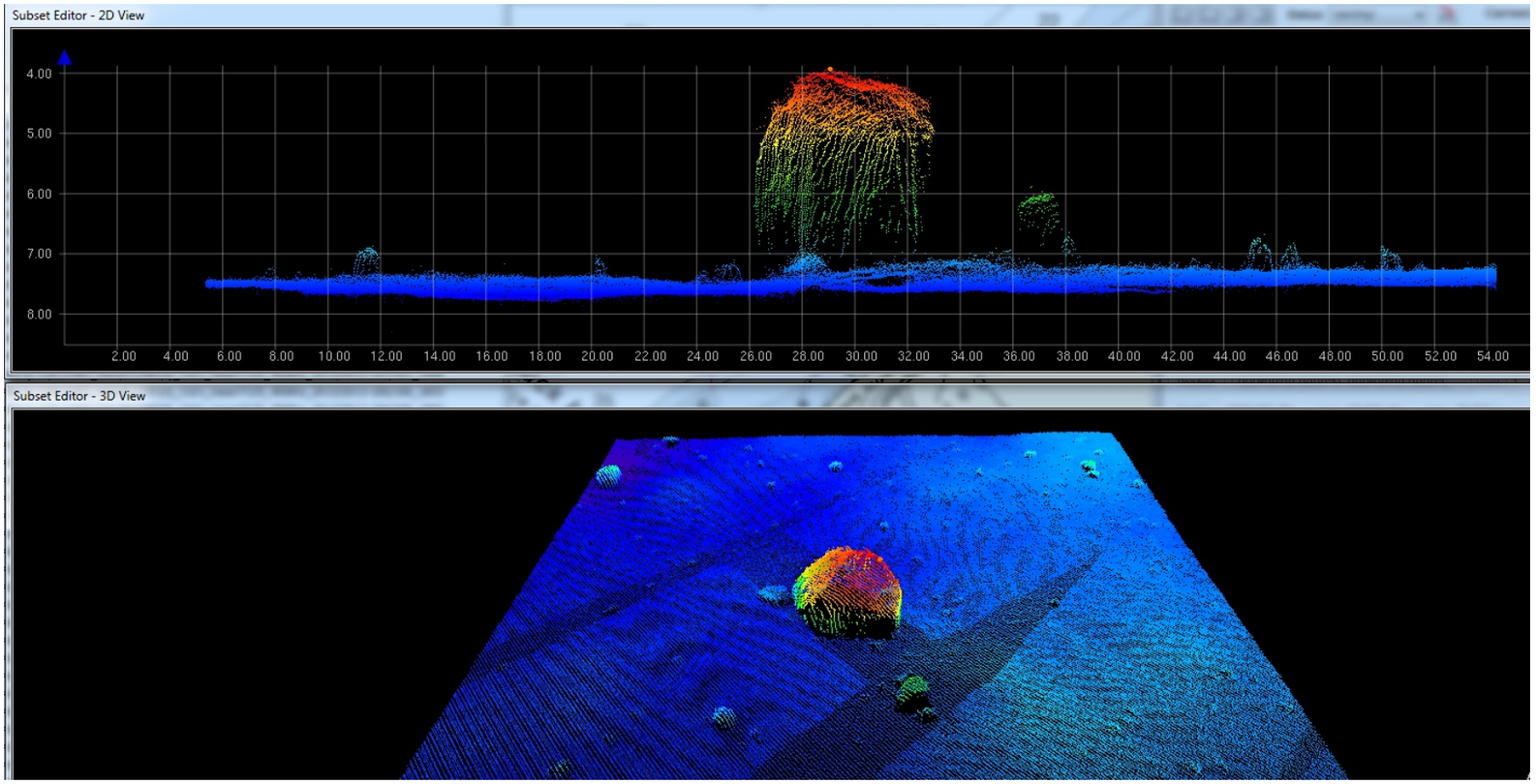


Figure 2.4.1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Subset Editor - 3D View

Figure 2.4.2

2.5) 6 foot dangerous underwater rock

DANGER TO NAVIGATION

Survey Summary

Survey Position:	41° 01' 48.1" N, 072° 32' 43.3" W
Least Depth:	1.81 m (= 5.94 ft = 0.990 fm = 0 fm 5.94 ft)
TPU (±1.96σ):	**THU (TPEh)** [None] ; **TVU (TPEv)** [None]
Timestamp:	2013-110.00:00:00.000 (04/20/2013)
Dataset:	H12483_Features for PYDRO.000
FOID:	0_ 0001149151 00001(FFFE001188DF0001)
Charts Affected:	12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

UWTROC/remrks: Dangerous rock found with Reson 7125 object detection multibeam. Soundings are corrected to MLLW with VDATUM solution.

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12483_Features for PYDRO.000	0_ 0001149151 00001	0.00	000.0	Primary

Hydrographer Recommendations

Chart dangerous rock.

Cartographically-Rounded Depth (Affected Charts):

6ft (12358_1, 12354_1)

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

1.8m (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 - Add rock
	QUASOU - 6:least depth known
	SORDAT - 20130420

SORIND - US,US,graph,H12483

TECSOU - 3:found by multi-beam

VALSOU - 1.811 m

WATLEV - 3:always under water/submerged

Office Notes

SAR: Danger to navigation located at survey position with objection detection multibeam. The original DTON submission was applied to the current charts.

Concur with conditions. Delete charted dangerous underwater rock, least depth 6 feet. Add dangerous underwater rock, least depth 5.94 feet in the present survey position.

Feature Images

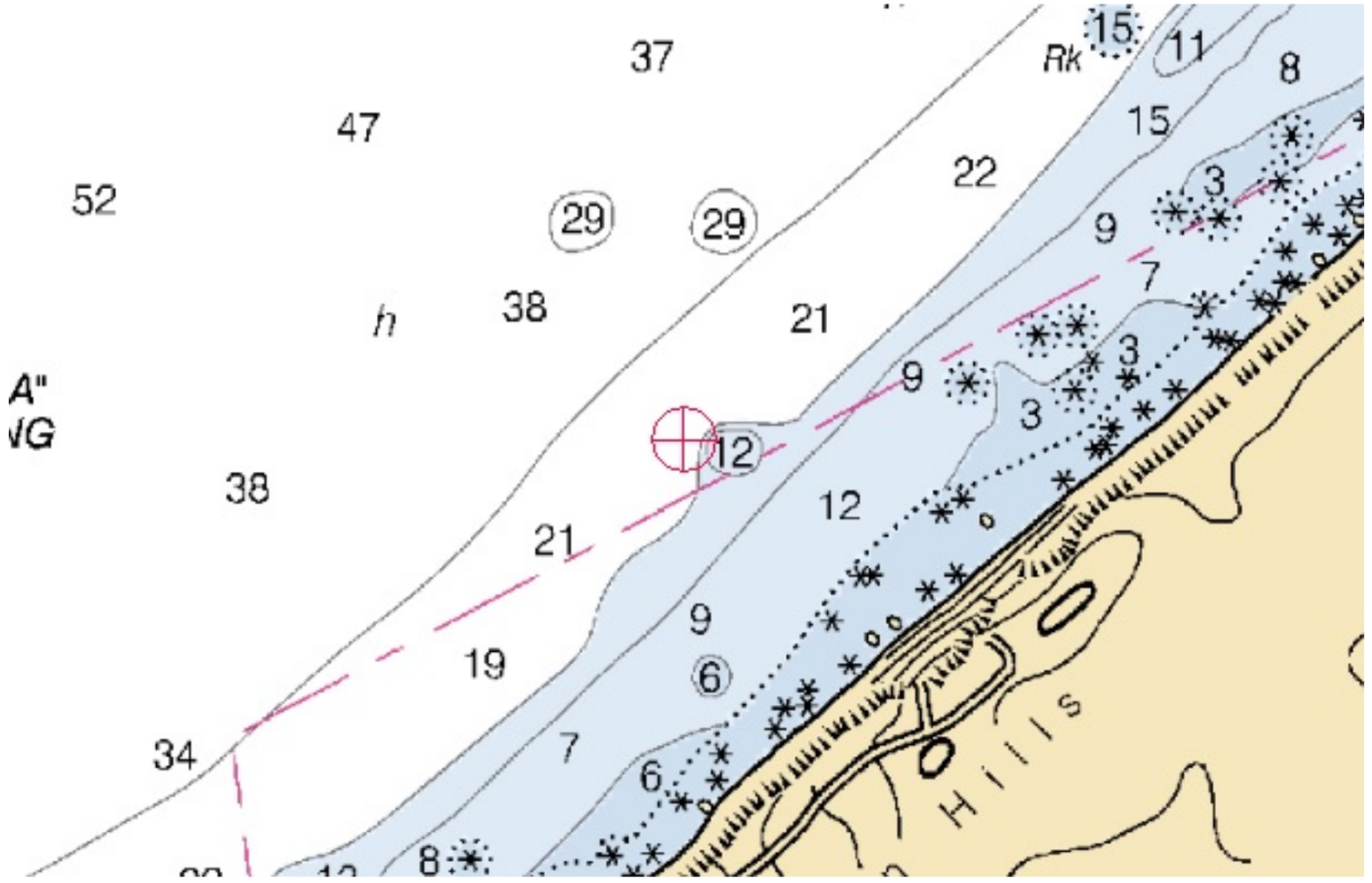
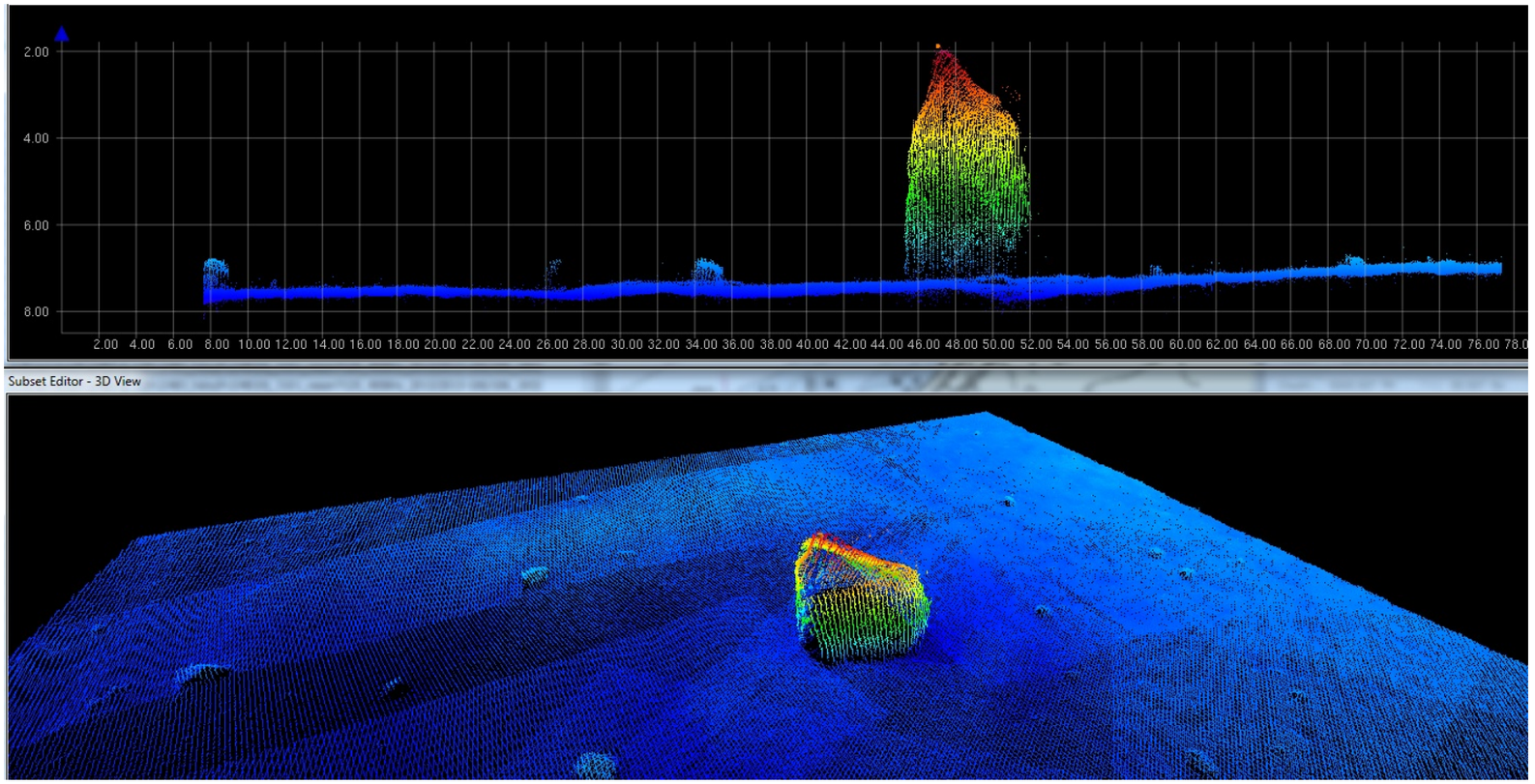


