

H12488

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

**DESCRIPTIVE REPORT**

Type of Survey: Navigable Area

Registry Number: H12488

**LOCALITY**

State(s): New York

General Locality: Long Island Sound

Sub-locality: East of Nissequogue River to Crane Neck Point NY.

**2012**

CHIEF OF PARTY  
CDR. Lawrence T. Krepp, NOAA

LIBRARY & ARCHIVES

Date:

**HYDROGRAPHIC TITLE SHEET**

**H12488**

**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: **East of Nissequogue River to Crane Neck Point NY.**

Scale: **10000**

Dates of Survey: **06/24/2012 to 08/07/2012**

Instructions Dated: **05/08/2012**

Project Number: **OPR-B340-TJ-12**

Field Unit: **NOAA Ship *Thomas Jefferson***

Chief of Party: **CDR. Lawrence T. Krepp, NOAA**

Soundings by: **RESON 7125 Multibeam Echo Sounder**

Imagery by: **RESON 7125 Backscatter KLEIN 5000 Side Scan Sonar**

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. Revisions and Red notes were generated during office processing. The processing branch concurs with all information and recommendations in the DR unless otherwise noted. Page numbering may be interrupted or non-sequential. All pertinent records for this survey, including the Descriptive Report, 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 H12488

Project: OPR-B340-TJ-12

Locality: Long Island Sound

Sublocality: East of Nissequogue River to Crane Neck Point NY.

Scale: 1:10000

June 2012 - August 2012

**NOAA Ship *Thomas Jefferson***

Chief of Party: CDR. Lawrence T. Krepp, NOAA

### A. Area Surveyed

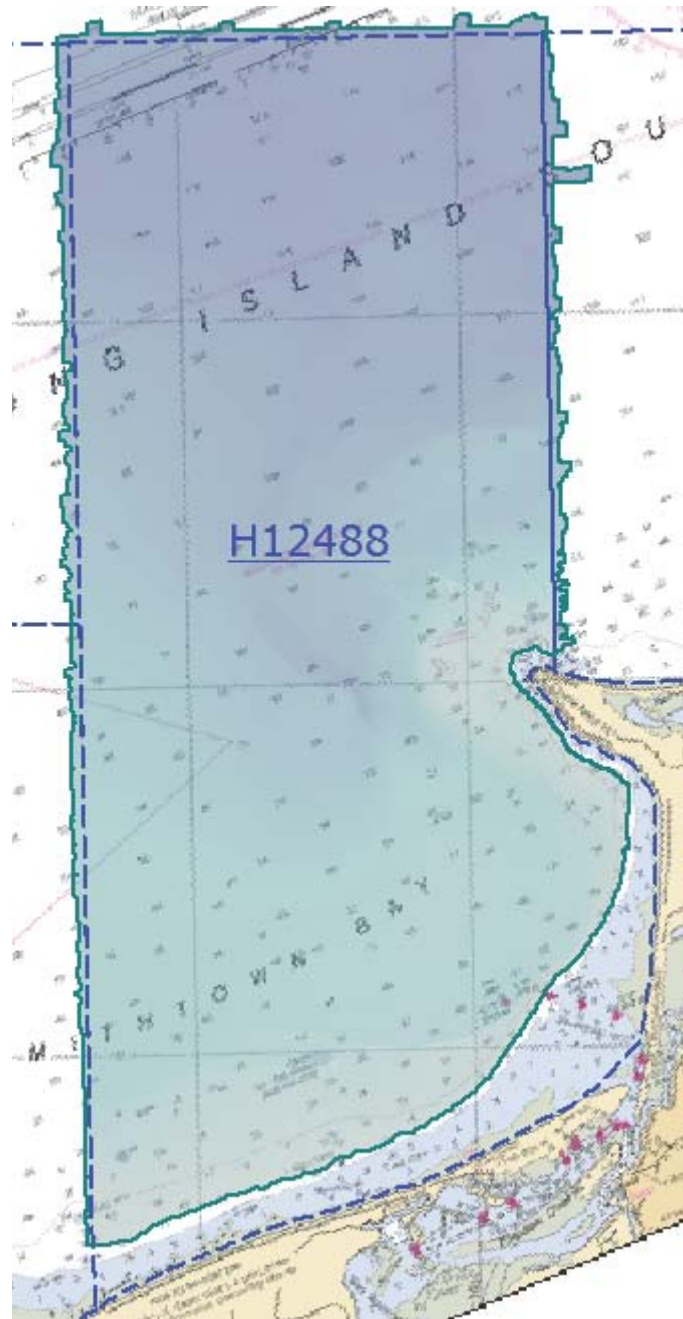
Area surveyed was east of Nissequogue River to Crane Neck Point New York. Crane Neck is a peninsula that extends out northwest into Long Island Sound. The submerged extension of the point continues with sandwaves and rocks that are susceptible to shoaling. On the south side of this survey is the approach to Stony Brook Harbor. It has considerable recreational and fishing charter enterprises.

#### A.1 Survey Limits

Data were acquired within the following survey limits:

<b>Northwest Limit</b>	<b>Southeast Limit</b>
41° 1' 35' N	40° 54' 29' N
73° 12' 54' W	73° 8' 36' W

*Table 1: Survey Limits*



*Figure 1: Limit to 4m Curve*

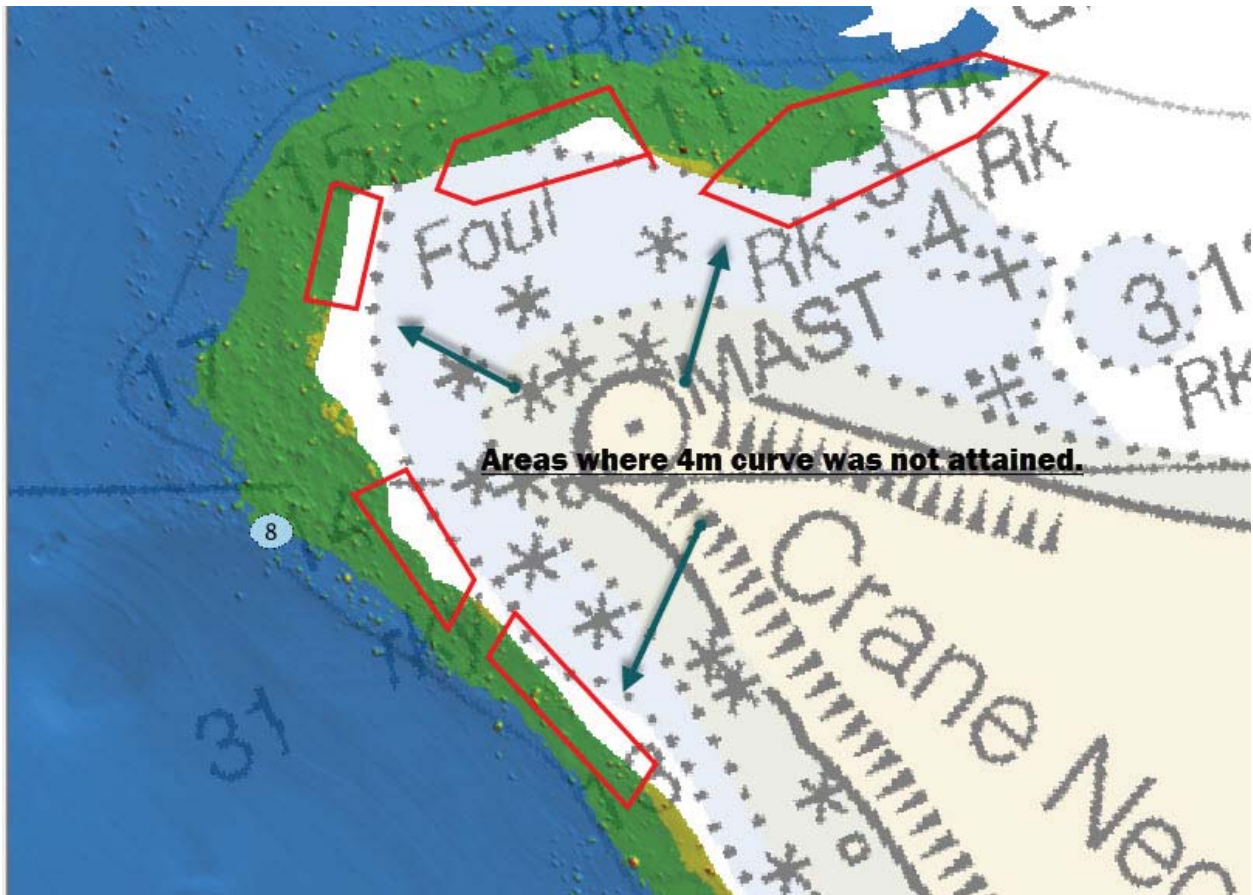


Figure 2: Exception to 4m curve. Green to Yellow denotes 4m curve is obtained

The survey limits, as depicted in the project instructions project reference file, extend all the way to the shoreline. The coverage requirement for multibeam is to the NALL line or 4m curve. With the exception of foul areas, complete MBES coverage was achieved as per project instructions. These areas are generally located very near shore, subject to dangerous wave action, and judged to be navigationally insignificant. In Fig 4 the dashed line indicates the sheet limit, the solid line displays the limits of survey. Fig. 4 is a close up of missed areas.

## 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. In addition, data from this project will support the Long Island Sound Sea floor Mapping Initiative for the States of Connecticut and New York. This project also responds to the Coast Guard proposal to establish six anchorage grounds in Long Island Sound to increase safety for vessels through enhanced voyage planning and also by clearly indicating the location of anchorage grounds for ships proceeding to ports in New York. The USCG is requesting that NOAA confirm that their underwater surveys of Long Island Sound did not detect any wrecks at all in the locations being proposed for the anchorage areas. Data acquired for this project will be used by partners for species and habitat identification, infrastructure projects,

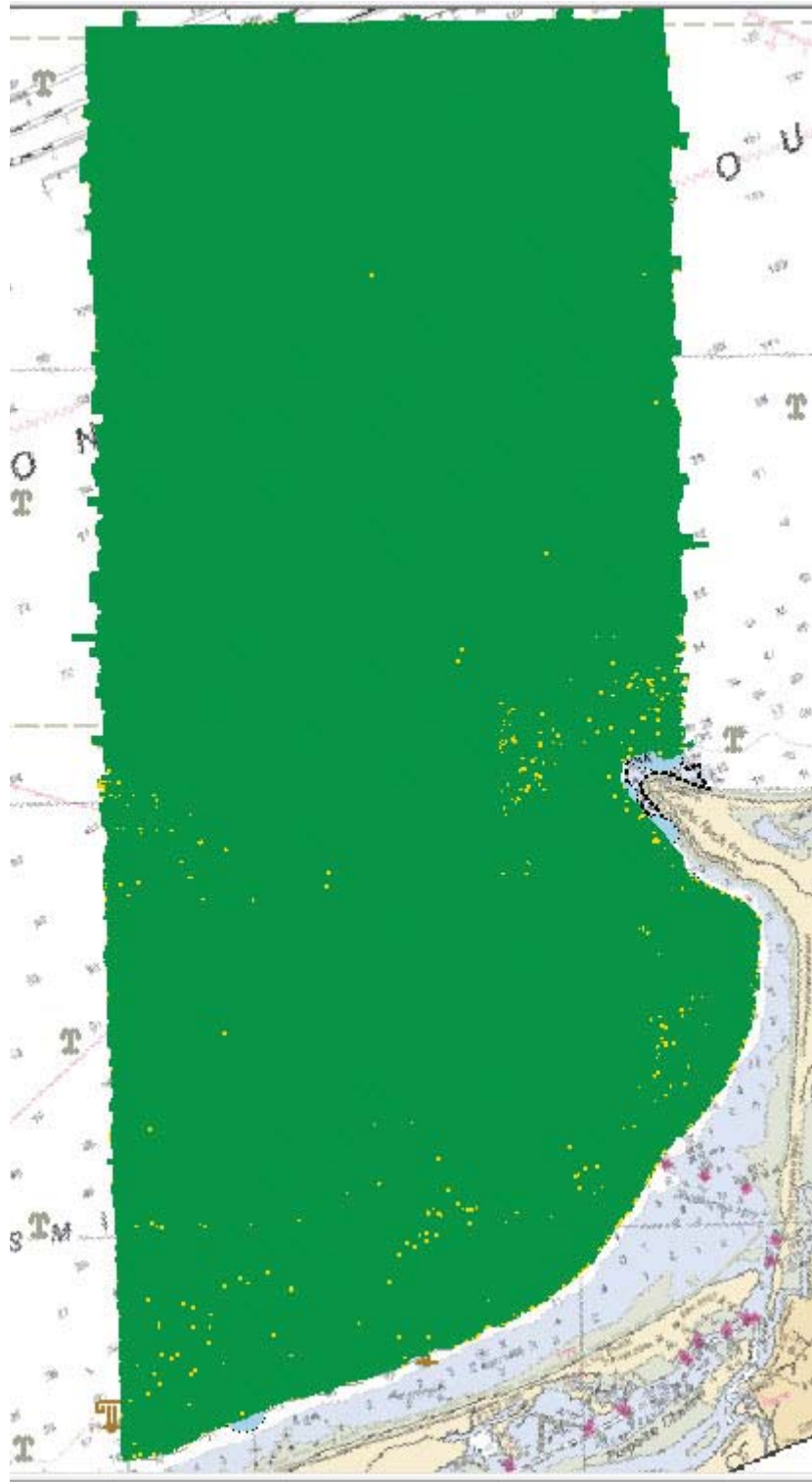
ocean mapping, coastal hazards and geology. Partners include the US Environmental Protection Agency, Connecticut Department of Environmental Protection, the University of Connecticut Marine Science Department, New York Department of Environmental Quality, and other organizations. This project will cover approximately 206 SNM of which 165 SNM are critical survey areas as designated in the NOAA Hydrographic Survey Priorities, 2010 edition.

### **A.3 Survey Quality**

The entire survey is adequate to supersede previous data.

Data acquired on survey H12488 met complete multibeam coverage requirements. Ninety five percent of the survey met the 5 soundings per node data density requirements outlined in section 5.2.2.2 of the HSSDM (Figure 2 and 3.). Most areas that did not meet the requirement were from acoustic shadows.





*Figure 3: Total Coverage by Density Limit. Yellow indicates less than 5 pings per node*

Field Sheets	Resolution	Depth Range ( 2012 Spec)	Num Nodes	Fewer than 5 per node	Percent of nodes greater than 5 per node
FS1_50cm	0.5m	0-20	91,142,588	488,245	99.46%
FS1_2m	2.0m	18-40	2,201,619	118	99.99%
FS2_50cm	0.5m	0-20	1,148,586	56,381	95.09%
FS2_2m	2.0m	18-40	6,832,658	1875	99.97%
		Total	101,325,451	546,619	99.46%

Figure 4: H12488 Density Summary Table

### A.4 Survey Coverage

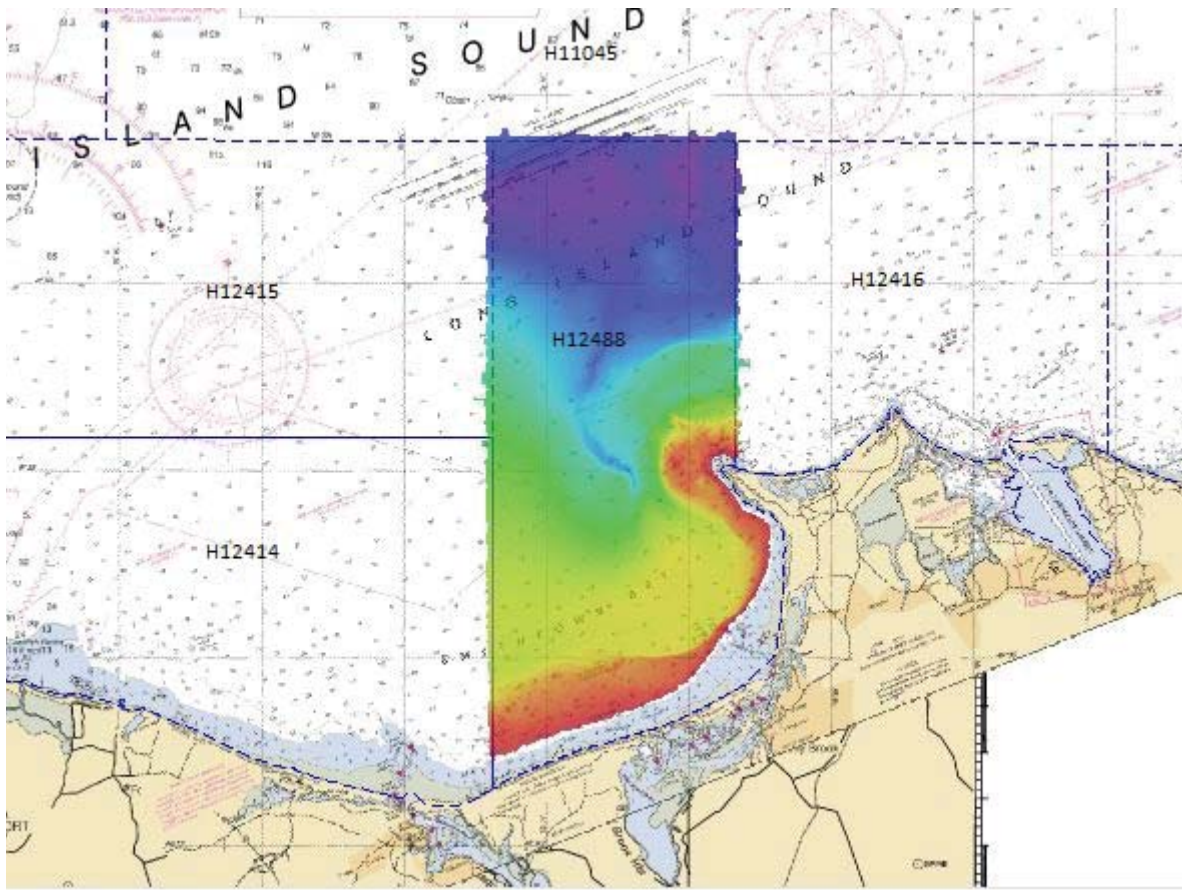


Figure 5: Survey Coverage Limit with contemporary adjoining Surveys

With the exception of Holidays and Density loss, over 95% of the survey adhered to the Project Instructions. Holidays that exceeded the 3 node specification were observed and noted in the image below. Some were of considerable length but usually not more than 2-3 nodes wide. There is a slight difference in the grid



cell coverage depending on whether TCARI or GPS Tide is used. This may explain timeliness in accessing holiday plans prior to leaving the area. See Fig. 6

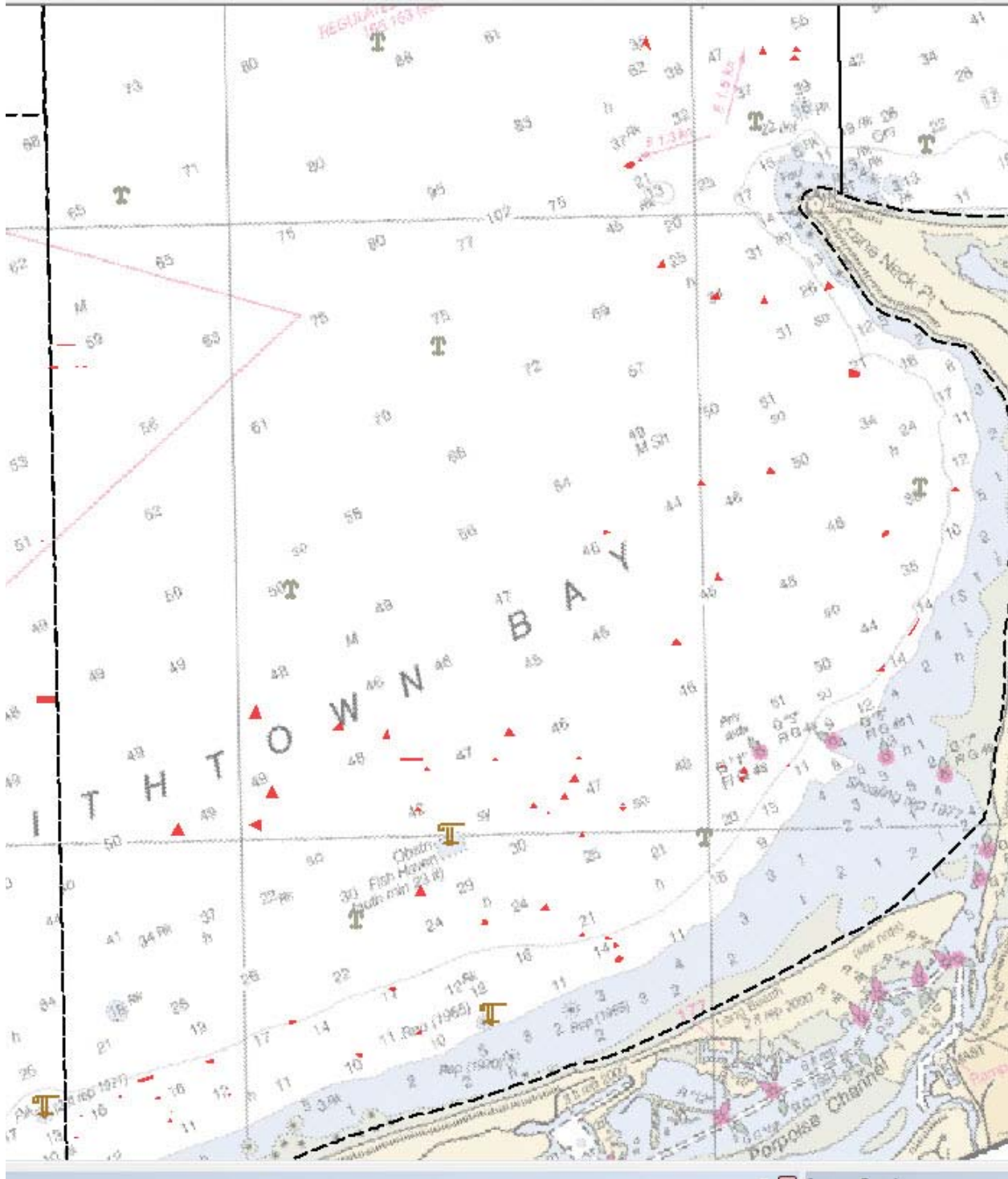


Figure 6: Areas of Holidays that exceed 3 consecutive pings.

## A.5 Survey Statistics

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

	Vessel	<i>S222</i>	<i>3101</i>	<i>3102</i>	<i>Total</i>
<b>LNM</b>	<b>SBES Mainscheme</b>	0	0	0	0
	<b>MBES Mainscheme</b>	430.73	106.93	223.76	761.42
	<b>Lidar Mainscheme</b>	0	0	0	0
	<b>SSS Mainscheme</b>	0	13.9	13.5	27.4
	<b>SBES/MBES Combo Mainscheme</b>	0	0	0	0
	<b>SBES/SSS Combo Mainscheme</b>	0	0	0	0
	<b>MBES/SSS Combo Mainscheme</b>	0	0.0	0	0
	<b>SBES/MBES Combo Crosslines</b>	22.41	22.79	21.43	66.63
	<b>Lidar Crosslines</b>	0	0	0	0
	<b>Number of Bottom Samples</b>				0
<b>Number AWOIS Items Investigated</b>				4	
<b>Number Maritime Boundary Points Investigated</b>				0	
<b>Number of DPs</b>				2	
<b>Number of Items Items Investigated by Dive Ops</b>				0	
<b>Total Number of SNM</b>				16.6	

Table 2: Hydrographic Survey Statistics

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

<b>Survey Dates</b>	<b>Julian Day Number</b>
06/24/2012	176
06/25/2012	177
06/26/2012	178
06/27/2012	179
06/28/2012	180
06/29/2012	181
06/30/2012	182
07/26/2012	208
07/27/2012	209
07/28/2012	210
07/29/2012	211
07/30/2012	212
08/02/2012	215

*Table 3: Dates of Hydrography*

Launches performed SSS only for Recon purposes.

## **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:

<b>Hull ID</b>	<b>S222</b>	<b>3101</b>	<b>3102</b>
<b>LOA</b>	208 feet	31 feet	31 feet
<b>Draft</b>	15 feet	3.5 feet	3.5 feet

*Table 4: Vessels Used*

## B.1.2 Equipment

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

<b>Manufacturer</b>	<b>Model</b>	<b>Type</b>
RESON	7125 SV and 7125 ROV	MBES
KLEIN	5000 V1	SSS
APPLANIX	POS/MV	Attitude System
TRIMBLE	REC DSM212L	Positioning System
Rolls Royce	MVP	Sound Speed System
Seabird	SBE 19plus	Conductivity, Temperature, and Depth Sensor
Applied Micro System	Smart SV+T, Micro SV&P	Sound Speed System
RESON	SVP71	Sound Speed System

*Table 5: Major Systems Used*

## B.2 Quality Control

### B.2.1 Crosslines

Crosslines, acquired for this survey, totalled 9% of mainscheme acquisition.

The percentage of cross lines were 9% of the main scheme and exceeded the requirement for 100% object detection coverage. SSS was run only for reconnaissance and was not used to establish object detection requirements. A difference grid was made to access cross line to main scheme parity. Of the crossings 99% percent were less than +/- 0.3meters. Figures 7 and 8 show the cross line overlay on the main scheme lines. The boundary outlines the XL coverage. Statistics can be found in Separates IV.

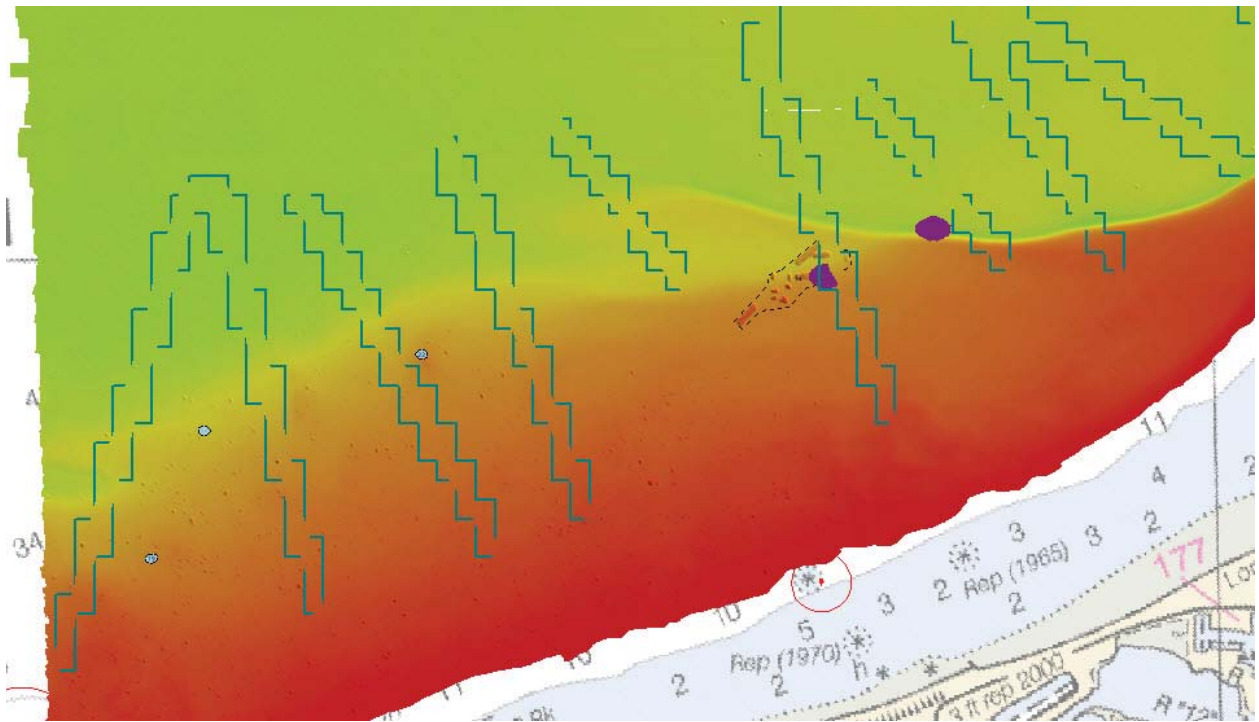


Figure 7: XL South. Orientations highlighted to show XL parity to MS

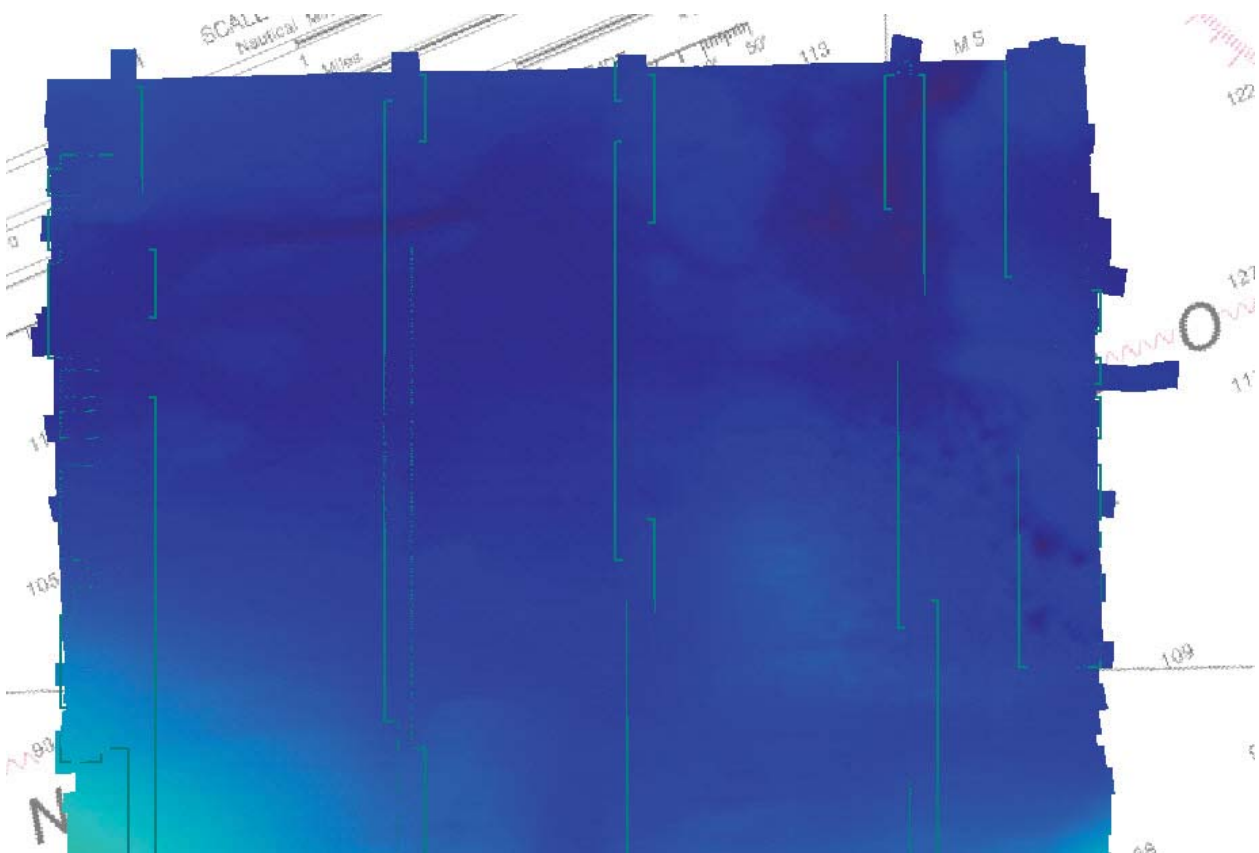


Figure 8: XL North. Orientations highlighted to show XL parity to MS

### B.2.2 Uncertainty

The following survey specific parameters were used for this survey:

<b>Measured</b>	<b>Zoning</b>
0 meters	0 meters
0.102 meters	0 meters

*Table 6: Survey Specific Tide TPU Values*

<b>Hull ID</b>	<b>Measured - CTD</b>	<b>Measured - MVP</b>	<b>Surface</b>
3101 ,3102, S222	4.0 meters/second	0 meters/second	0.2 meters/second
S222	4.0 meters/second	1.0 meters/second	0.2 meters/second

*Table 7: Survey Specific Sound Speed TPU Values*

Two values for Tide uncertainty were used for this project. One is derived from Tidal Constituent And Residual Interpolation (TCARI), and the other Ellipsoidally Referenced Survey (ERS) and referred to as GPS Tide. A value of 0.102 was determined for GPS Tide. Two methods of sound velocity were also used derived from Conductivity Temperature and Density(CTD) and a Moving Vessel Profiler(MVP). The ship was the only platform that could use either CTD or MVP of which the MVP was the preferred method.