Figure 2.5.1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Subset Editor - 3D View

Figure 2.5.2

2.6) 26 foot dangerous underwater rock

DANGER TO NAVIGATION

Survey Summary

Survey Position:	41° 02' 23.3" N, 072° 32' 12.1" W
Least Depth:	8.07 m (= 26.48 ft = 4.413 fm = 4 fm 2.48 ft)
TPU (±1.96σ):	**THU (TPEh)** [None] ; **TVU (TPEv)** [None]
Timestamp:	2013-110.00:00:00.000 (04/20/2013)
Dataset:	H12483_Features for PYDRO.000
FOID:	0_ 0001149147 00001(FFFE001188DB0001)
Charts Affected:	12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

UWTROC/remrks: Dangerous rock found with Reson 7125 object detection multibeam. Soundings are corrected to MLLW with VDATUM solution.

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12483_Features for PYDRO.000	0_ 0001149147 00001	0.00	000.0	Primary

Hydrographer Recommendations

Chart dangerous rock.

Cartographically-Rounded Depth (Affected Charts):

26ft (12358_1, 12354_1)

4 ¼fm (12300_1, 13006_1, 13003_1)

8.0m (5161_1)

S-57 Data

Geo object 1:	Underwater rock / awash rock (UWTROC)
Attributes:	NINFOM - DO NOT CHART
	QUASOU - 6:least depth known
	SORDAT - 20130420
	SORIND - US,US,graph,H12483

TECSOU - 3:found by multi-beam

VALSOU - 8.070 m

WATLEV - 3:always under water/submerged

Office Notes

SAR: Danger to navigation located at survey position with objection detection multibeam. The original DTON submission was applied to the current charts.

COMPILATION: Concur with conditions. This feature falls inside the 30 foot contour and is between newly charted 22 and 26 foot depths in a new rocky seabed area. Chart a 26 foot depth in a rocky area considering other depths to be charted, instead of a sounding on a rock.

Feature Images

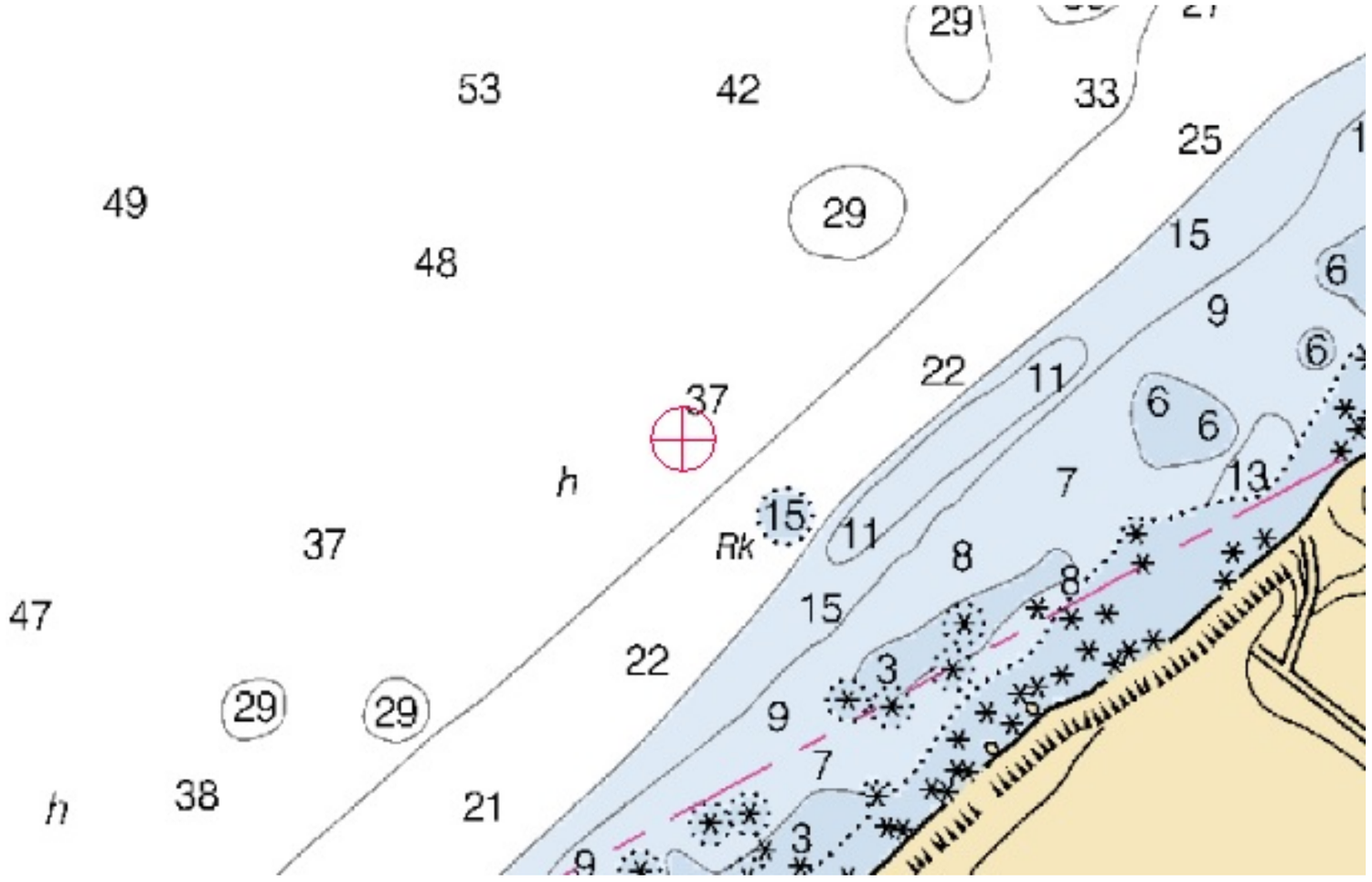
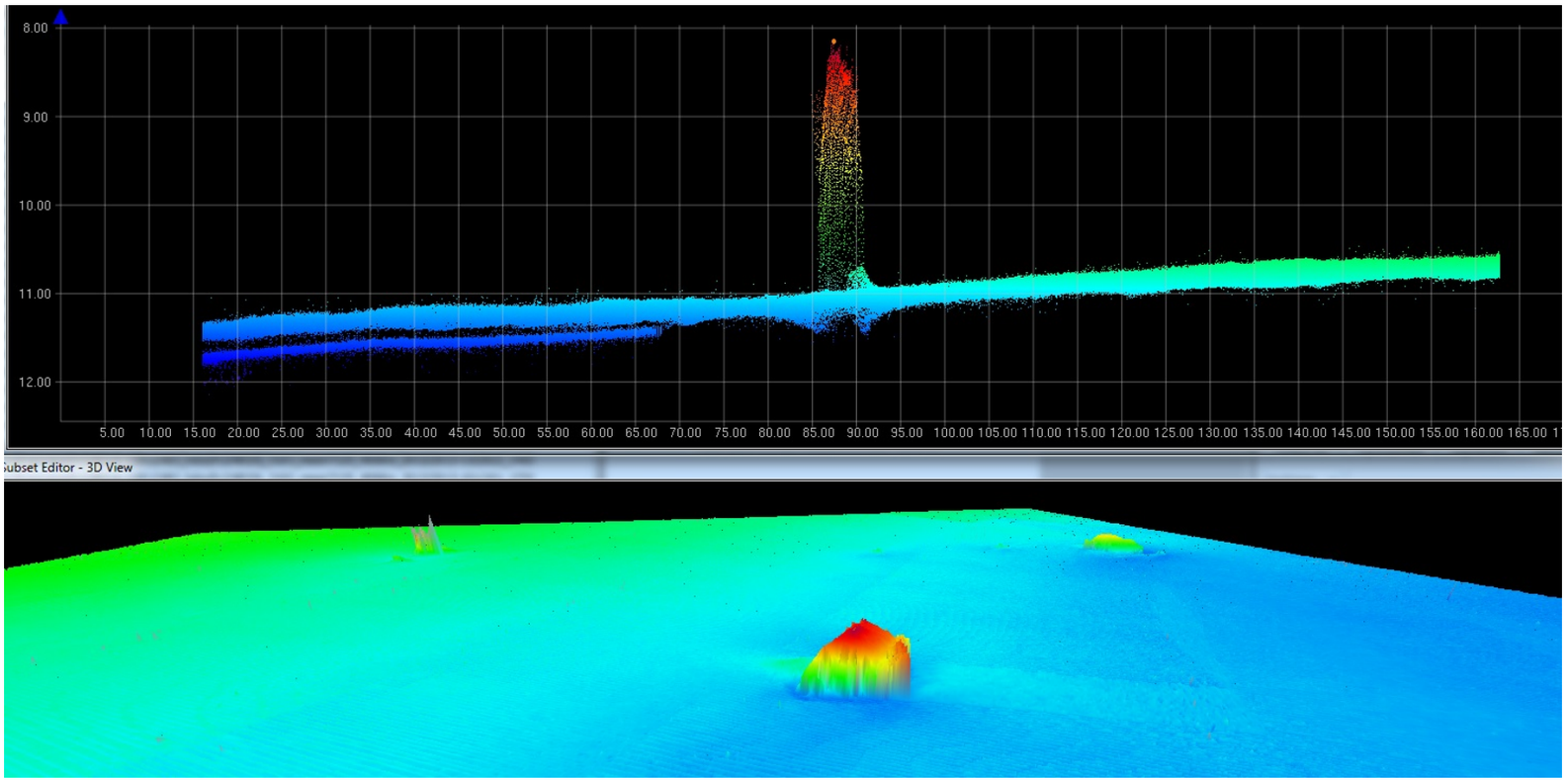


Figure 2.6.1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ubset Editor - 3D View

Figure 2.6.2

2.7) 31 foot dangerous underwater rock

DANGER TO NAVIGATION

Survey Summary

Survey Position:	41° 05' 06.6" N, 072° 27' 43.6" W
Least Depth:	9.50 m (= 31.18 ft = 5.196 fm = 5 fm 1.18 ft)
TPU (±1.96σ):	**THU (TPEh)** [None] ; **TVU (TPEv)** [None]
Timestamp:	2013-110.00:00:00.000 (04/20/2013)
Dataset:	H12483_Features for PYDRO.000
FOID:	0_ 0001149138 00001(FFFE001188D20001)
Charts Affected:	12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

UWTROC/remrks: Dangerous rock found with Reson 7125 object detection multibeam. Soundings are corrected to MLLW with VDATUM solution.