The NOAA uncertainty standards are based on IHO S-44 standards for hydrographic surveys. The TVU QC layer compares the estimated uncertainty of the depth estimate to the allowable uncertainty of the depth estimate node by node. The method used was the ratio method which visualizes the ratio of the uncertainty at a node to the maximum allowed IHO uncertainty for each node via a computed layer in CARIS. This TVU QC layer scales with depth and demonstrates what fraction of the total allowable error budget is consumed by the estimated uncertainty.

Four finalized surfaces were examined, H12488\_FS1\_50cm\_MLLW, H12488\_FS1\_2m\_MLLW, H12488\_FS2\_50cm\_MLLW, H12488\_FS2\_2m\_MLLW. Values from the ratio which require further examination are from -1.0 to -100. All the surfaces passed with 99.9% confidence. Most values were either on features or outliers of insignificant value. Results can be found in Separates IV.



**B.2.3 Junctions**

There were three contemporary surveys that junction H12488. H12414 to the southwest, H12415 to the northwest, and H12416 to the east. The survey H11045 2003 by Rude was on the north side but no data was available. No other junction surveys provided intersected this survey. A difference surface was created between adjoining grids and results obtained from the statistic tool. All the junctions attained 99.8% agreement at less than +/- 0.3m. . Results can be found in Separates IV.

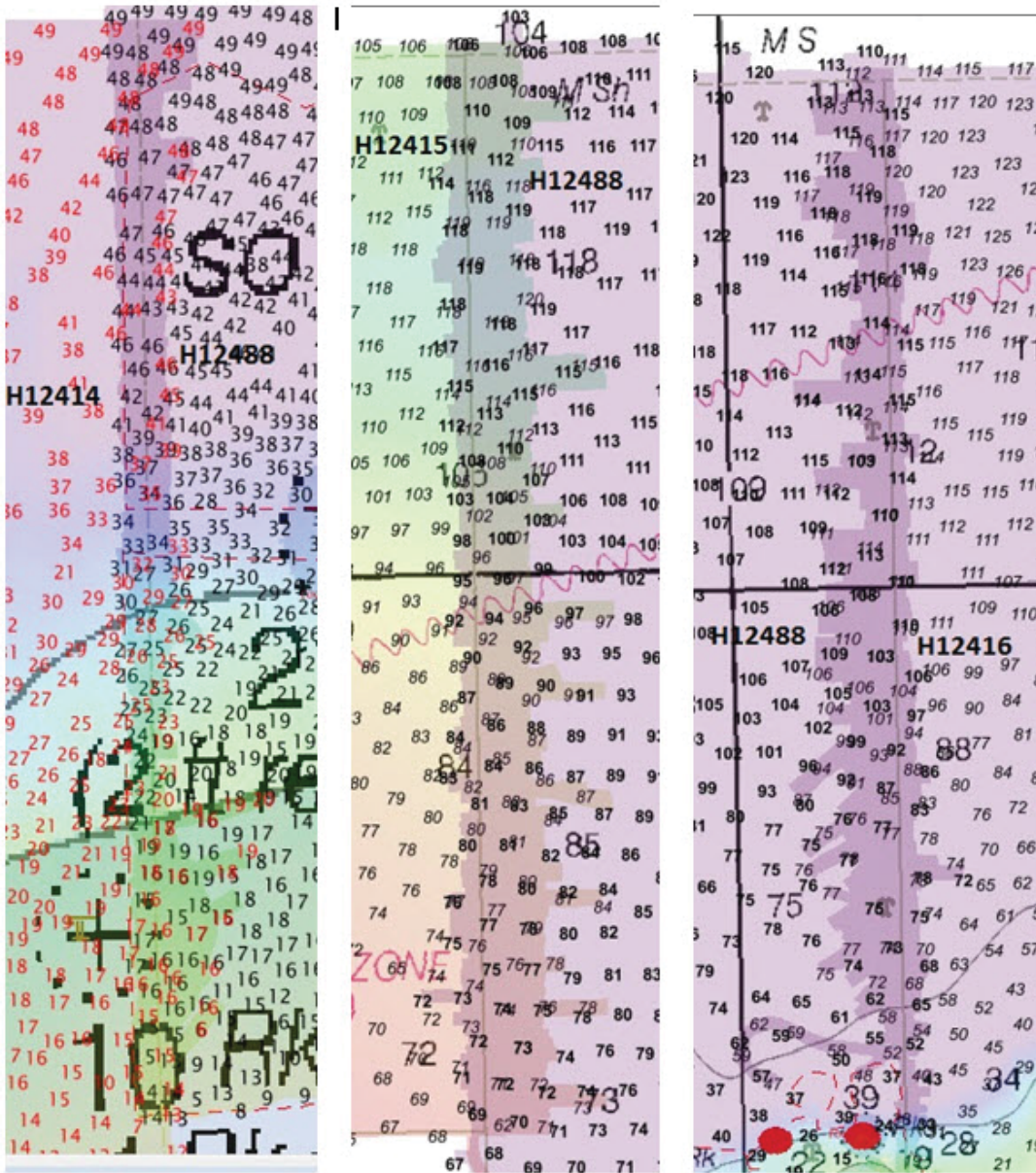


Figure 9: Contemporary Junctions with Surveys H12414, H12415, H12416  
 There are no contemporary surveys that junction with this survey.

#### **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.

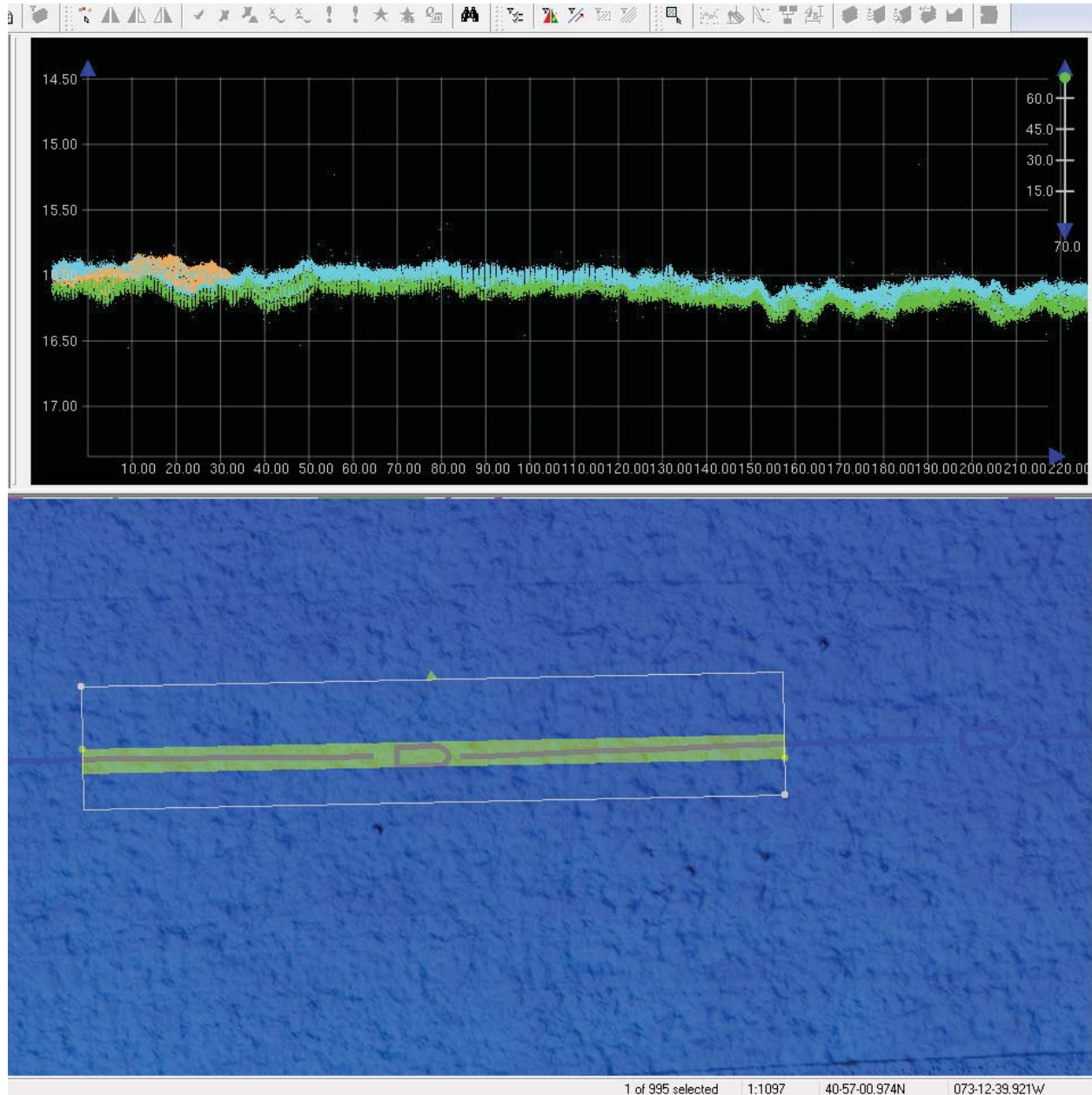
#### **B.2.7 Sound Speed Methods**

Sound Speed Cast Frequency: CTD Casts were taken every 3 to 4 hours throughout the day. MVP Casts averaged every 30 minutes depending on safe deployment or traffic.

Efforts to minimize sound velocity issues included frequent of casts based on time and location. While in acquisition, values in excess of 3 meters/sec while on line were monitored and decisions for casts determined on that basis.

In addition a Sound Speed Comparison Tool script developed by Matt Wilson was used on ship data. This tool will retroactively plot the real-time sound speed input to a multibeam echo sounder (SSP) versus the sound speed at the commensurate water level taken from the Moving Vessel Profiler (MVP). Out of 1007 MVP profiles for the ship, 13 comparisons failed the 2m/sec criteria on ship data. The 2m/sec criteria was chosen because the tool can better access the data then by monitoring it in acquisition. On inspection of the most excessive of the comparisons, data was either rejected completely or rejected to a reduced swath width(outside beams). Most excesses were within IHO specification for differences in depth caused by excess velocity error. The sample refers to a high reading from the results that occurred on S222 data DN181 at 2100. On inspection in subset editor the data was in fact within specification. The mean difference and standard deviation between surface and cast measurements was (m/s)=0.611, +/-0.927. See Fig. 11 and Separates H12488\_Soundspeed\_comarisons\_All.txt for a list of times that were in excess.





*Figure 10: S222 DN181. Data Flagged by SSP tool in excess. Several lines are shown in addition to the line in error. All the lines have depths well within range.*

### **B.2.8 Coverage Equipment and Methods**

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

## 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

Backscatter was logged as a s7k 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: NOAA Profile V\_5\_3

The NOAAProfileField Version 5.3.2 was used for CARIS/HIPS and Bathy Data Base(BDB)

### 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
H12488_FS1_50cm_MLLW_Final	CUBE	0.5 meters	0 meters - 20 meters	NOAA_0.5m	Object Detection
H12488_FS1_2m_MLLW_Final	CUBE	2.0 meters	18 meters - 40 meters	NOAA_2m	Complete MBES
H12488_FS2_50cm_MLLW_Final	CUBE	0.5 meters	0 meters - 20 meters	NOAA_0.5m	Object Detection
H12488_FS2_2m_MLLW_Final	CUBE	2 feet	18 meters -	NOAA_2m	Complete MBES

Surface Name	Surface Type	Resolution	Depth Range	Surface Parameter	Purpose
			40 meters		

Table 8: Submitted Surfaces

## C. Vertical and Horizontal Control

The Hydrographer has no additional comments.

### C.1 Vertical Control

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

Standard Vertical Control Methods Used:

TCARI

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

Table 9: Water Level Files (.tid)

File Name	Status
B340TJ2012_Rev.tc	Final

Table 10: Tide Correctors (.zdf or .tc)

A request for final approved tides was sent to N/OPS1 on 08/10/2012. The final tide note was received on 10/10/2012.

Non-Standard Vertical Control Methods Used:

VDatum

Ellipsoid to Chart Datum Separation File:

The separation model for H12488 is 2012\_B340\_VDatum\_Ellip\_MLLW.txt and can be found in the GNSS, SBET directory.

**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 18.

There were two differential beacons Moriches and Sandy Hook. Moriches was the beacon of choice and used predominantly on H12488.

The following DGPS Stations were used for horizontal control:

DGPS Stations
Moriches, NY 293 KHZ
Sandy Hook, NJ 286 KHZ

*Table 11: USCG DGPS Stations*

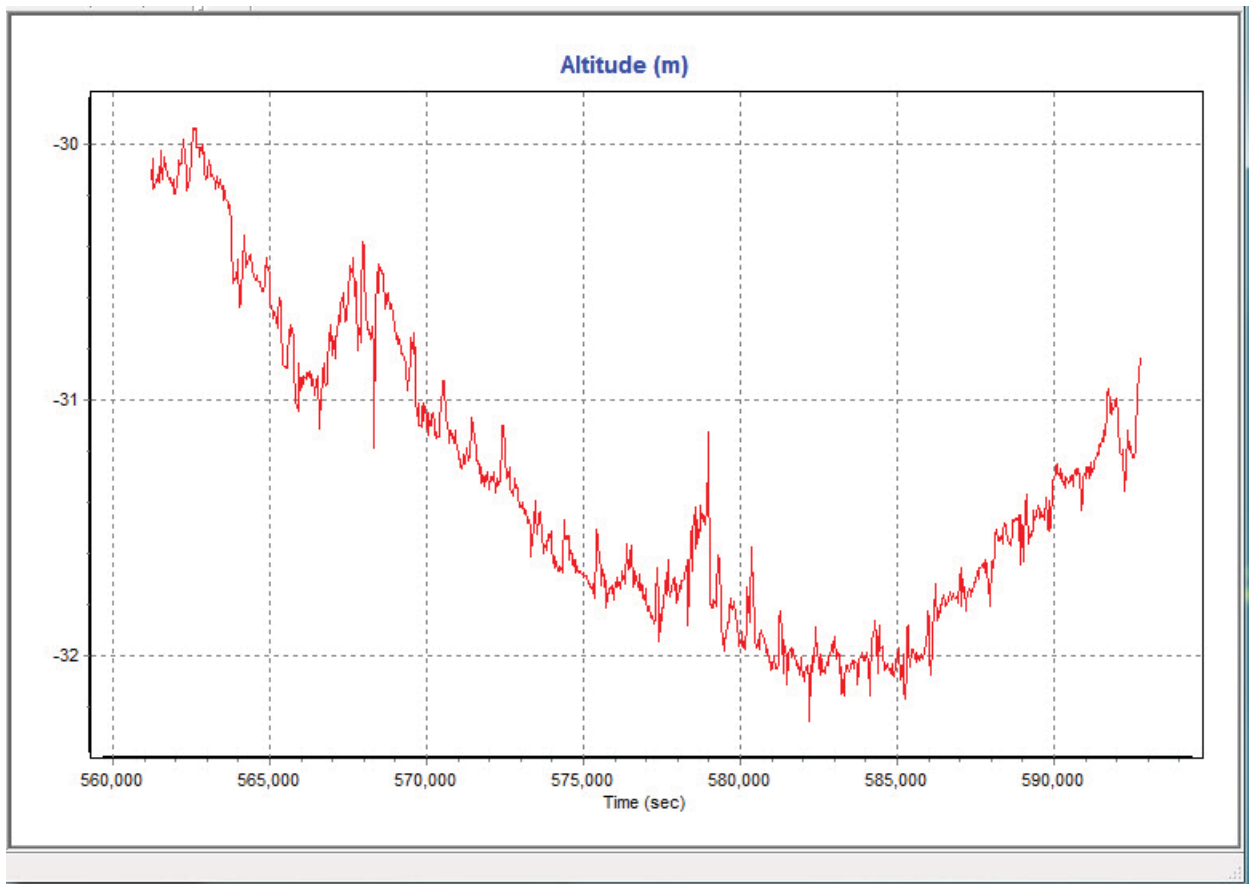
**C.3 Additional Horizontal or Vertical Control Issues****3.3.1 GPS Tides and TCARI Application**

The majority of this survey was processed with IAPPK ellipsoid heights, reduced to MLLW via a VDatum separation file. Some lines after processing with GPS Tides, produced depths inconsistent with the rest of the mainschem multibeam and failed IHO specifications. The possible causes for those failures ranged from incomplete POSPAC data, operator error, system failure and anomalies due to satellite interference. Uncertainty and standard deviation layers of the grids were the best indication of major discrepancies. When alternative methods of processing in the POSPac MMS software failed, those lines were then processed

using TCARI. If a small section of GPS Tide/Altitude was observed, that area was smoothed in the attitude editor. Care must be taken during application of correctors so the smoothing is not over written. A list of lines using TCARI can be found in Separates, I\_Acquisition\_&\_Processing\_Logs, Processing\_Logs, H12488\_SBET\_QC\_Log.xlsx. Examples of the anomalies are listed below.



*Figure 11: Altitude Anomaly as viewed in Attitude Editor (GPS Tide). The green is displaying unusual GPS Tide levels.*



*Figure 12: Altitude Anomaly POS/PAC MMS Altitude PLOT*

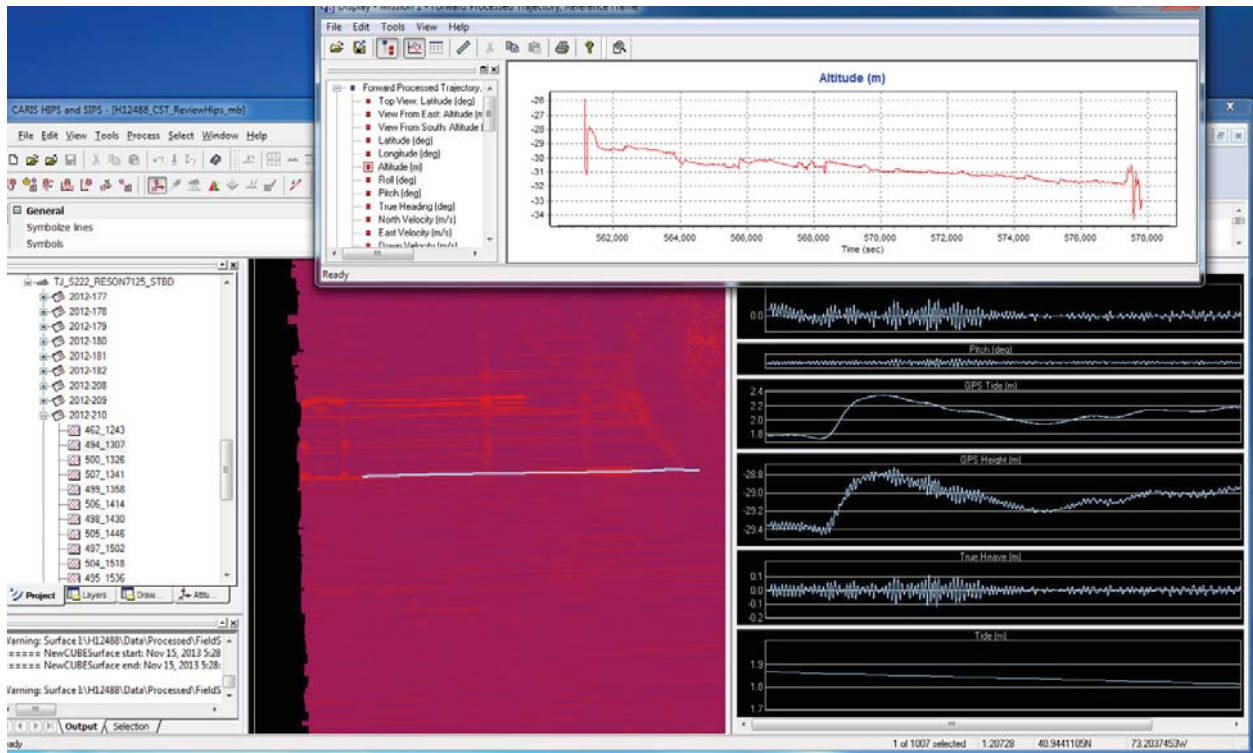


Figure 13: *Altitude Anomaly as viewed in Attitude Editor. This compares GPS Tide and Height to TCARI Tide.*

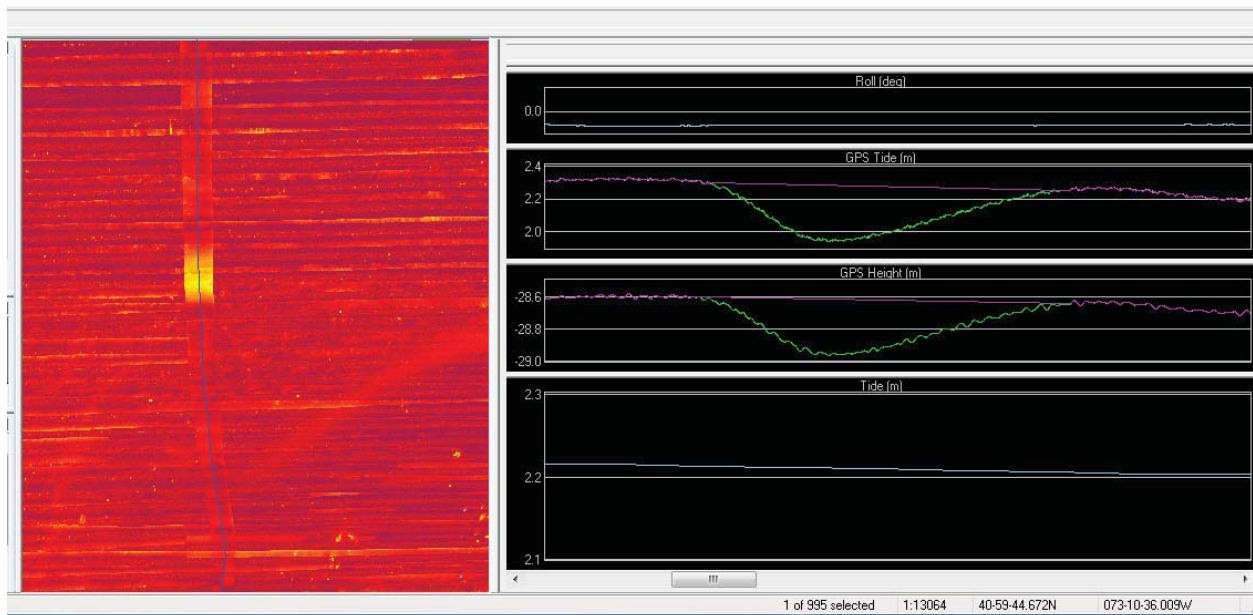


Figure 14: *Altitude Anomaly as viewed in Attitude Editor as seen by isolated yellow rectangle. This also compares GPS Tide and Height to TCARI Tide. In this case Graph shows how smoothing is applied.*



### 3.3.2 Attitude Anomaly

All the platforms experienced various attitude problems at one time or another. Uncertainty and standard deviation layers of the grids were also the best indication of major discrepancies. In cases where appropriate, data was either filtered to 45 degrees or deleted in subset editor. The types of attitude error observed could be heave, roll, or cocked pings. Examples are listed below. Although within specification, there was a slight Attitude error observed on both launches covering days 178 and 179 from west part of the sheet to crane neck. It can be seen as a wavy line when the grid is placed in high exaggeration. The weather was wind northeast at 10 to 15kts with 2ft chop. The majority of the anomaly was within the 8-14 meter curve, and due to possible dynamic sea conditions.

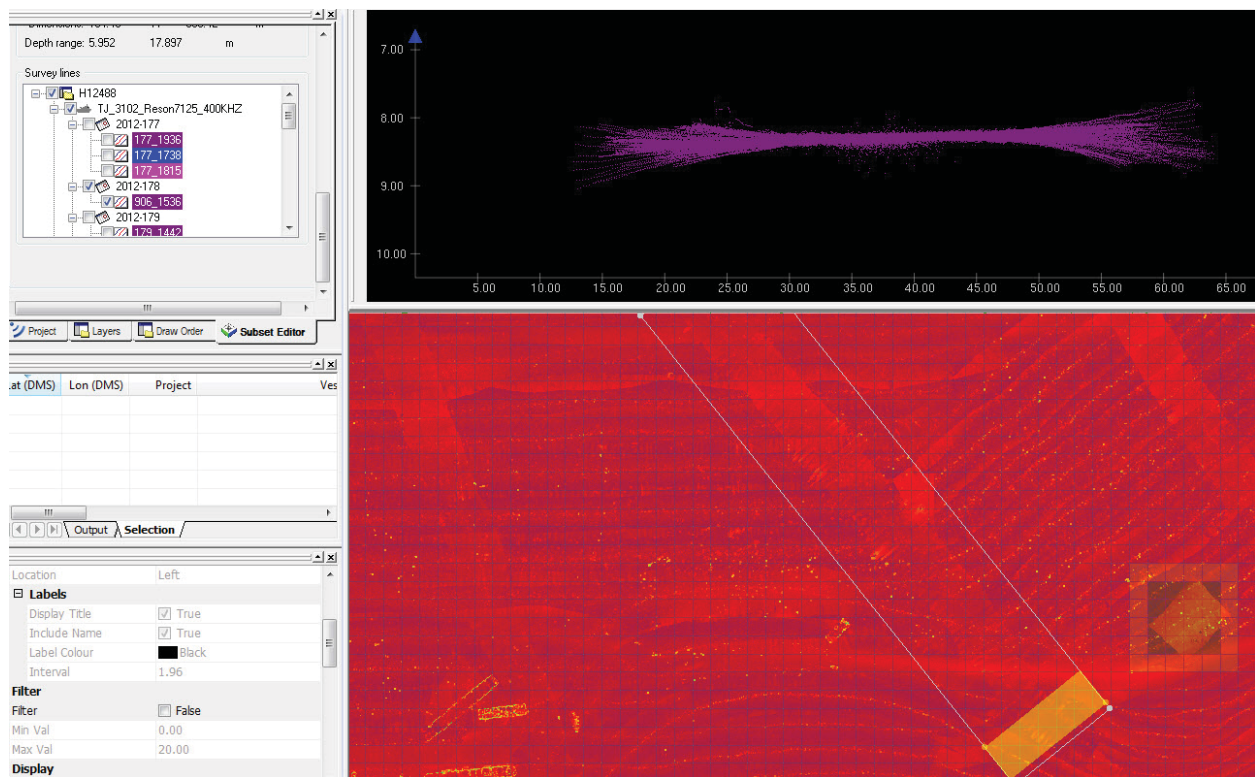
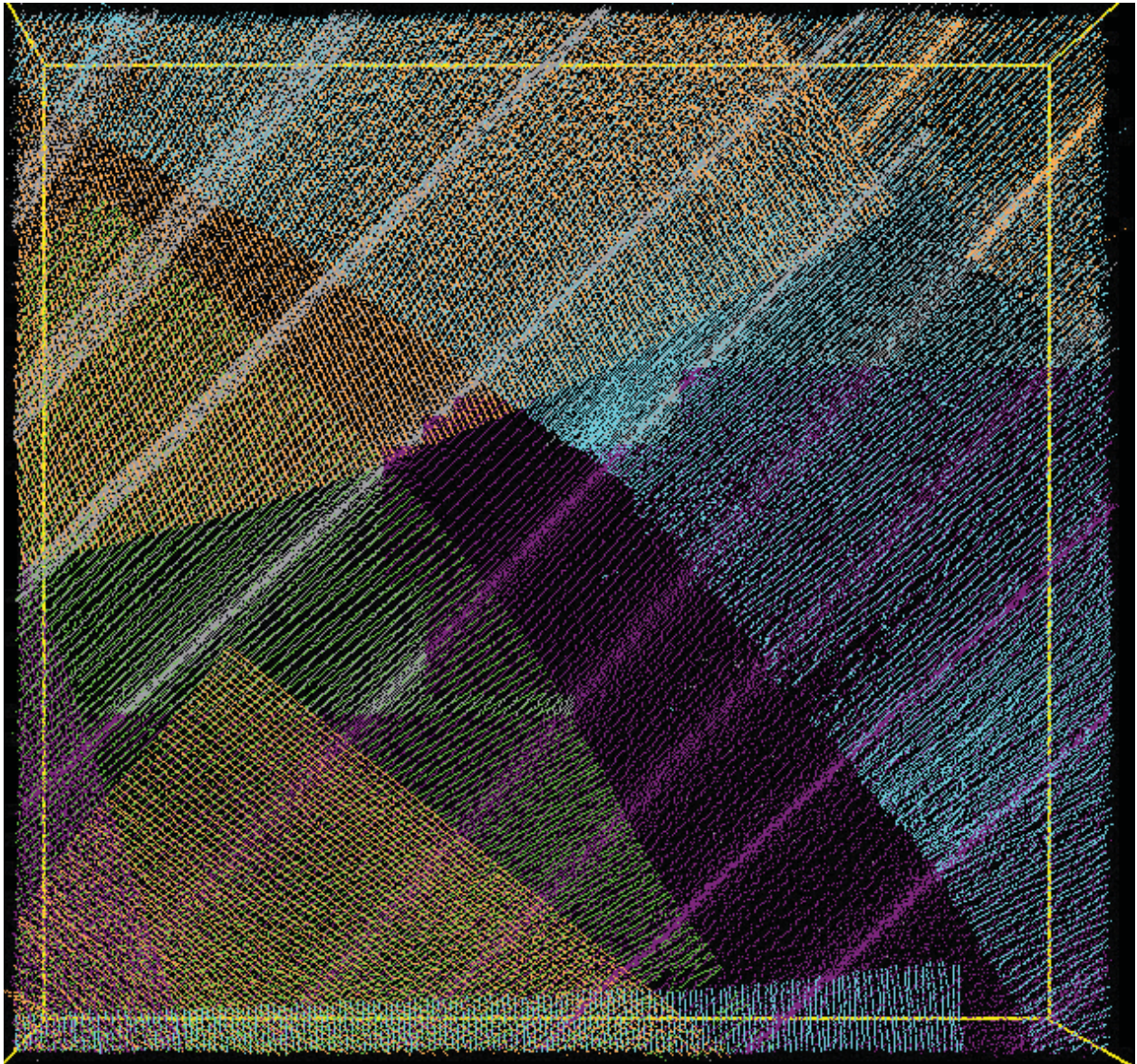


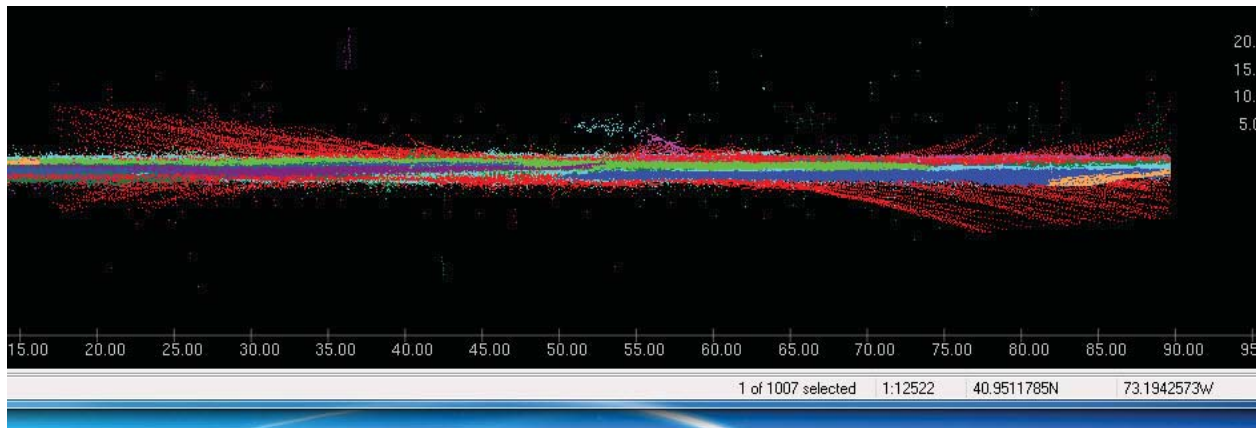
Figure 15: Attitude Anomaly XL 3102 Possible timing