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12483_Features for PYDRO.000	0_ 0001149138 00001	0.00	000.0	Primary

Hydrographer Recommendations

Chart dangerous rock.

Cartographically-Rounded Depth (Affected Charts):

31ft (12358_1, 12354_1)

5 ¼fm (12300_1, 13006_1, 13003_1)

9.5m (5161_1)

S-57 Data

Geo object 1:	Underwater rock / awash rock (UWTROC)
Attributes:	NINFOM - DO NOT CHART
	QUASOU - 6:least depth known
	SORDAT - 20130420
	SORIND - US,US,graph,H12483

TECSOU - 3:found by multi-beam

VALSOU - 9.503 m

WATLEV - 3:always under water/submerged

Office Notes

SAR: Danger to navigation located at survey position with objection detection multibeam. The original DTON submission was applied to the current charts.

COMPILATION: Concur with conditions. This feature falls just outside the 30 foot contour. Chart a 31 foot depth, instead of a sounding on a rock.

Feature Images

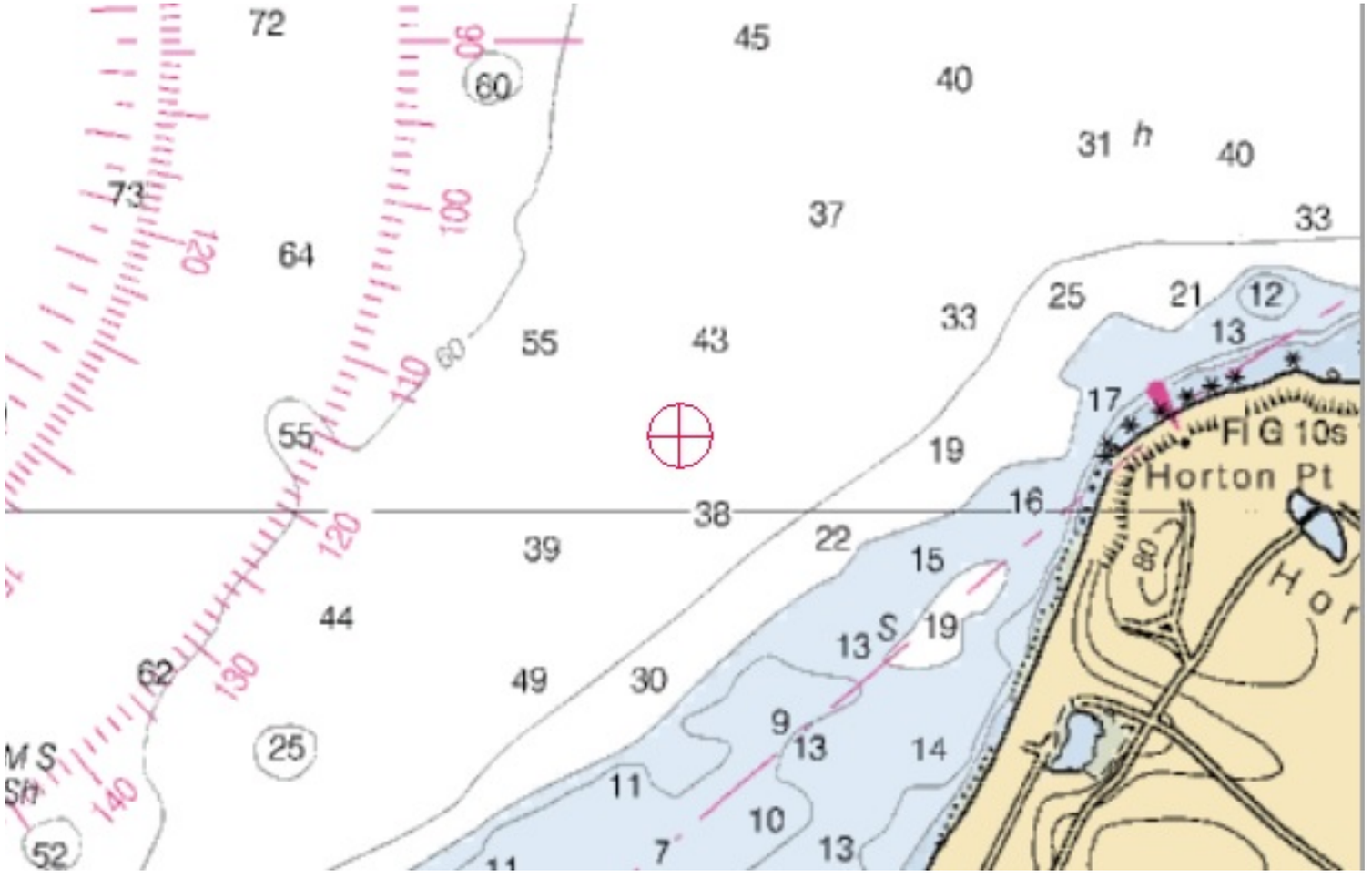
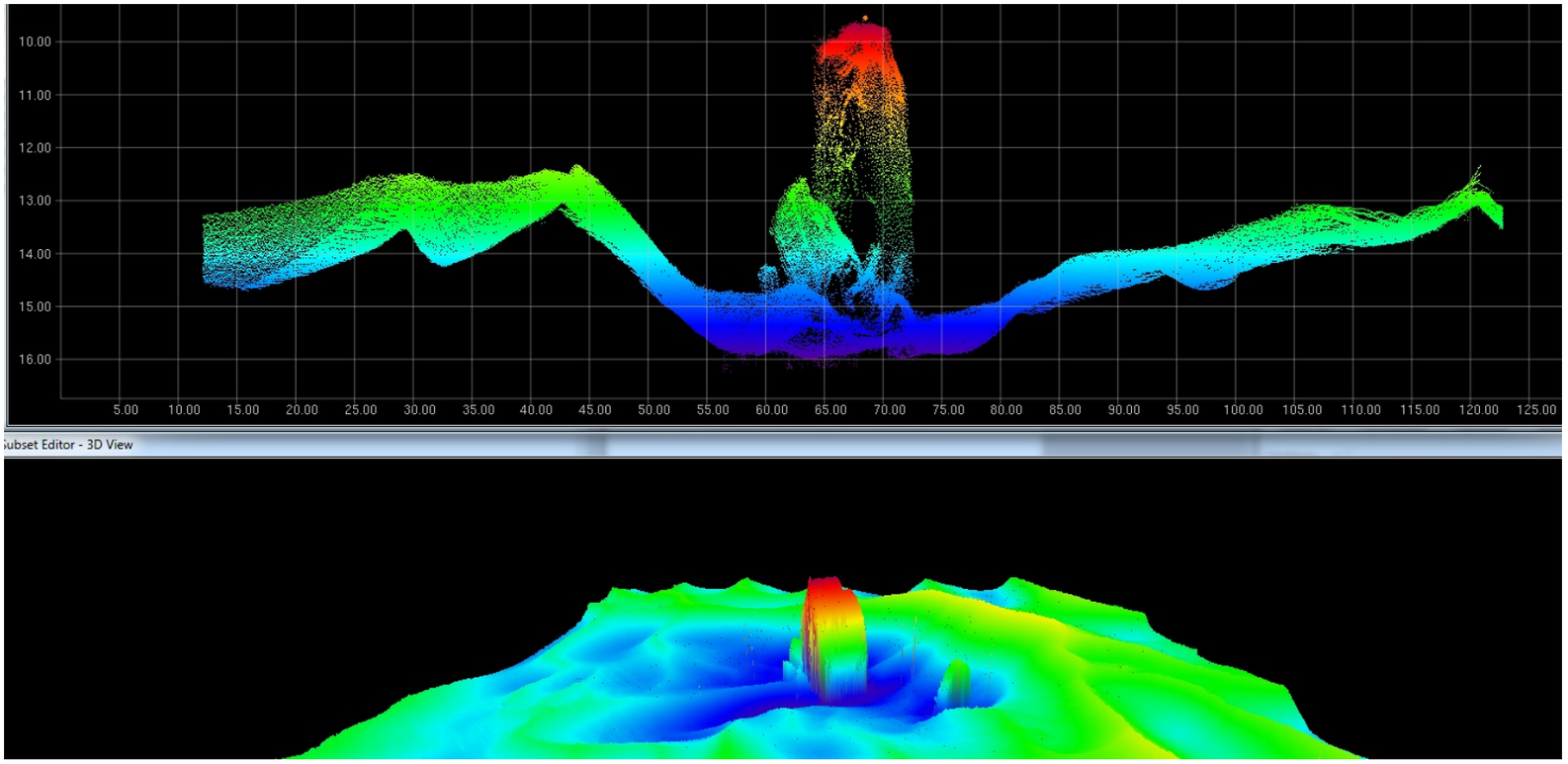


Figure 2.7.1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Subset Editor - 3D View

Figure 2.7.2

2.8) 28 foot dangerous underwater rock

DANGER TO NAVIGATION

Survey Summary

Survey Position:	41° 05' 15.8" N, 072° 27' 24.1" W
Least Depth:	8.55 m (= 28.07 ft = 4.678 fm = 4 fm 4.07 ft)
TPU (±1.96σ):	**THU (TPEh)** [None] ; **TVU (TPEv)** [None]
Timestamp:	2013-110.00:00:00.000 (04/20/2013)
Dataset:	H12483_Features for PYDRO.000
FOID:	0_ 0001149154 00001(FFFE001188E20001)
Charts Affected:	12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

UWTROC/remrks: Dangerous rock found with Reson 7125 object detection multibeam. Soundings are corrected to MLLW with VDATUM solution.

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12483_Features for PYDRO.000	0_ 0001149154 00001	0.00	000.0	Primary

Hydrographer Recommendations

Chart dangerous rock.