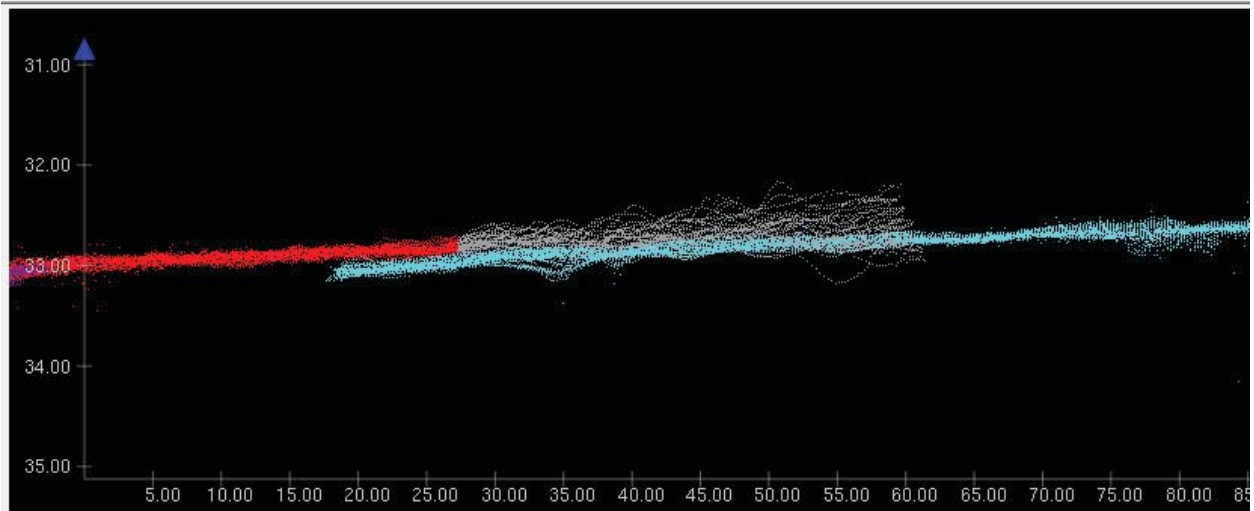
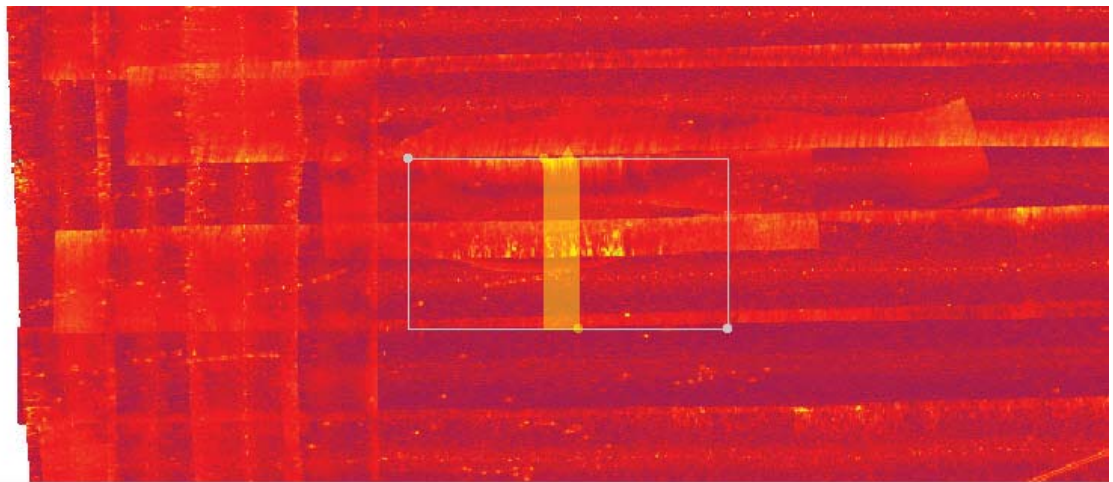


*Figure 16: Attitude Anomaly Heave Artifact*





*Figure 17: Attitude Anomaly 3101 DN 178 cocked Pings*



*Figure 18: Attitude Anomaly outerbeam flareup*

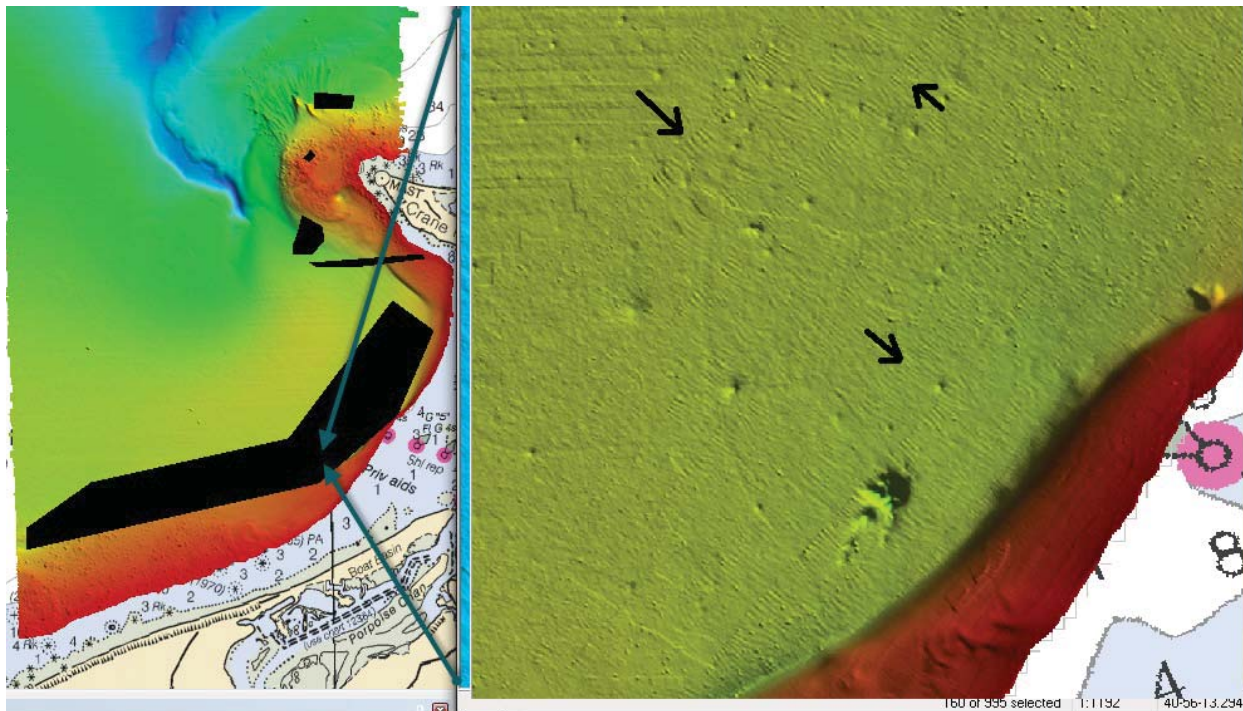
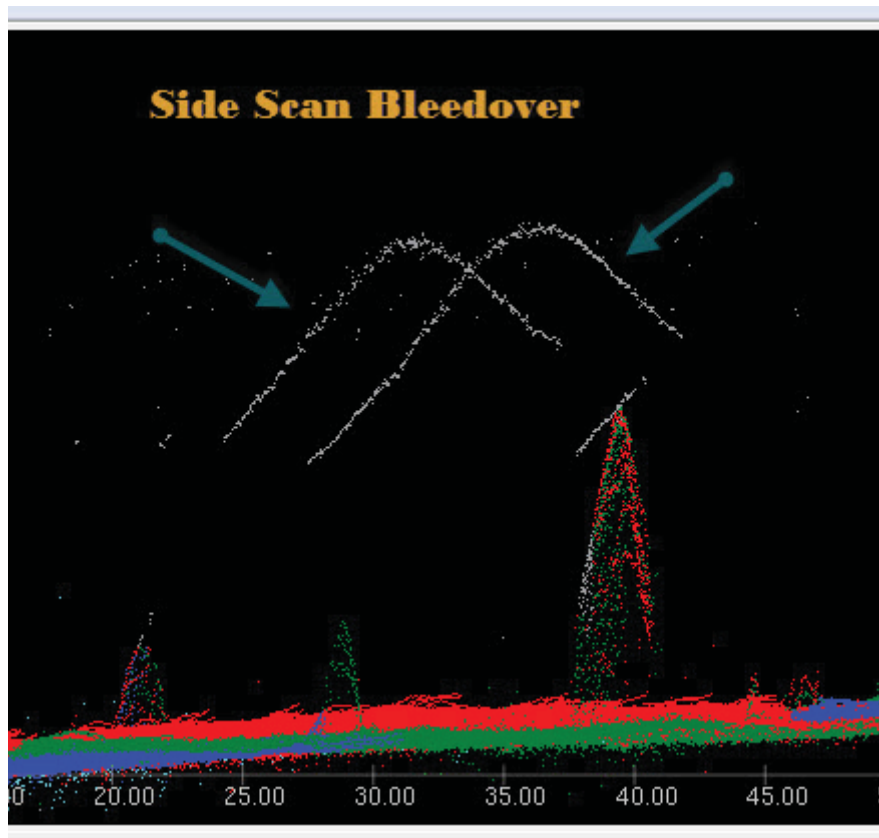


Figure 19: *Attitude Anomaly* days 178- 179 timing

### 3.3.3 Side Scan Bleed Over

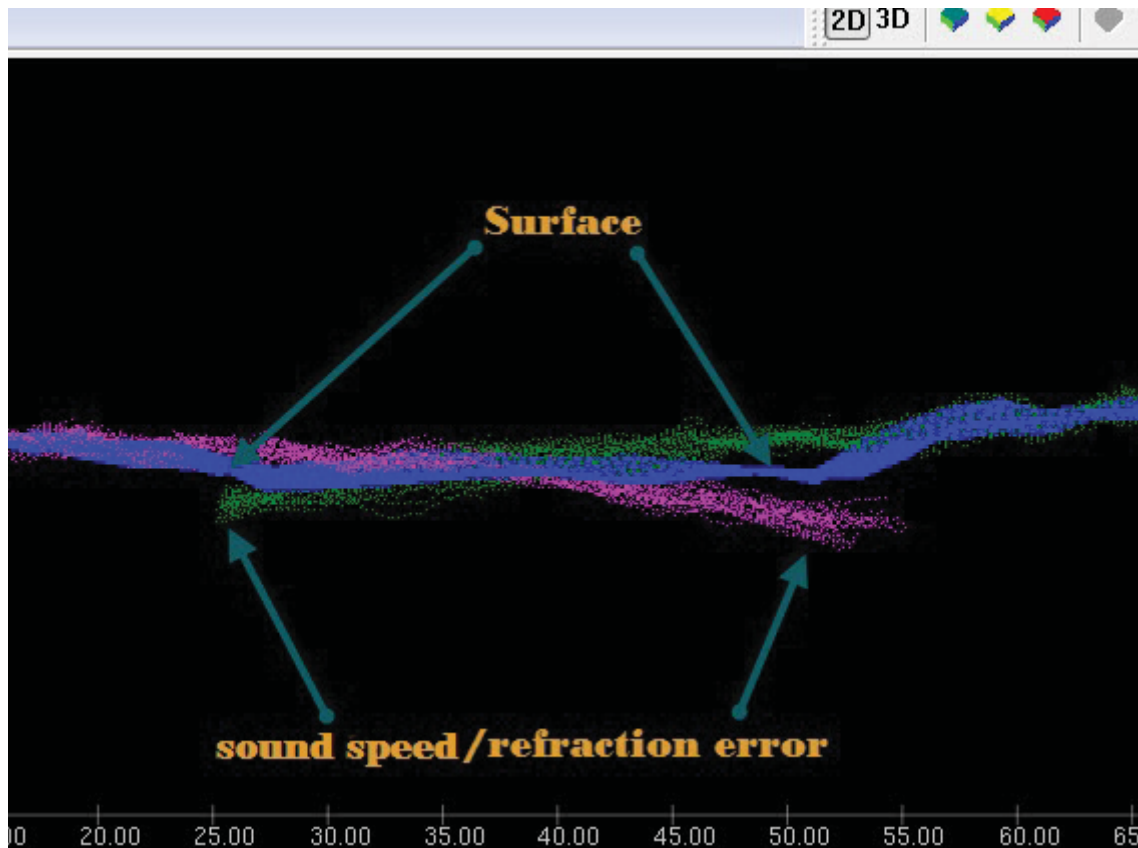
Some Dual MB/SSS was acquired simultaneously for near shore reconnaissance. The Reson 7125 MB and the Klein5000 SSS both have a frequency of 455khz. The triggering is set up in such a way that a pulse of SSS triggers the multibeam with minute delay so that for the most part there is no cross talk between the two sonars. The range of the SSS is much greater than the multibeam dependent on depth. The greater range of the SSS can cause the return to take a longer period of time between pulses. The multibeam may pick up what is known as a second sweep return. These were scanned in subset and where observed rejected.



*Figure 20: SSS Bleedover or crosstalk*

### 3.3.4 Sound Speed and Refraction

Occasional errors due to sound speed or refraction were seen in outside beams. Where the observed surface exceeded specification the outside beams were deleted. In most cases the grid honored the surface.



*Figure 21: Sound Speed/Refraction of outside beams*

## D. Results and Recommendations

### D.1 Chart Comparison

A difference grid was made from surveyed soundings to ENC depths. In addition a lattice and a overlay of ENC and Raster chart of Surveyed sounding was made noting differences. There was remarkable parity between ENC, charted, and surveyed soundings. Dangers to Navigation were sent on the most significant features.



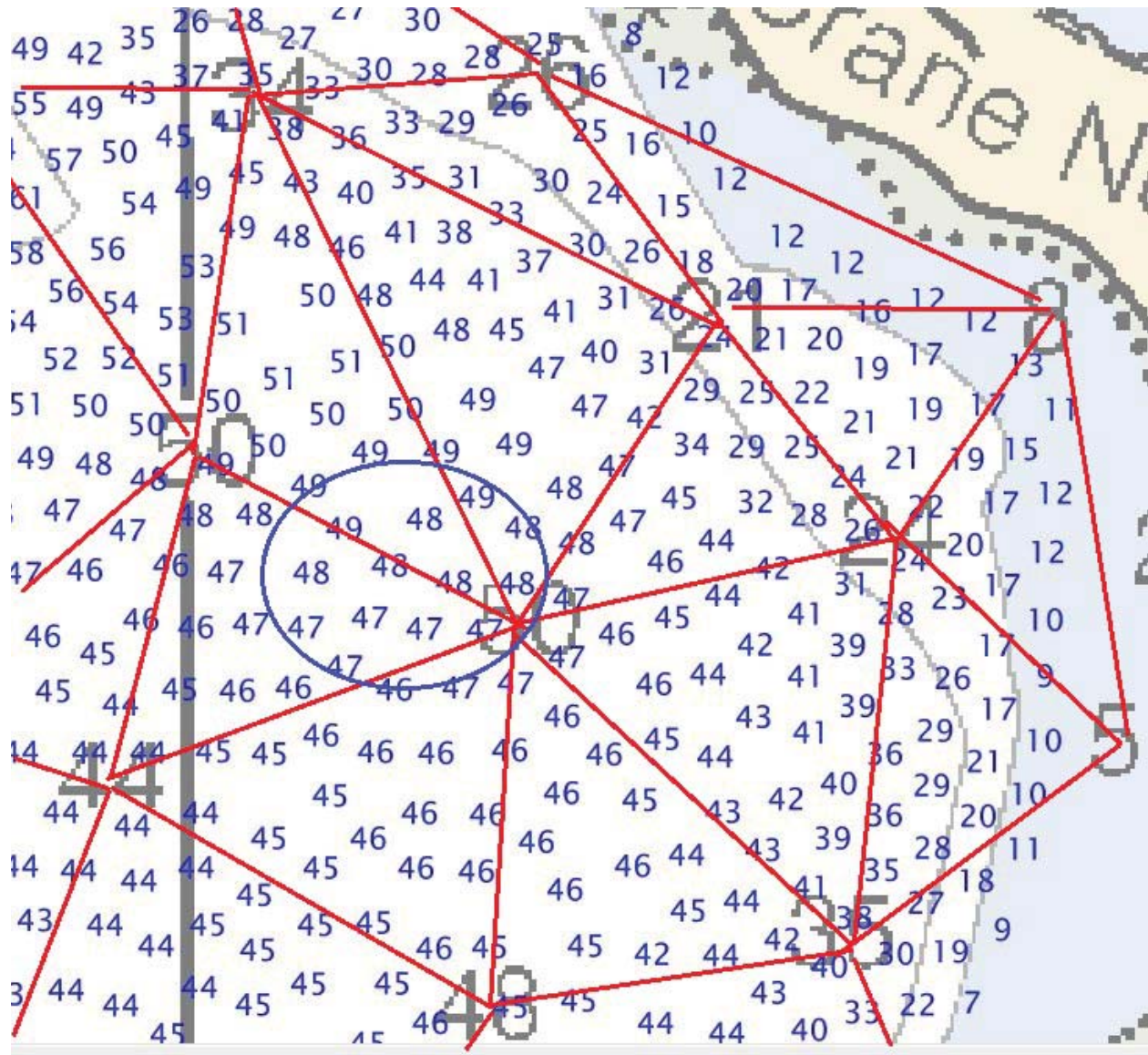


Figure 22: Example of Lattice Inspection

### 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
12363	1:80000	41	02/2010	04/27/2013	04/27/2013
12364	1:40000	39	09/2012	05/04/2013	05/04/2013

Table 12: Largest Scale Raster Charts

12363

Chart 12363 varied slightly in positions due to its smaller scale. The chart was comparable to the larger scale chart. See 12364 for details.

12364

Two detached positions were taken on verifying buoy positions. G "1" Fl G 4s was located on station at 40-56-14.892N 073-09-46.098W it is a Coast Guard maintained buoy. Chart 12363 has the Private Aids text in an acceptable location. The chart 12364\_21 has a "Priv aids" text over the G"1" buoy which is false. The private aids begin at G"3 and continue as private aids into Porpoise Channel. The text should be moved to reflect those ATON's. Buoy G"3" was not found on station but is in place at a different location. The private aids are maintained by the Town of Smithtown as reported by the Harbor Master. The buoys are seasonal and are periodically moved for best water. For exact locations contact the Smith Town Harbor Master, Pat Gilligan at 361 360 7643.

The Fish Haven appears to be charted inappropriately as no soundings or features were comparable to the prescribed depth and were actually deeper. The AWOIS list description of the Fish Haven is fairly accurate in describing the items located south of the Fish Haven in the new Wreck area.

New Rocks and Wrecks as well as evidence of shoaling were found in the south west section and Crane Neck. Fig 24 and 25 show examples of charted differences.



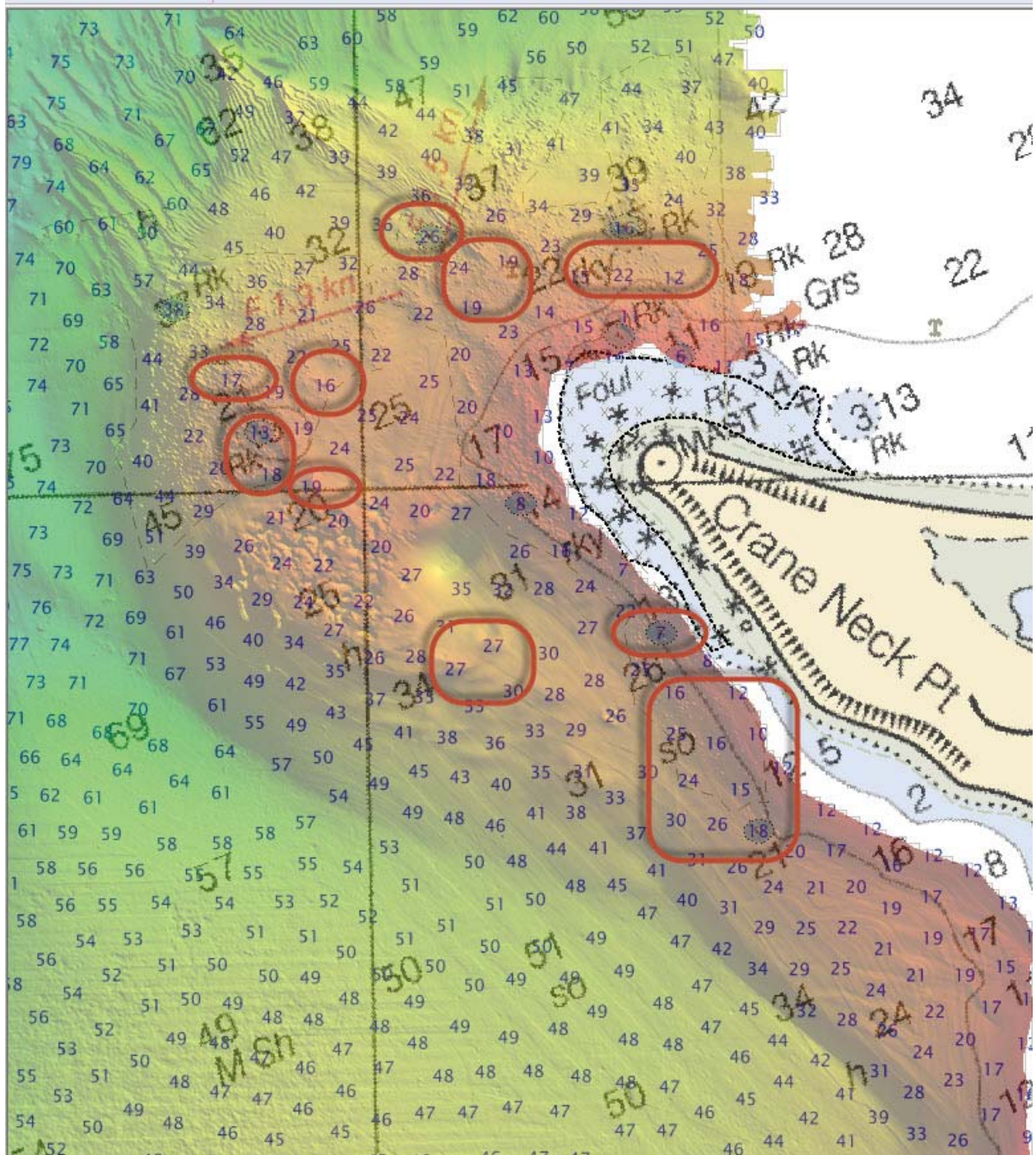


Figure 23: Crane Neck



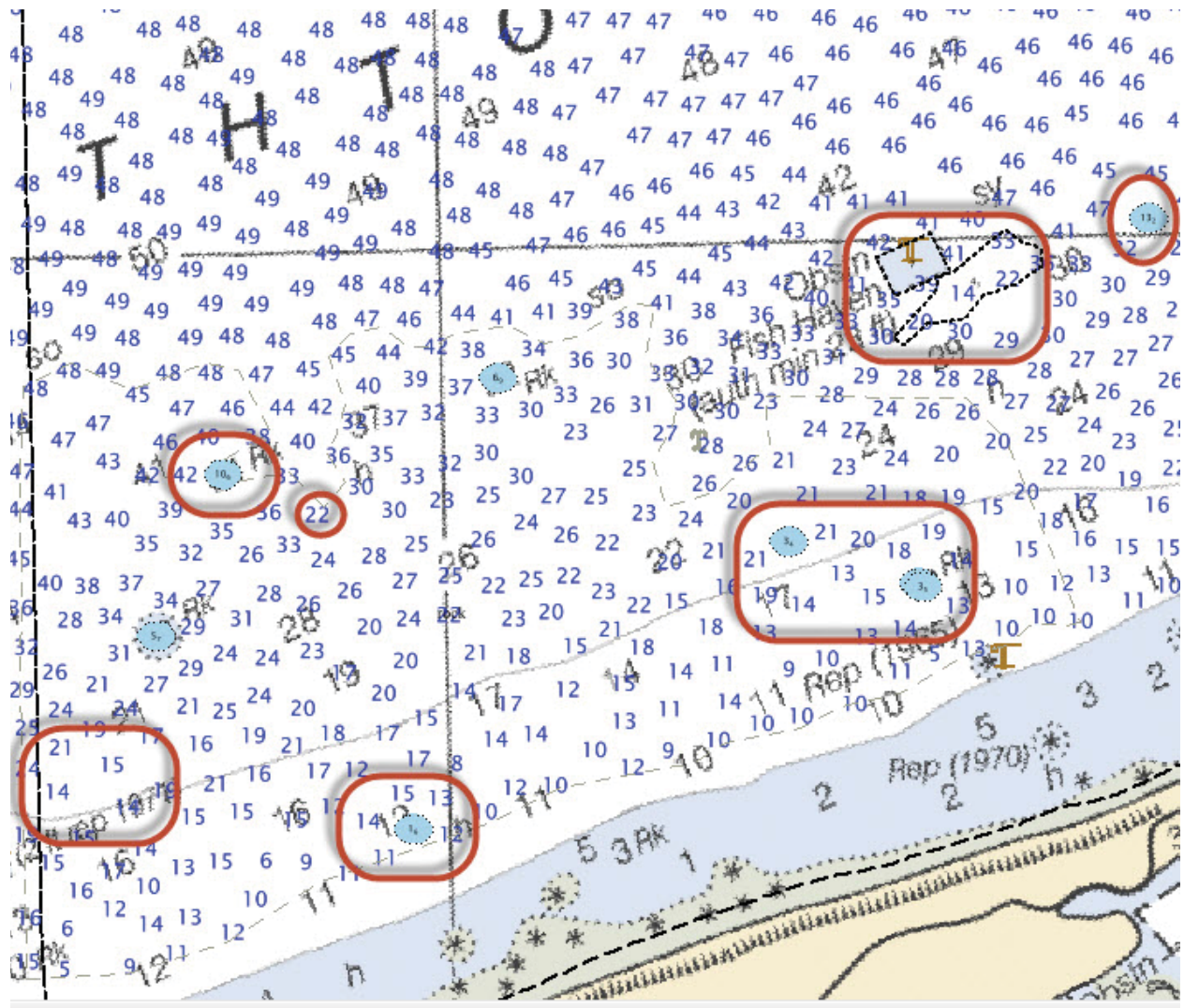


Figure 24: South west

### D.1.2 Electronic Navigational Charts

The following are the largest scale ENC's, which cover the survey area:

ENC	Scale	Edition	Update Application Date	Issue Date	Preliminary?
US5CN10M	1:40000	2	02/14/2011	02/14/2012	NO
US4NY13M	1:80000	13	06/23/2013	02/07/2012	NO

Table 13: Largest Scale ENC's

US5CN10M

This ENC is similar to US4NY13M but has sparser sounding. Results were of a similar nature.

US4NY13M

Overall, The results general shifts in positioning of shoals and deeps between charted soundings. Of the surveyed soundings 70% were within 1 foot, 25% of the soundings were shoal and 5% were deep. The majority of shoal sounding occurred near rock strewn areas near Crane Neck and southwest corner. Uncharted rocks and wrecks were found especially south of the charted fish haven. In Fig. 26, green displays comparable surveyed soundings (-0.6 to 06m). Yellow and red are surveyed soundings shoal of the ENC(-0.6 to -1.0m). Blue and Purple deeper than ENC(0.6 to 1.0m). The northwest corner has a huge difference because of the sparseness of depths from the ENC. The southwest corner and Crane Neck have big differences deepening in large areas but shoaling up on new rocks and the tops of sand waves. There is a circular pattern of change with the locus at Crane Neck. For results See Separates IV.

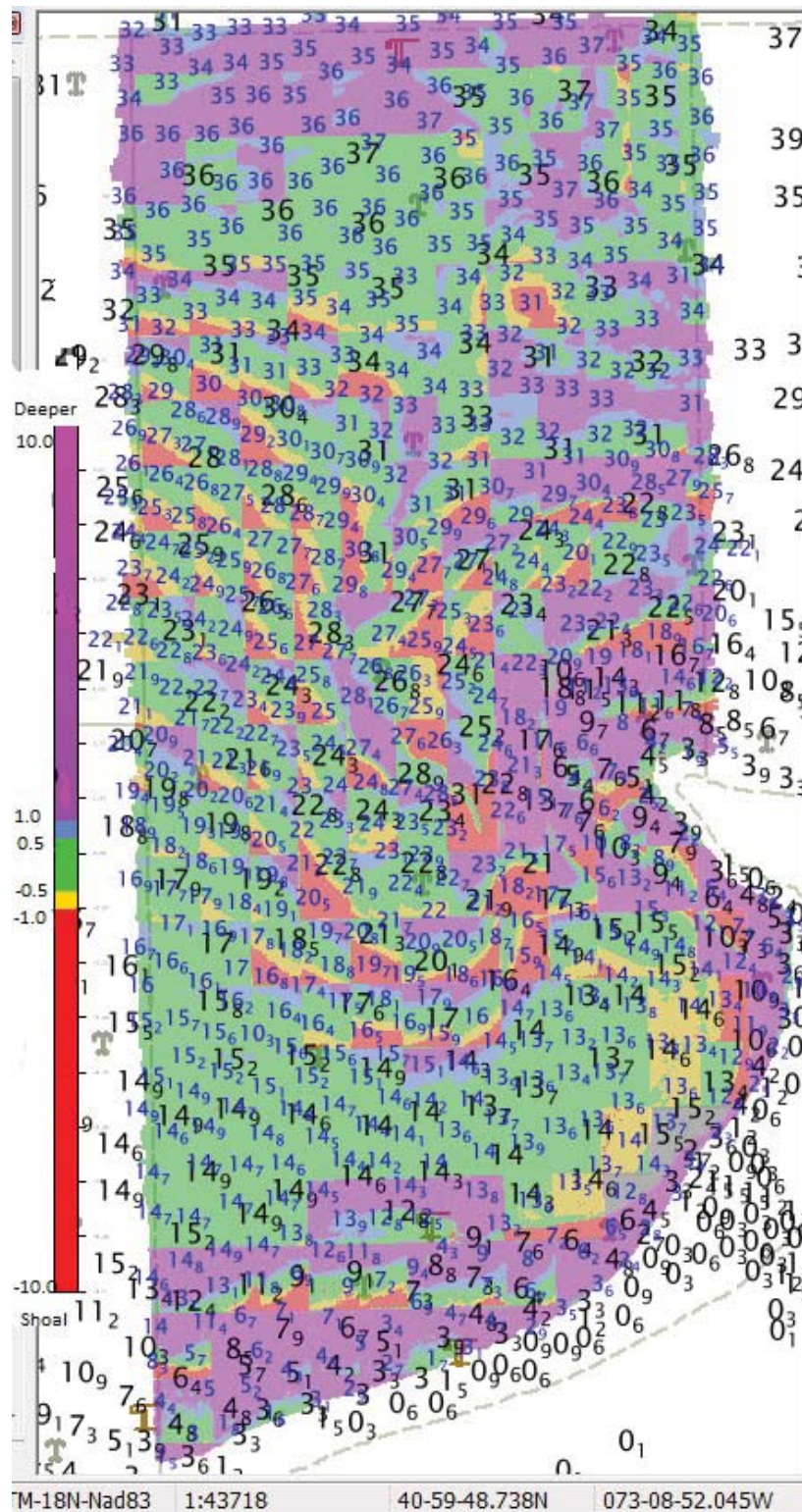


Figure 25: H12488\_to ENC Difference (Red Shoa)l to (Purple Deep)



### **D.1.3 AWOIS Items**

Four AWOIS items exist for this survey and are described in the Final Feature File.

### **D.1.4 Maritime Boundary Points**

No Maritime Boundary Points were assigned for this survey.

### **D.1.5 Charted Features**

There are 15 charted features that fell within the survey limits. Some Charted features were not investigated. These were inside the NALL line or 4m curve. A portion of the 2 ft Rep, AWOIS 14973 radius, on the west side of the sheet was disproved. Further information can be found on survey H12414.