Cartographically-Rounded Depth (Affected Charts):

28ft (12358_1, 12354_1)

4 ½fm (12300_1, 13006_1, 13003_1)

8.5m (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 - Add rock
	QUASOU - 6:least depth known
	SORDAT - 20130420

SORIND - US,US,graph,H12483

TECSOU - 3:found by multi-beam

VALSOU - 8.555 m

WATLEV - 3:always under water/submerged

Office Notes

SAR: Danger to navigation located at survey position with objection detection multibeam. The original DTON submission was applied to the current charts.

Concur with conditions. Delete charted dangerous underwater rock, least depth 28 feet. Add dangerous underwater rock, least depth 28.07 feet in the present survey position.

Feature Images

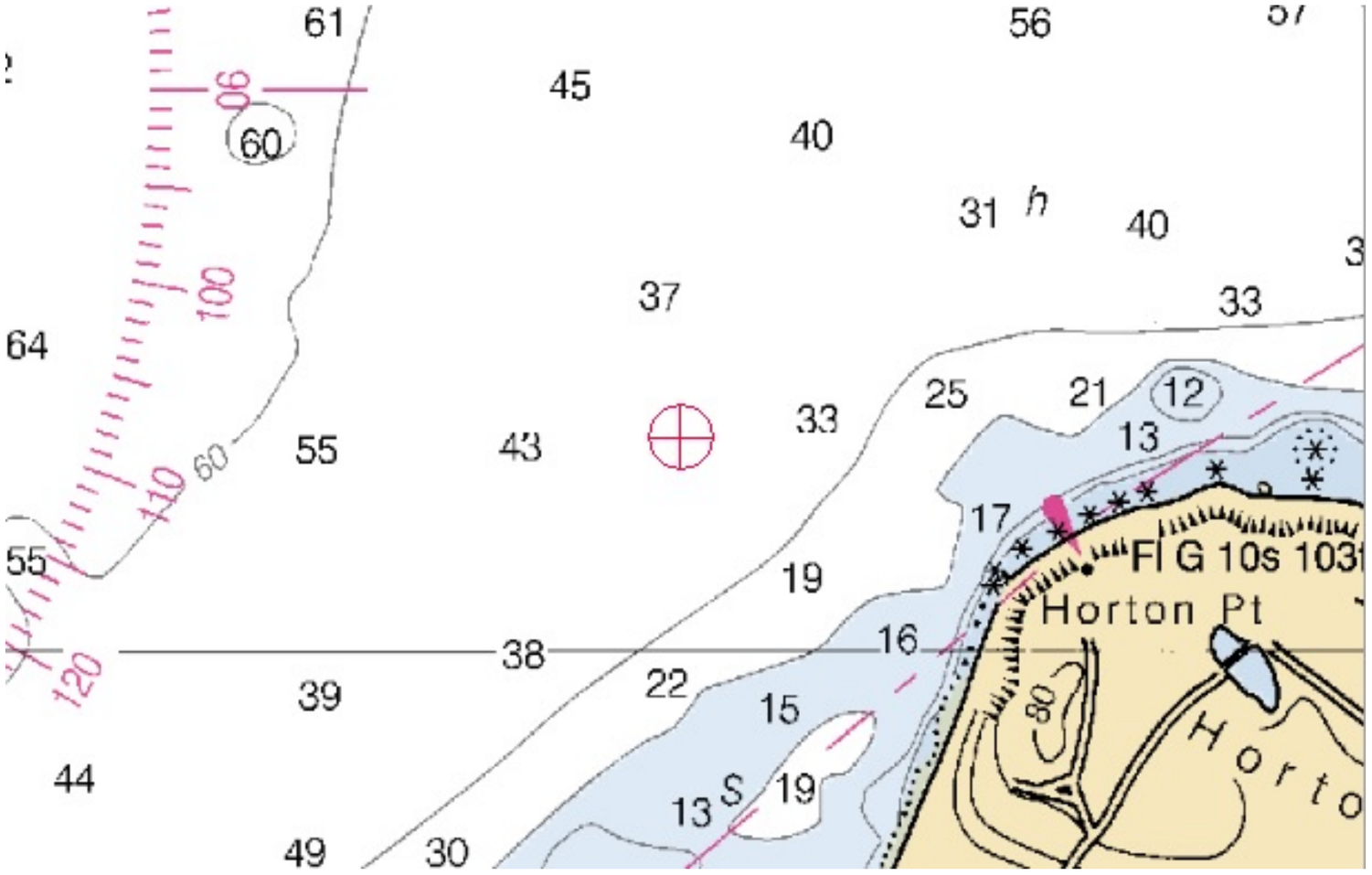
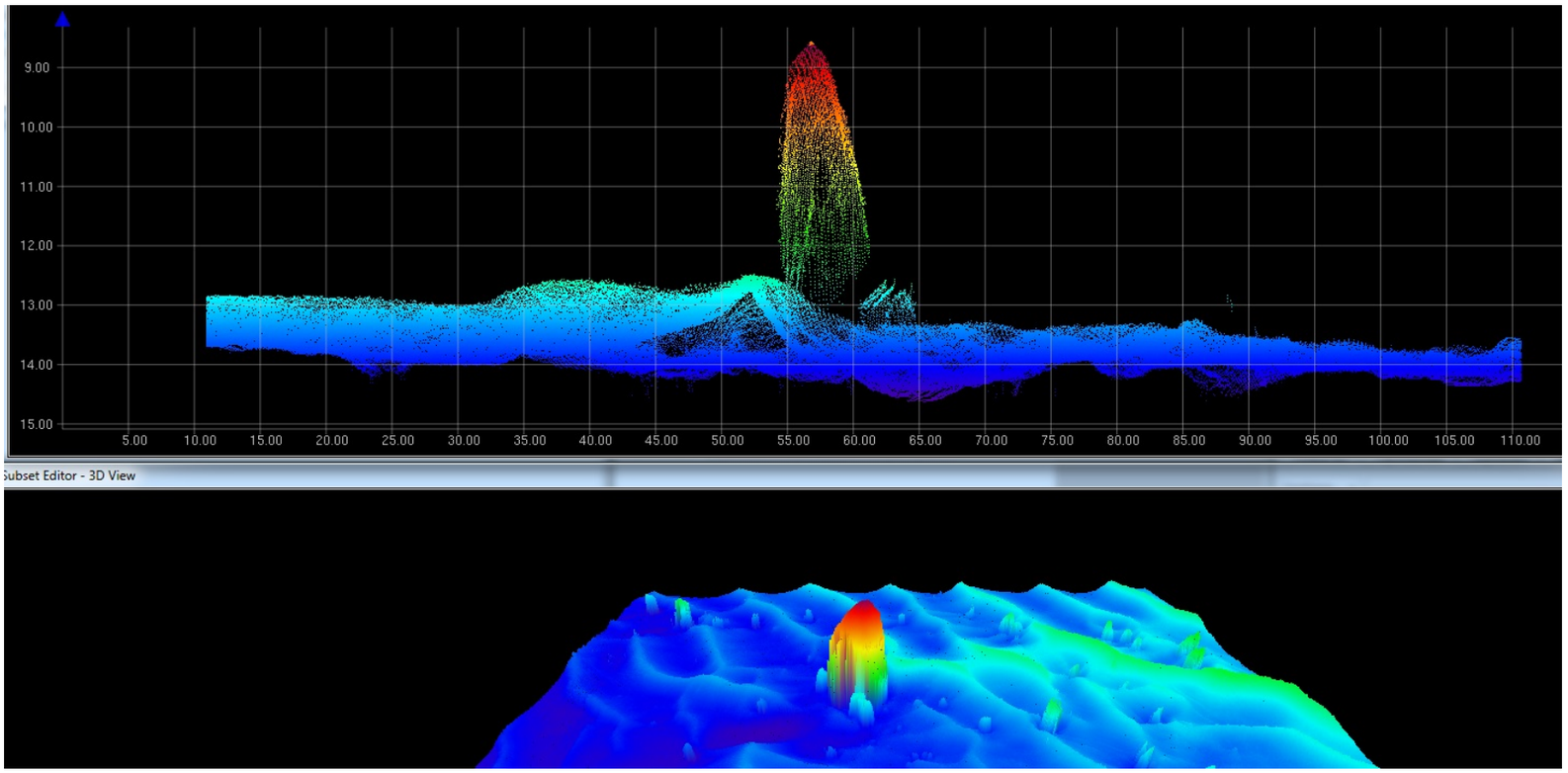


Figure 2.8.1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Subset Editor - 3D View

Figure 2.8.2

2.9) 23 foot dangerous underwater rock

DANGER TO NAVIGATION

Survey Summary

Survey Position:	41° 05' 30.9" N, 072° 26' 57.4" W
Least Depth:	6.93 m (= 22.75 ft = 3.792 fm = 3 fm 4.75 ft)
TPU (±1.96σ):	**THU (TPEh)** [None] ; **TVU (TPEv)** [None]
Timestamp:	2013-110.00:00:00.000 (04/20/2013)
Dataset:	H12483_Features for PYDRO.000
FOID:	0_ 0001149139 00001(FFFE001188D30001)
Charts Affected:	12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

UWTROC/remrks: Dangerous rock found with Reson 7125 object detection multibeam. Soundings are corrected to MLLW with VDATUM solution.

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12483_Features for PYDRO.000	0_ 0001149139 00001	0.00	000.0	Primary

Hydrographer Recommendations

Chart dangerous rock.

Cartographically-Rounded Depth (Affected Charts):

23ft (12358_1, 12354_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:	NINFOM - Add rock
	QUASOU - 6:least depth known
	SORDAT - 20130420
	SORIND - US,US,graph,H12483

TECSOU - 3:found by multi-beam

VALSOU - 6.935 m

WATLEV - 3:always under water/submerged

Office Notes

SAR: Danger to navigation located at survey position with objection detection multibeam. The original DTON submission was applied to the current charts.

Concur with conditions. Delete charted dangerous underwater rock, least depth 23 feet. Add dangerous underwater rock, least depth 22.75 feet in the present survey position.