### **D.1.6 Uncharted Features**

The most significant item on this survey is a group of wrecks and obstructions that appear to have sunk as a fish haven. The current charted fish haven just north of the area and appears to have been miss-positioned. The fish haven is free of any obstructions and the authorized minimum depth does not correlate to any surveyed sounding. The soundings inside the obstruction area do have correlation, as well as the AWOIS description of the items found.

### **D.1.7 Dangers to Navigation**

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

### **D.1.8 Shoal and Hazardous Features**

Shoal areas exist near Crane Neck Point and the south west section of H12488. New Rock and a Wreck area were found and are described in the Final Feature File.

### **D.1.9 Channels**

The Northport Anchorage Area intersects a part of this survey. No features or depths found in this area pose a danger. No channels exist for this survey. There are no precautionary areas, safety fairways, traffic separation schemes, pilot boarding areas, or channel and range lines within the survey limits.

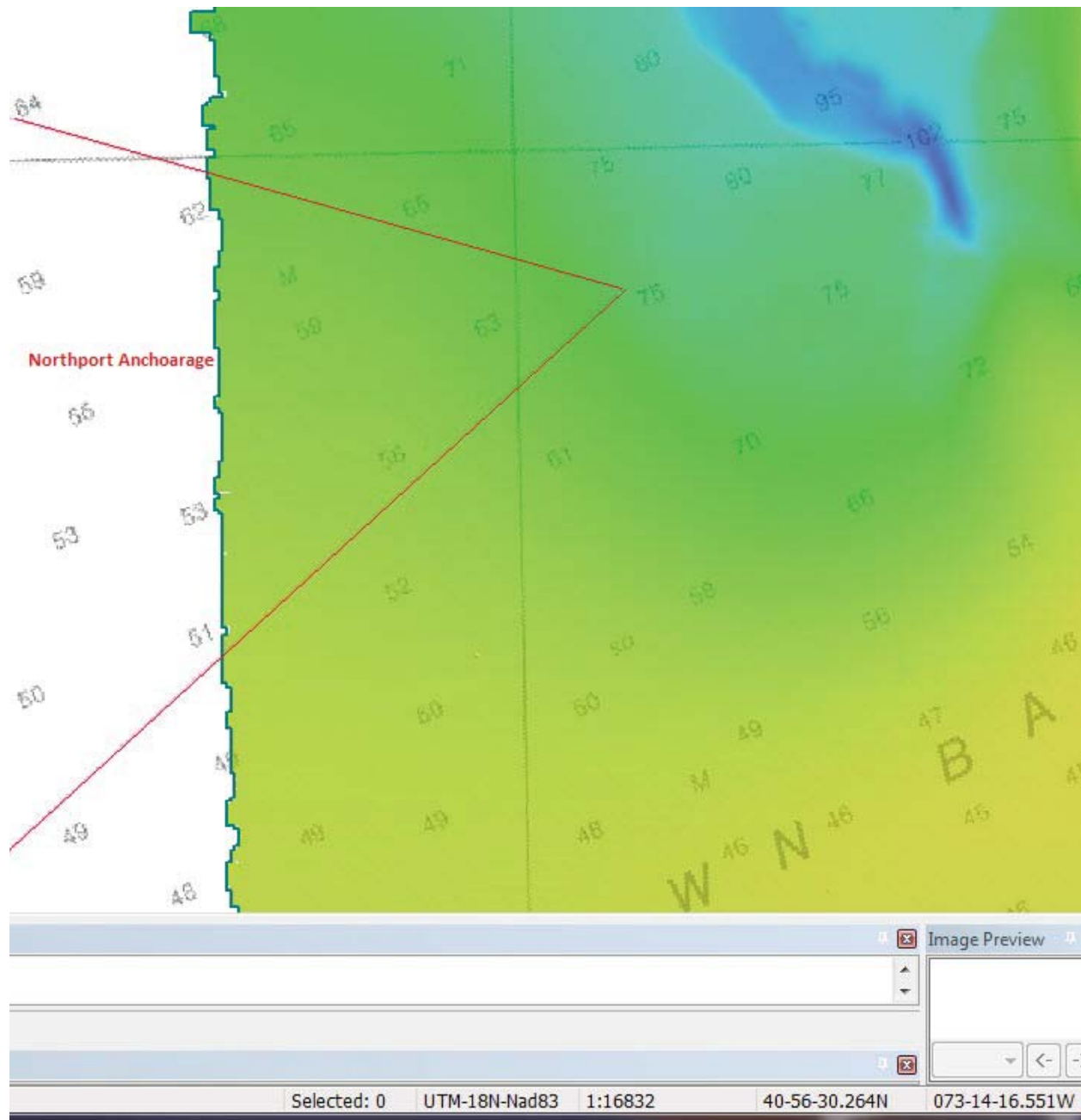


Figure 26: Northport Anchorage

### D.1.10 Bottom Samples

No bottom samples were required for this survey.

## **D.2 Additional Results**

### **D.2.1 Shoreline**

Shoreline was assigned in the Hydrographic Survey Project Instructions but was inside the NALL line and was not investigated.

### **D.2.2 Prior Surveys**

There are three prior surveys that intersect with H12488. All three were completed in 1967. The comparison was made in feet by comparing rasters, no digital data was available. The greatest shoaling appears to occur in the southwest corner of H12488 and near Crane Neck Point, both are have considerable rocks and boulders and sand waves. Differences range from 3-15 ft depending on whether new rock features and sand waves were discovered. The deeper areas (45-100ft) have difference+/- 2-3 ft no visible trends.