Feature Images

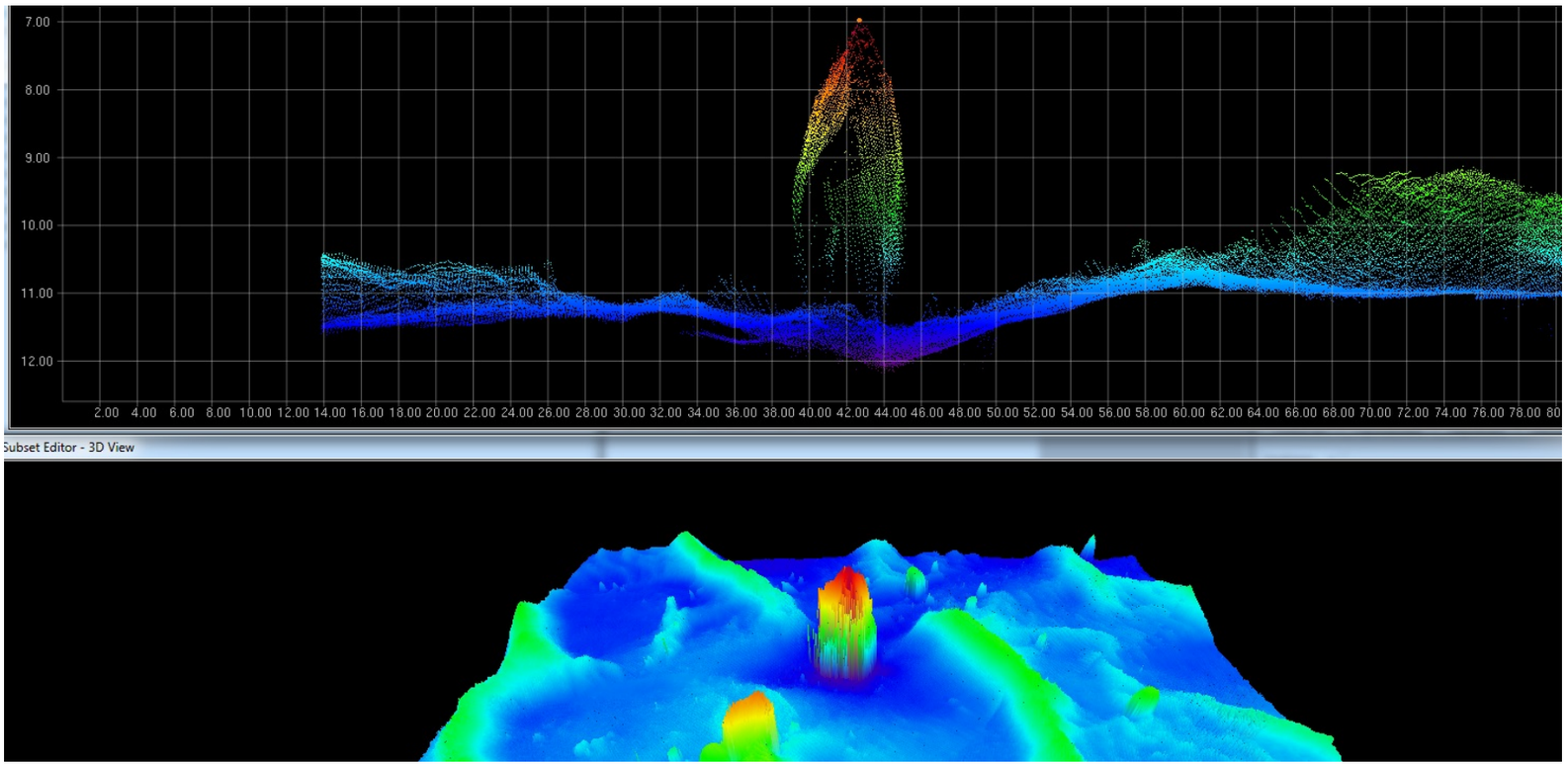

Figure 2.9.1

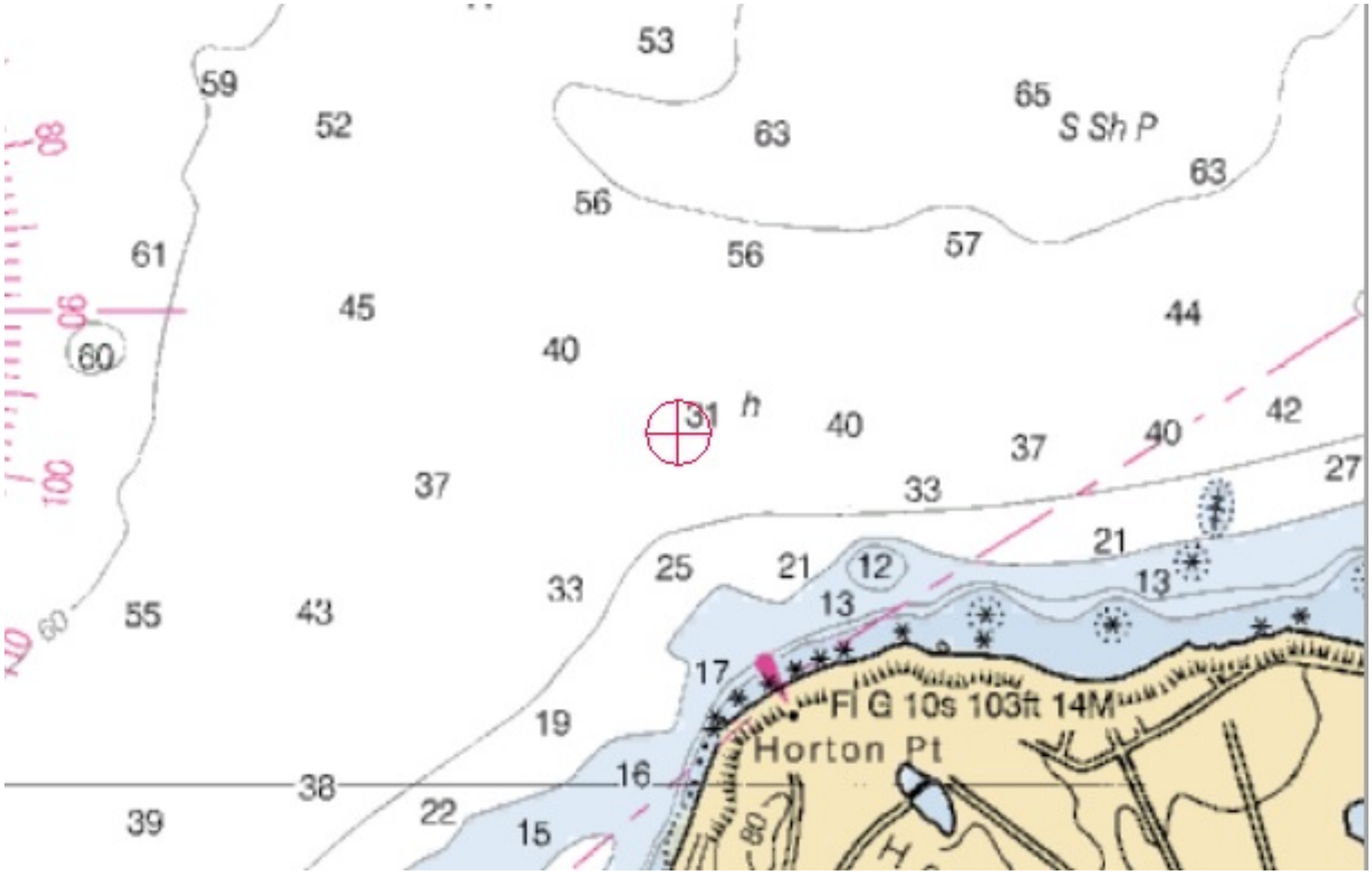
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Figure 2.9.2

2.10) 4 foot dangerous underwater rock

DANGER TO NAVIGATION

Survey Summary

Survey Position:	41° 05' 05.6" N, 072° 26' 57.0" W
Least Depth:	1.44 m (= 4.73 ft = 0.789 fm = 0 fm 4.73 ft)
TPU (±1.96σ):	**THU (TPEh)** [None] ; **TVU (TPEv)** [None]
Timestamp:	2013-110.00:00:00.000 (04/20/2013)
Dataset:	H12483_Features for PYDRO.000
FOID:	0_ 0001149145 00001(FFFE001188D90001)
Charts Affected:	12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

UWTROC/remrks: Dangerous rock found with Reson 7125 object detection multibeam. Soundinds are corrected to MLLW with VDATUM solution.

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12483_Features for PYDRO.000	0_ 0001149145 00001	0.00	000.0	Primary

Hydrographer Recommendations

Chart dangerous rock.

Cartographically-Rounded Depth (Affected Charts):

4ft (12358_1, 12354_1)

0 ¾fm (12300_1, 13006_1, 13003_1)

1.4m (5161_1)

S-57 Data

Geo object 1:	Underwater rock / awash rock (UWTROC)
Attributes:	NINFOM - Add rock
	QUASOU - 6:least depth known
	SORDAT - 20130420
	SORIND - US,US,graph,H12483

TECSOU - 3:found by multi-beam

VALSOU - 1.443 m

WATLEV - 3:always under water/submerged

Office Notes

SAR: Danger to navigation located at survey position with objection detection multibeam. The original DTON submission was applied to the current charts.

COMPILATION: Concur with conditions. Delete charted dangerous underwater rock, least depth 5 feet. Add dangerous underwater rock, least depth 4.73 feet in the present survey position.

Feature Images

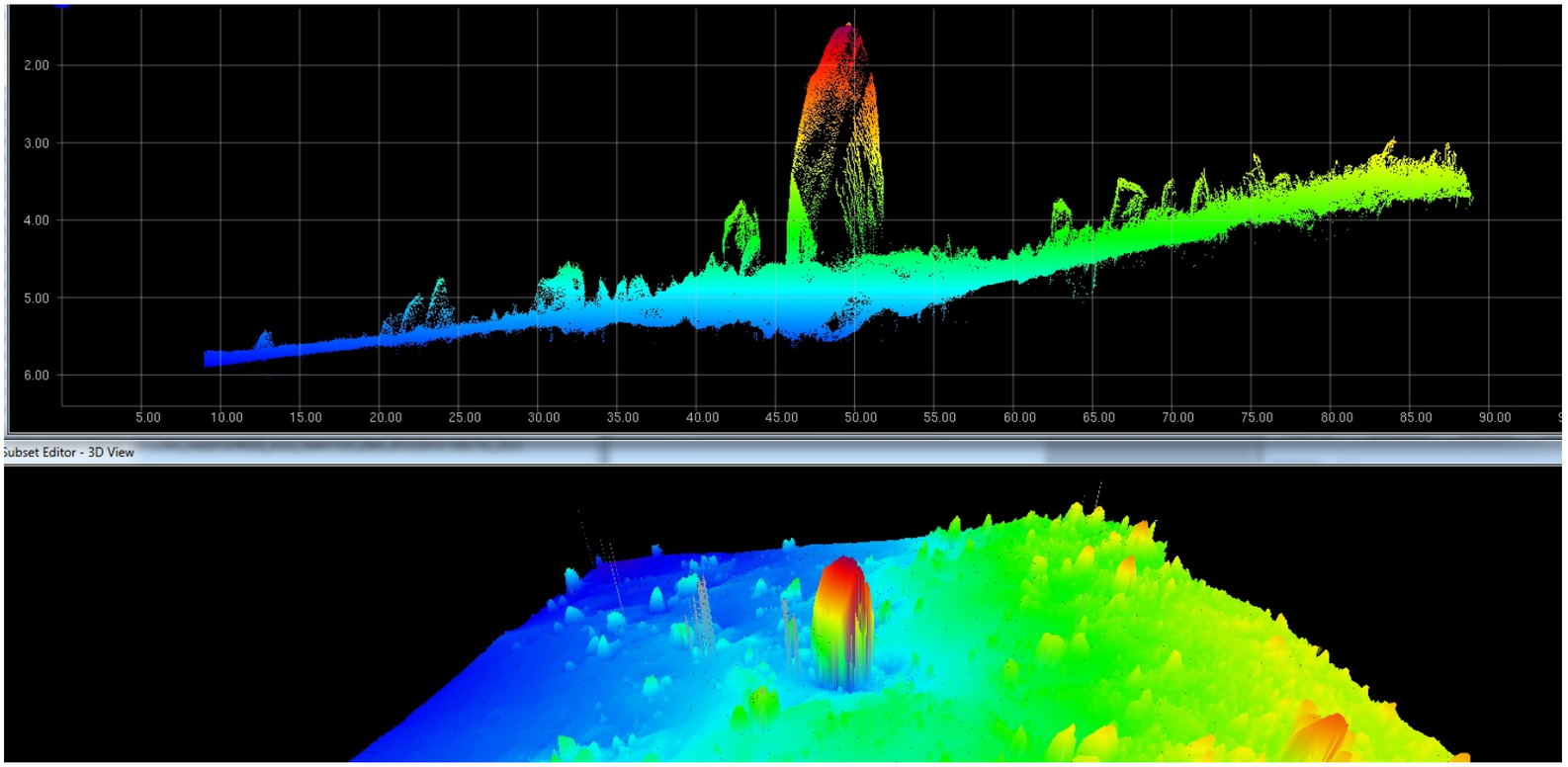

Figure 2.10.1

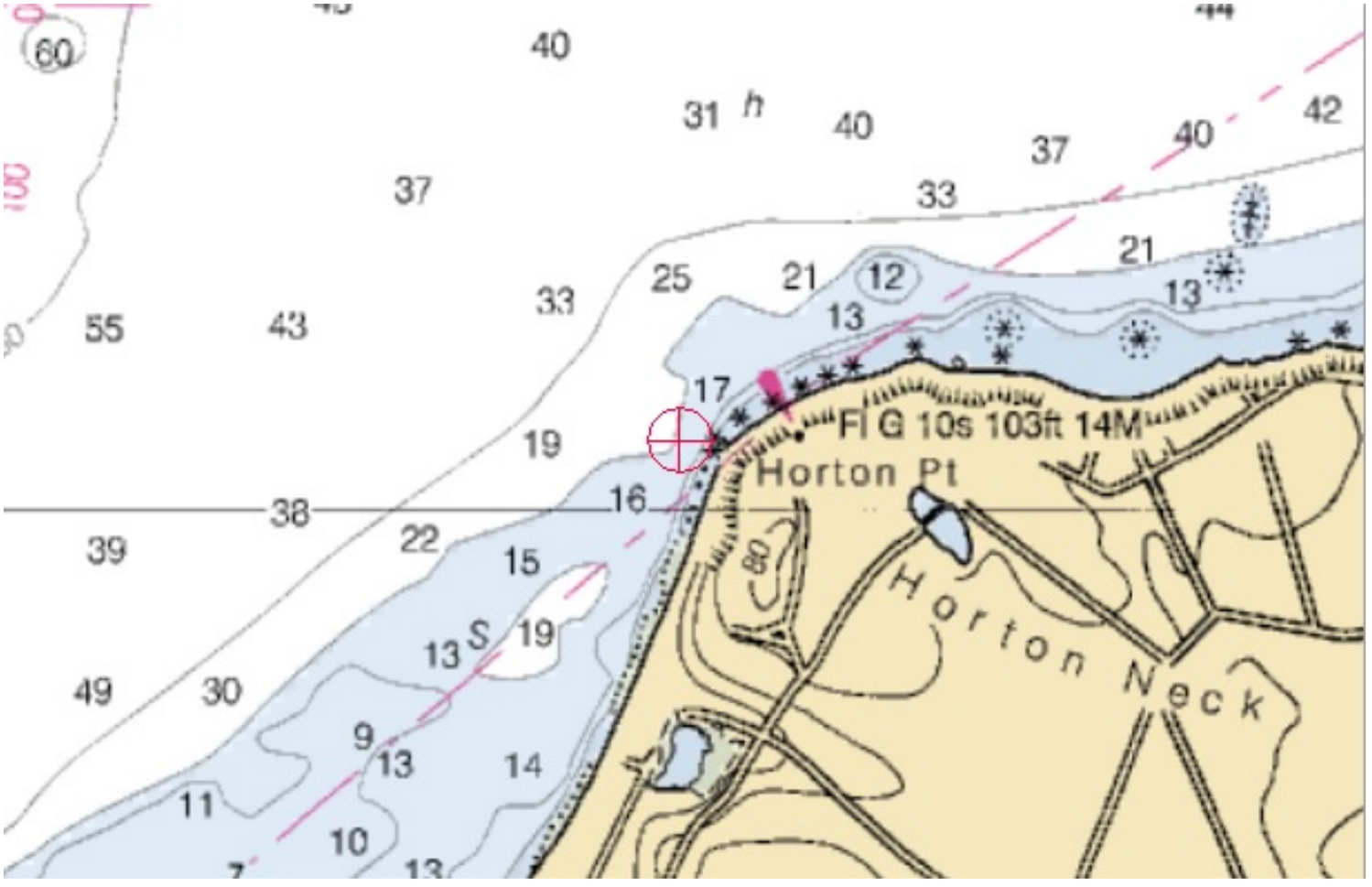
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Figure 2.10.2

2.11) 17 foot dangerous underwater rock

DANGER TO NAVIGATION

Survey Summary

Survey Position:	41° 05' 23.9" N, 072° 26' 34.4" W
Least Depth:	5.34 m (= 17.52 ft = 2.920 fm = 2 fm 5.52 ft)
TPU (±1.96σ):	**THU (TPEh)** [None] ; **TVU (TPEv)** [None]
Timestamp:	2013-110.00:00:00.000 (04/20/2013)
Dataset:	H12483_Features for PYDRO.000
FOID:	0_ 0001149157 00001(FFFE001188E50001)
Charts Affected:	12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

UWTROC/remrks: Dangerous rock found with Reson 7125 object detection multibeam. Soundings are corrected to MLLW with VDATUM solution.

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12483_Features for PYDRO.000	0_ 0001149157 00001	0.00	000.0	Primary

Hydrographer Recommendations

Chart dangerous rock.

Cartographically-Rounded Depth (Affected Charts):

17ft (12358_1, 12354_1)

2 ¾fm (12300_1, 13006_1, 13003_1)

5.3m (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 - Add rock
	QUASOU - 6:least depth known
	SORDAT - 20130420

SORIND - US,US,graph,H12483

TECSOU - 3:found by multi-beam

VALSOU - 5.340 m

WATLEV - 3:always under water/submerged

Office Notes

SAR: Danger to navigation located at survey position with objection detection multibeam. The original DTON submission was applied to the current charts.

Concur with conditions. Delete charted dangerous underwater rock, least depth 17 feet. Add dangerous underwater rock, least depth 17.52 feet in the present survey position.

Feature Images

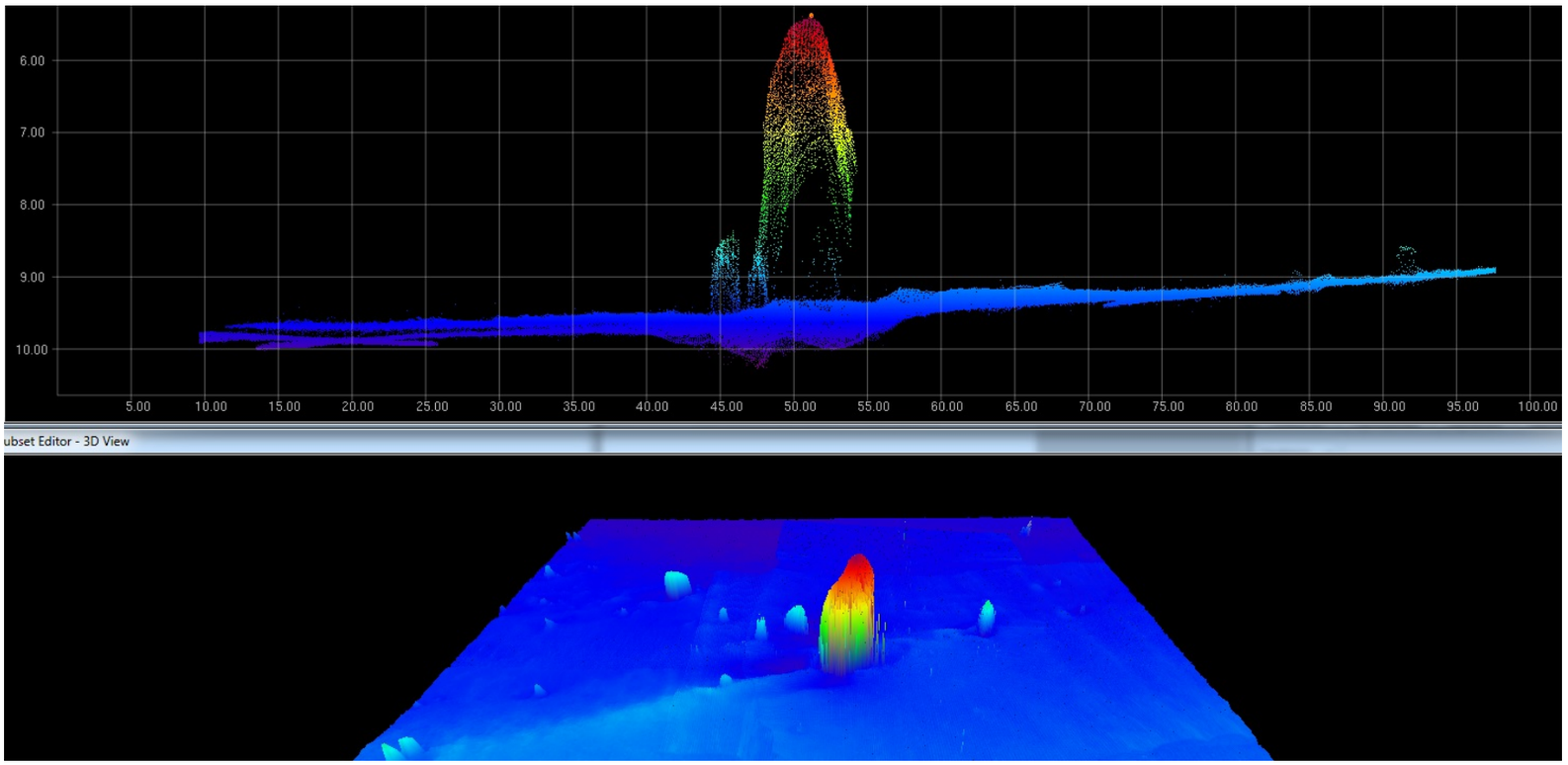

Figure 2.11.1

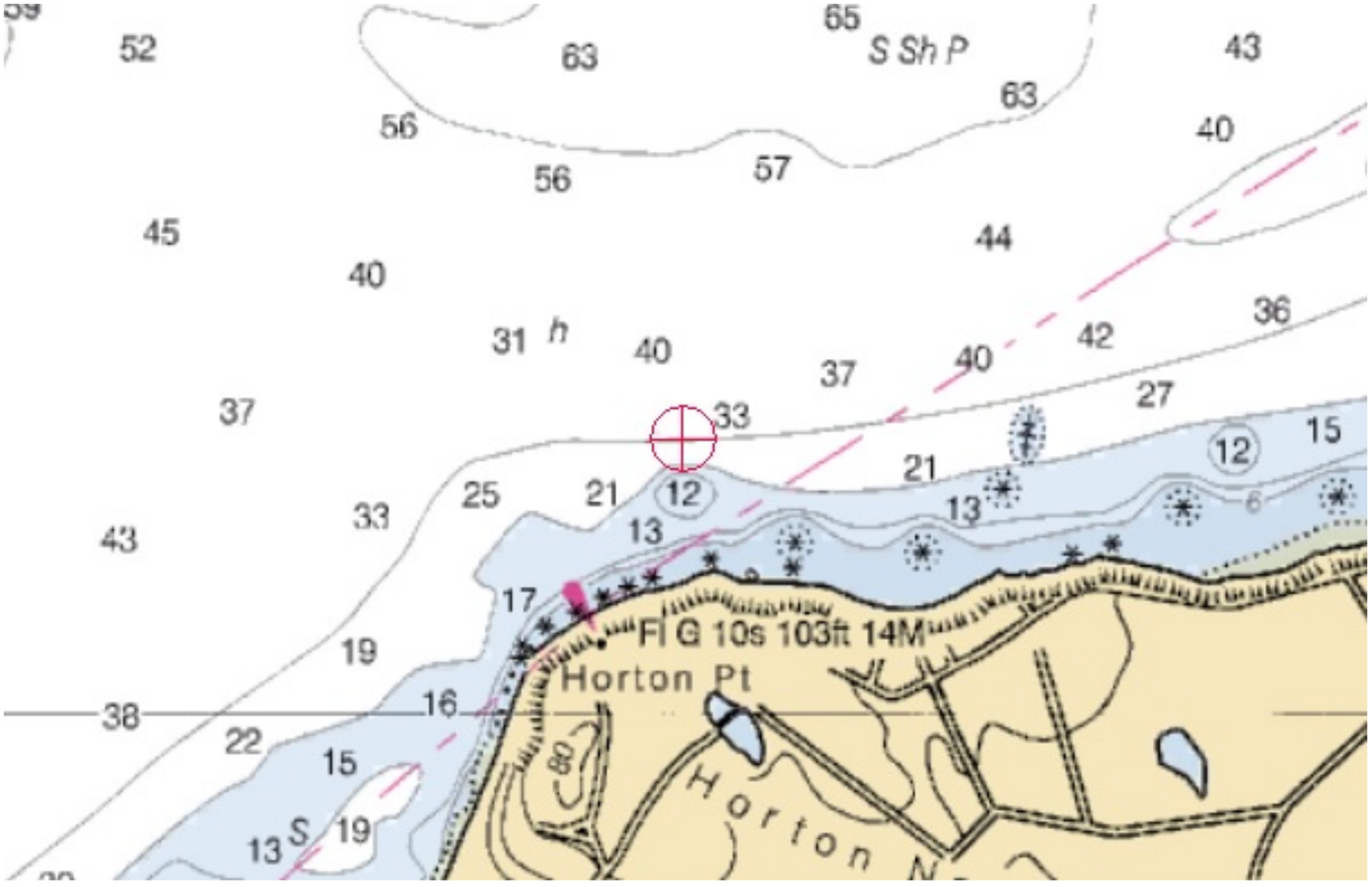
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Figure 2.11.2

2.12) 10 foot dangerous underwater rock

DANGER TO NAVIGATION

Survey Summary

Survey Position:	41° 05' 21.3" N, 072° 26' 07.6" W
Least Depth:	3.22 m (= 10.56 ft = 1.760 fm = 1 fm 4.56 ft)
TPU (±1.96σ):	**THU (TPEh)** [None] ; **TVU (TPEv)** [None]
Timestamp:	2013-110.00:00:00.000 (04/20/2013)
Dataset:	H12483_Features for PYDRO.000
FOID:	0_ 0001149150 00001(FFFE001188DE0001)
Charts Affected:	12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

UWTROC/remrks: Dangerous rock found with Reson 7125 object detection multibeam. Soundings are corrected to MLLW with VDATUM solution.

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12483_Features for PYDRO.000	0_ 0001149150 00001	0.00	000.0	Primary

Hydrographer Recommendations

Chart dangerous rock.

Cartographically-Rounded Depth (Affected Charts):

10ft (12358_1, 12354_1)

1 ¾fm (12300_1, 13006_1, 13003_1)

3.2m (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 - Add rock
	QUASOU - 6:least depth known
	SORDAT - 20130420

SORIND - US,US,graph,H12483

TECSOU - 3:found by multi-beam

VALSOU - 3.218 m

WATLEV - 3:always under water/submerged

Office Notes

SAR: Danger to navigation located at survey position with objection detection multibeam. The original DTON submission was applied to the current charts.

Concur with conditions. Delete charted dangerous underwater rock, least depth 10 feet. Add dangerous underwater rock, least depth 10.56 feet in the present survey position.

Feature Images

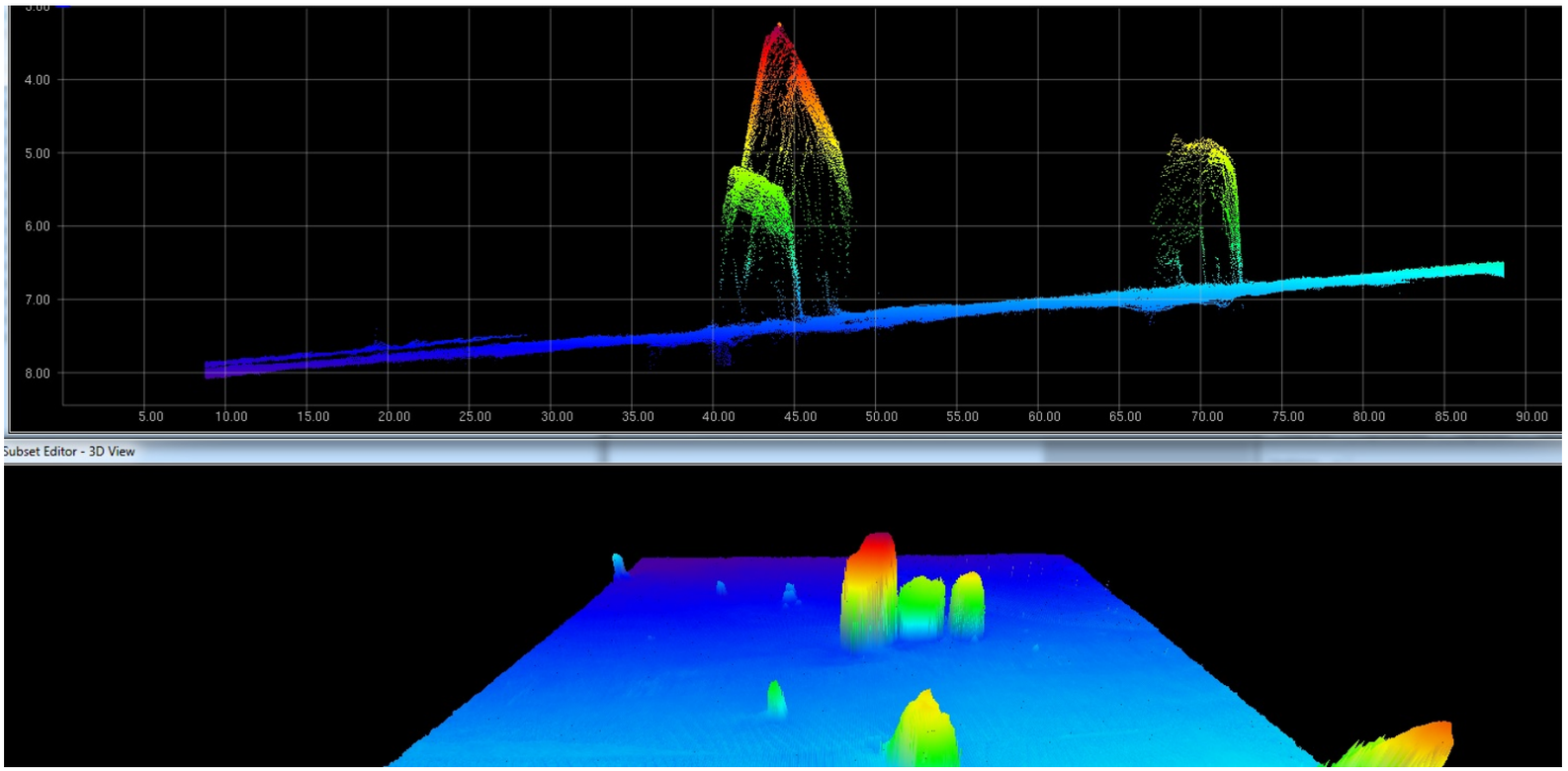
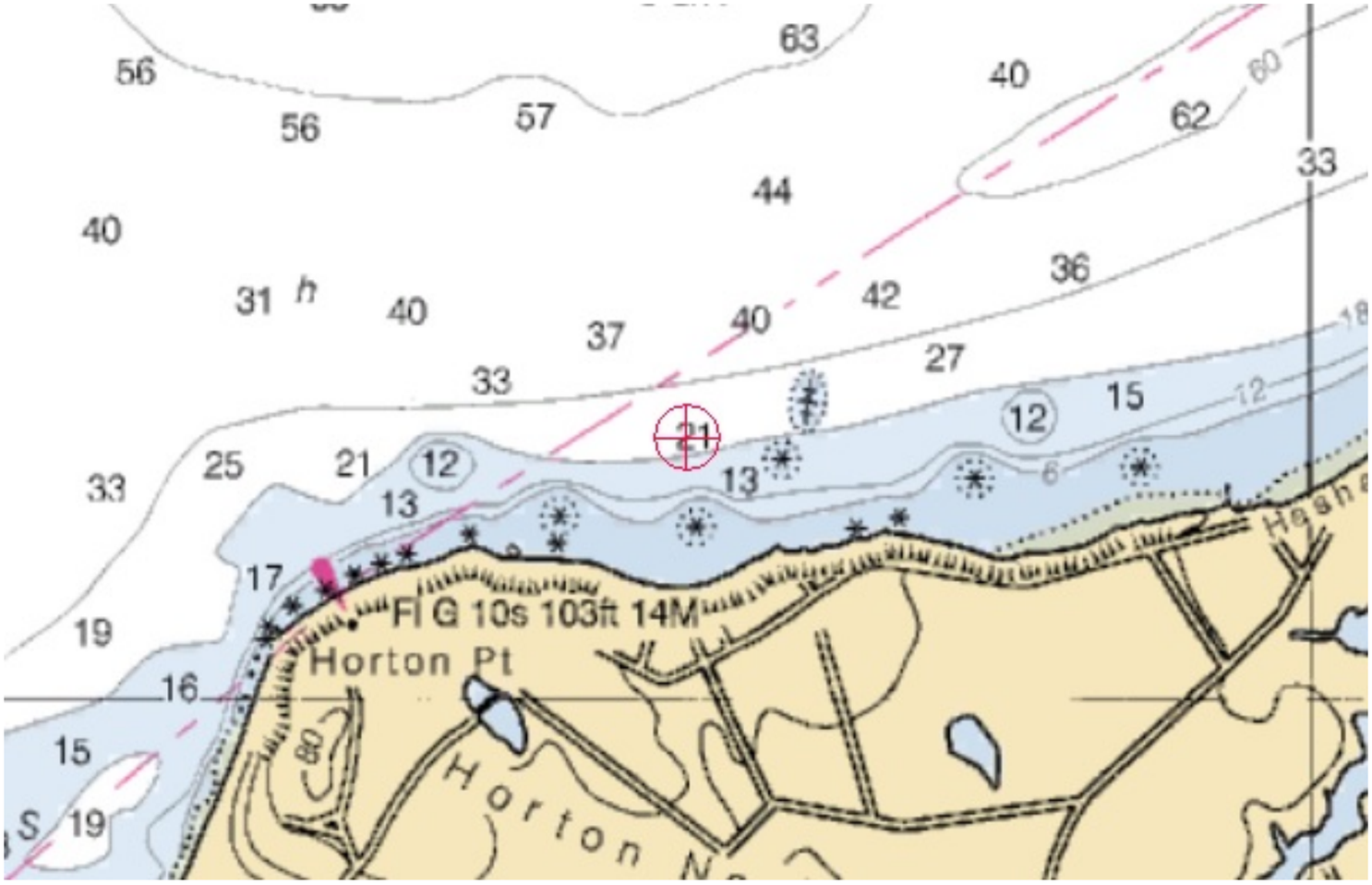


Figure 2.12.1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Horton

Figure 2.12.2

2.13) 5 foot dangerous underwater rock

DANGER TO NAVIGATION

Survey Summary

Survey Position:	41° 05' 23.3" N, 072° 25' 21.5" W
Least Depth:	1.67 m (= 5.49 ft = 0.915 fm = 0 fm 5.49 ft)
TPU (±1.96σ):	**THU (TPEh)** [None] ; **TVU (TPEv)** [None]
Timestamp:	2013-110.00:00:00.000 (04/20/2013)
Dataset:	H12483_Features for PYDRO.000
FOID:	0_ 0001149156 00001(FFFE001188E40001)
Charts Affected:	12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

UWTROC/remrks: Dangerous rock found with Reson 7125 object detection multibeam. Soundings are corrected to MLLW with VDATUM solution.

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12483_Features for PYDRO.000	0_ 0001149156 00001	0.00	000.0	Primary

Hydrographer Recommendations

Chart dangerous rock.

Cartographically-Rounded Depth (Affected Charts):

5ft (12358_1, 12354_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:	EXPSOU - 2:shoaler than range of depth of the surrounding depth area
	NINFOM - Add rock
	QUASOU - 6:least depth known
	SORDAT - 20130420

SORIND - US,US,graph,H12483

TECSOU - 3:found by multi-beam

VALSOU - 1.673 m

WATLEV - 3:always under water/submerged

Office Notes

SAR: Danger to navigation located at survey position with objection detection multibeam. The original DTON submission was applied to the current charts.

Concur with conditions. Delete charted dangerous underwater rock, least depth 5 feet. Add dangerous underwater rock, least depth 5.49 feet in the present survey position.

Feature Images

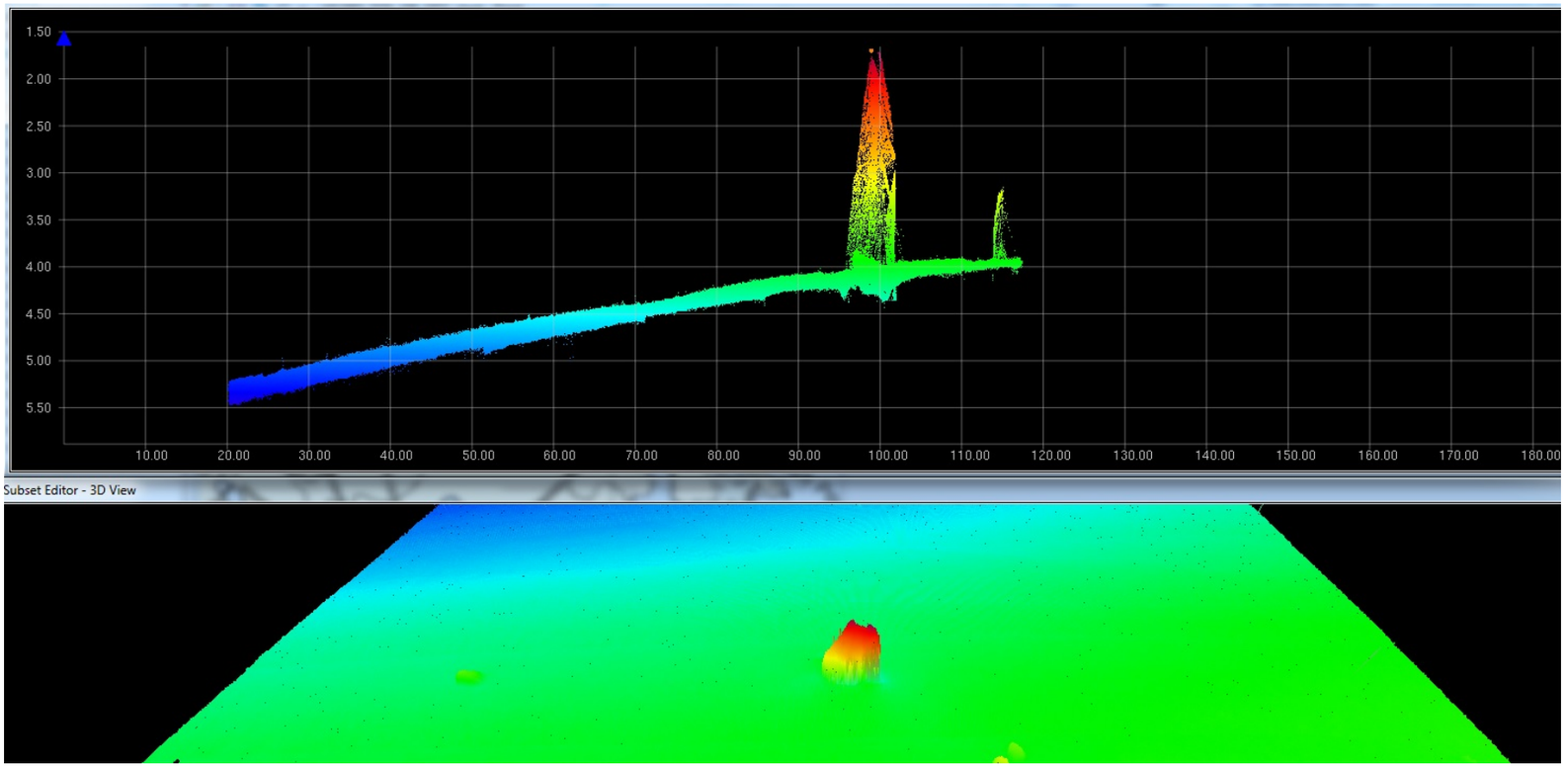
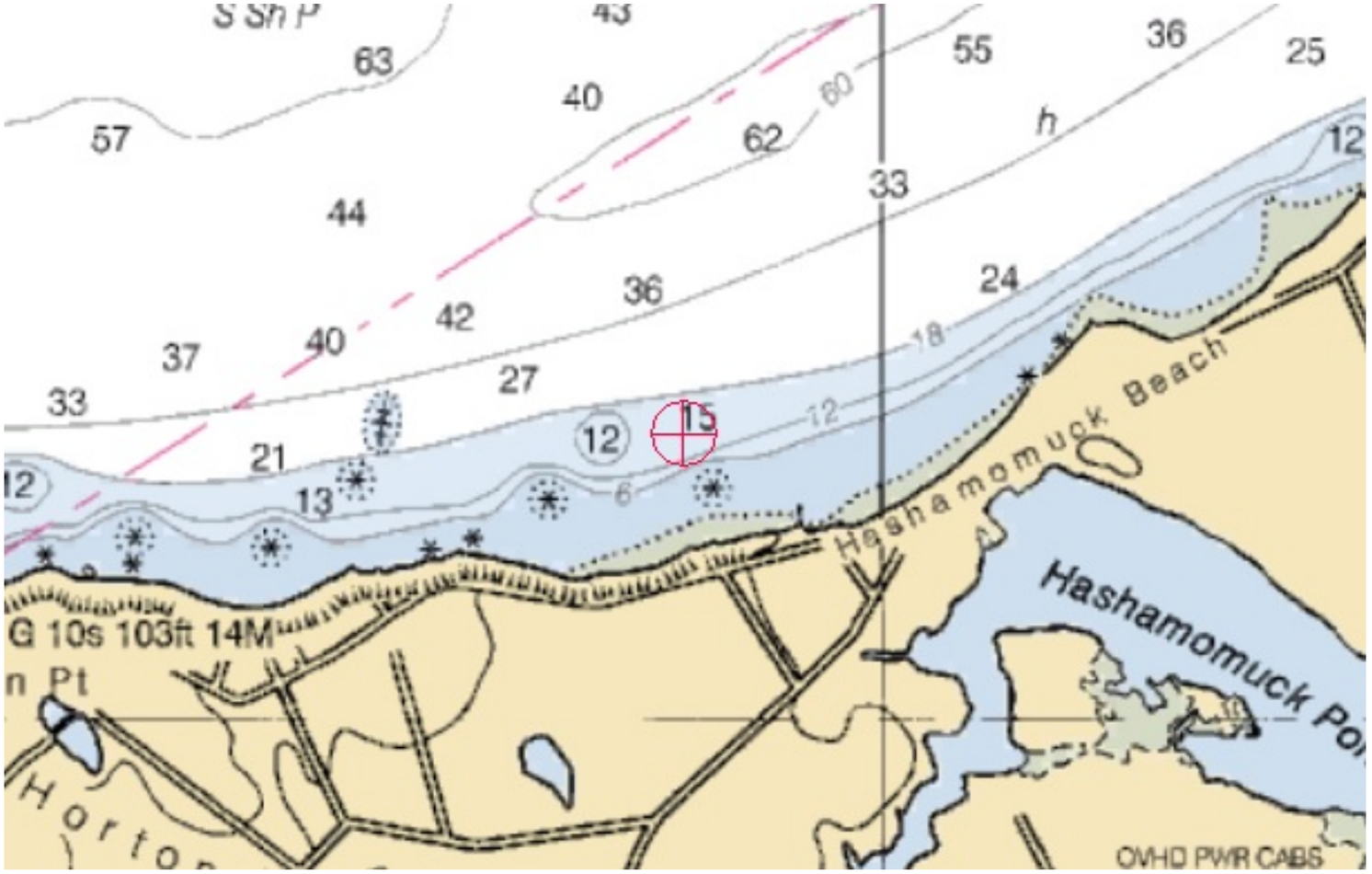


Figure 2.13.1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Hashamomuck Beach
Hashamomuck Po
G 10s 103ft 14M
n Pt
OVHD PWR CABS

Figure 2.13.2

APPROVAL PAGE

H12483

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

- H12483_DR.pdf
- Collection of depth varied resolution BAGS
- Processed survey data and records
- H12483_GeoImage.pdf

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

Approved: 

Lieutenant Matthew Jaskoski, NOAA
Chief, Atlantic Hydrographic Branch