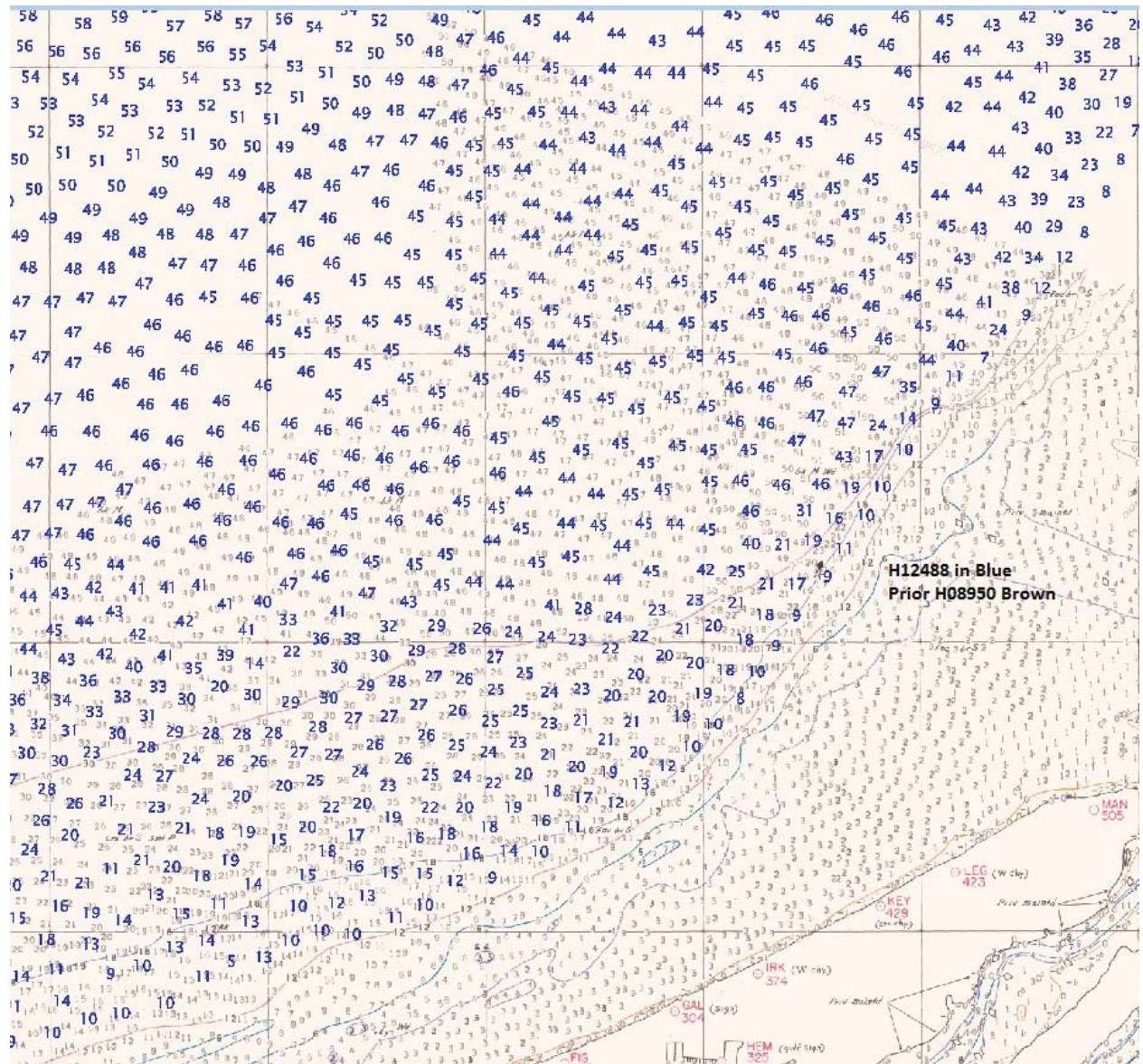


Figure 27: H08950\_E



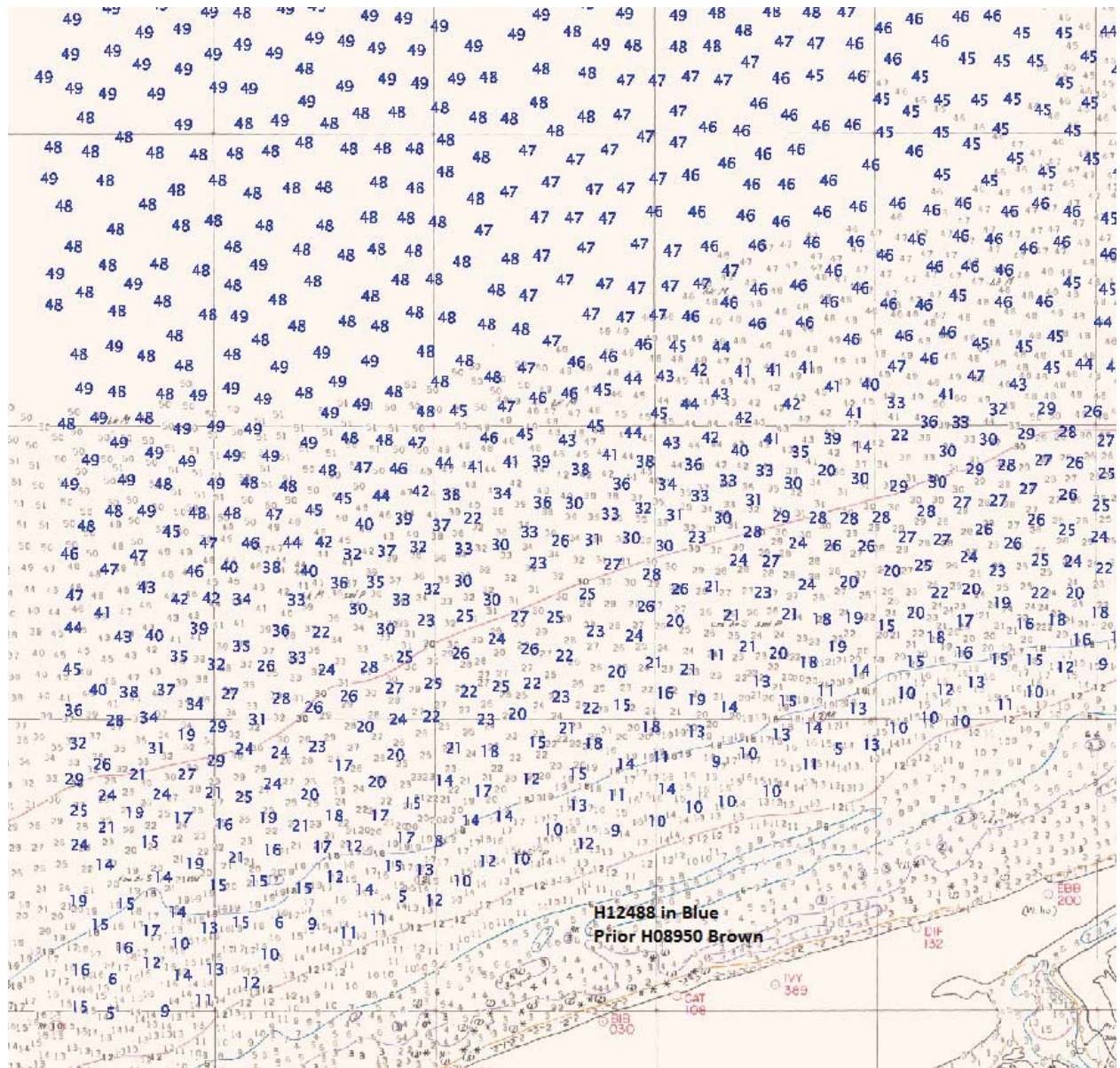


Figure 28: H08950\_W



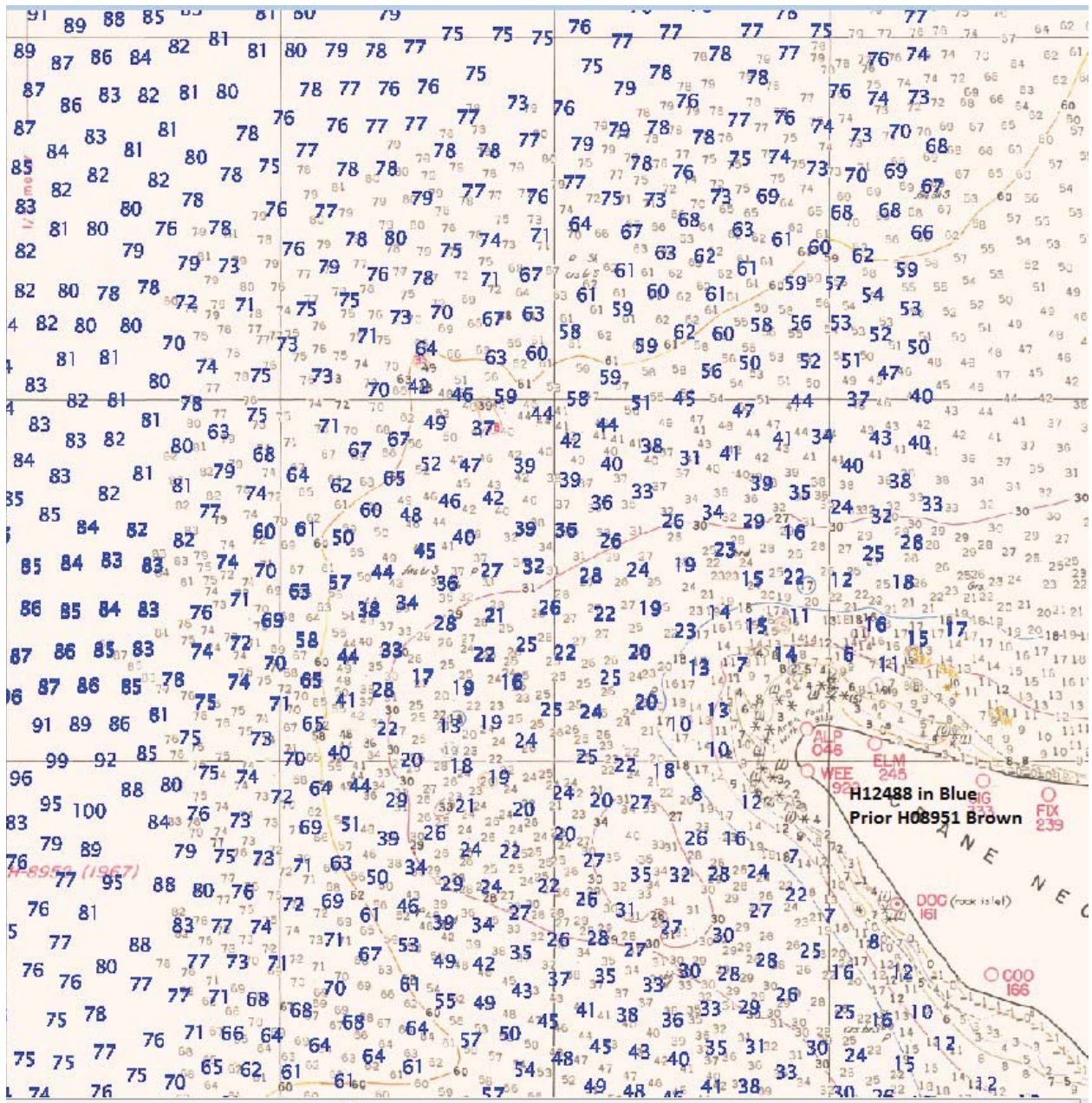


Figure 29: H08951\_N



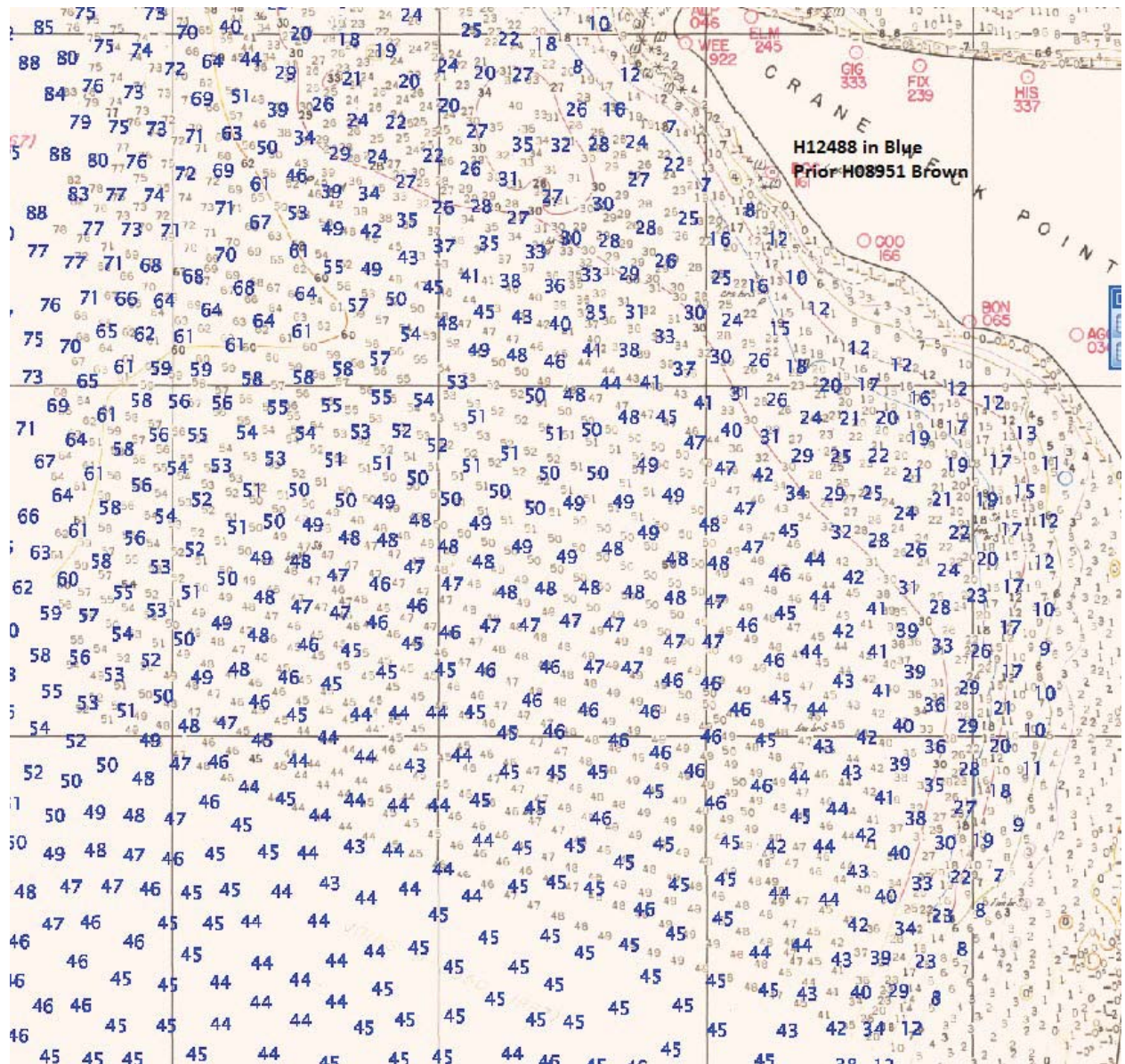


Figure 30: H08951\_S



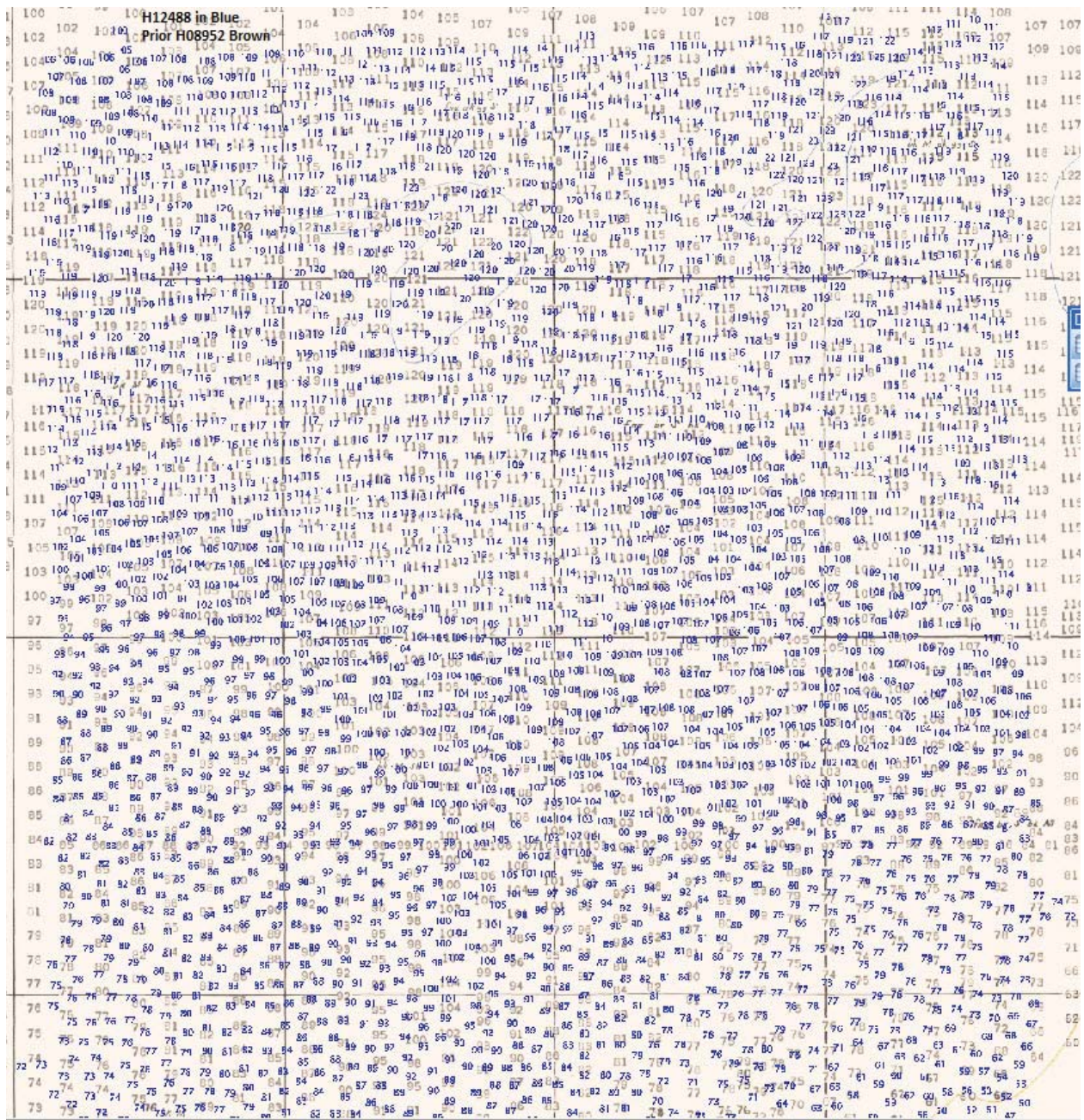


Figure 31: H08952\_N



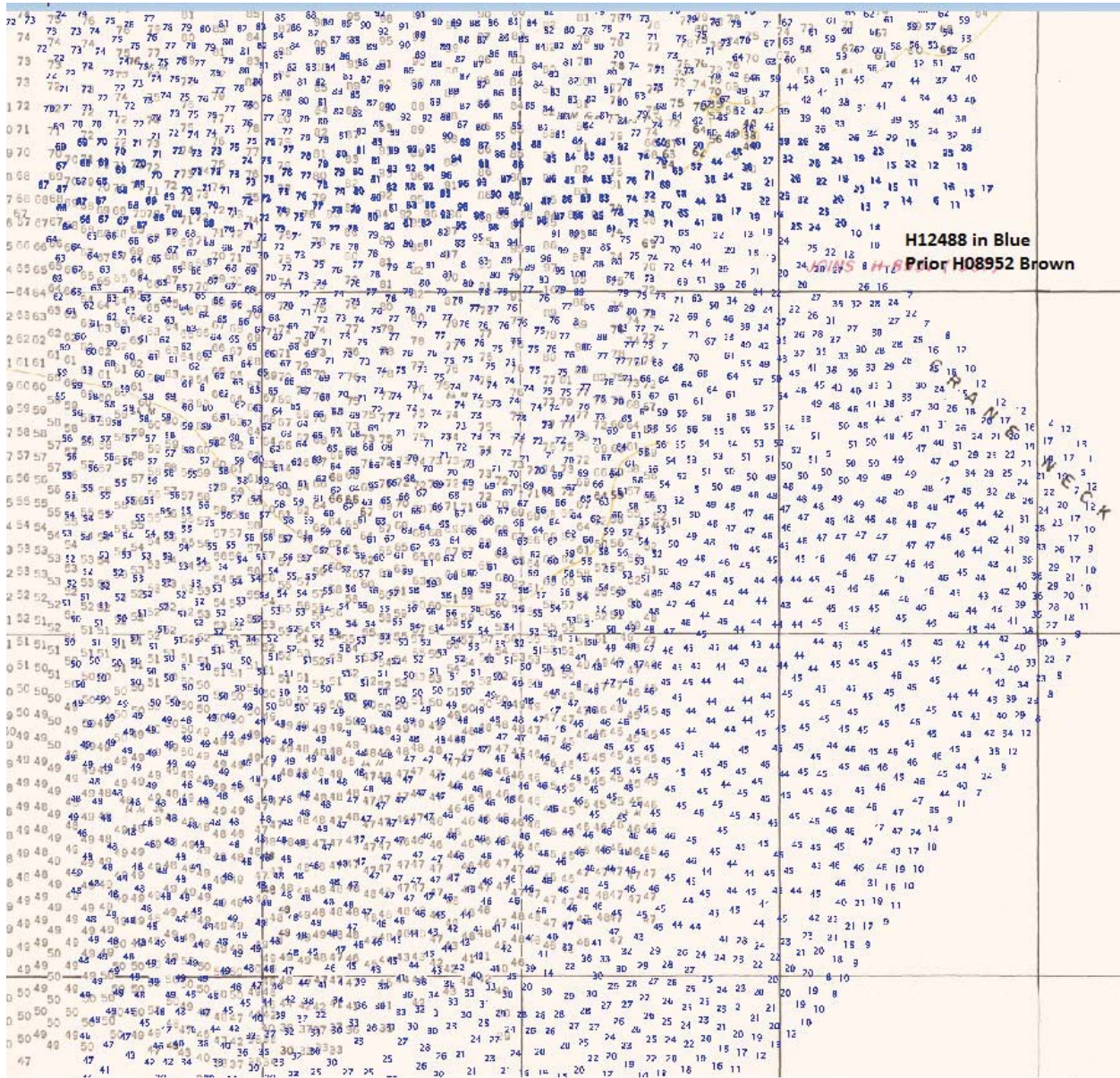


Figure 32: H08952\_S

D.2.3 Aids to Navigation

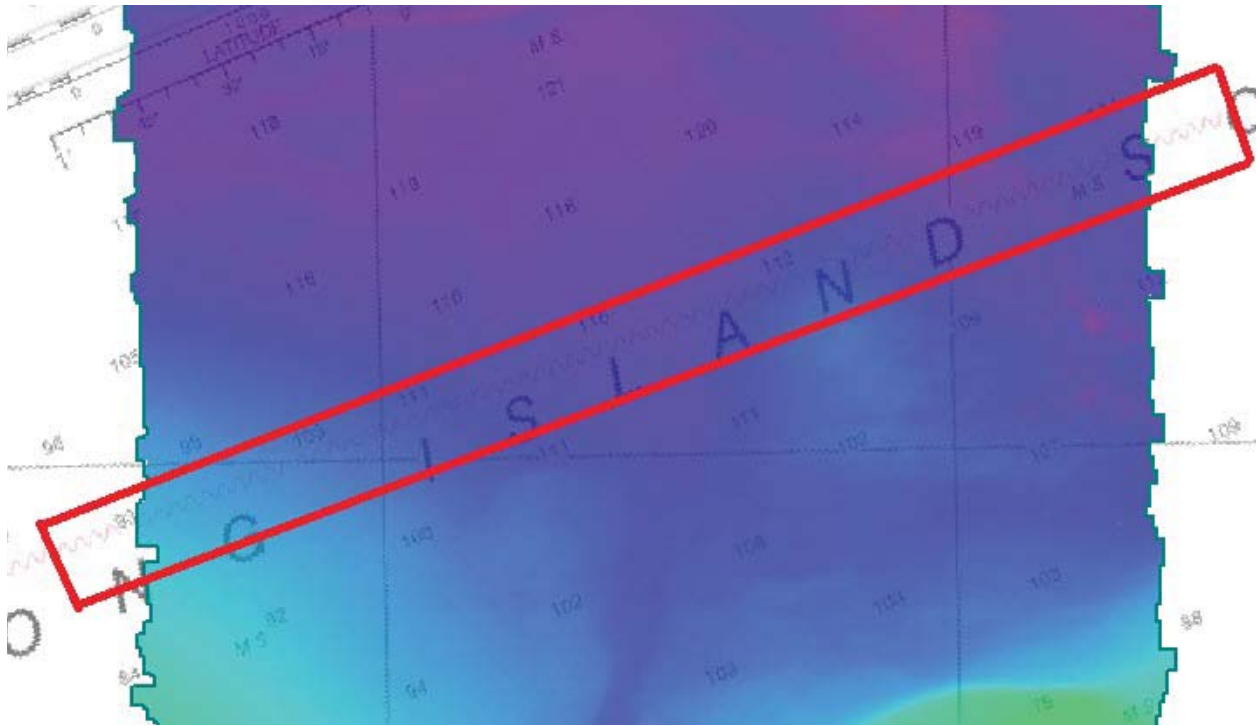
D.2.4 Overhead Features

No overhead features exist for this survey.



### D.2.5 Submarine Features

One cable line crosses the north portion of H12488.



*Figure 33: Under Water Cable*

### 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

Two buoys were encountered and are mentioned in the chart comparison.

### D.2.9 Construction and Dredging

No present or planned construction or dredging exist within the survey limits.

**D.2.10 New Survey Recommendations**

No new surveys or further investigations are recommended for this area.

**D.2.11 New Inset Recommendations**




No new insets are recommended for this area.

## 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
James Crocker CDR, NOAA	Commanding Officer	02/13/2014	 Digitally signed by James Crocker DN: cn=James Crocker, o=CO, NOAA Ship Thomas Jefferson, ou=CDR/NOAA, email=james.m.crocker@noaa.gov, c=US Date: 2014.02.13 11:06:53 -05'00'
Megan Guberski LT, NOAA	Field Operations Officer	02/13/2014	 Megan R. Guberski LT NOAA
Peter Lewit	Chief Hydrographic Survey Technician	02/13/2014	 Digitally signed by Peter Lewit DN: cn=Peter Lewit, o=NOAA, ou=Thomas Jefferson, email=peter.lewit@noaa.gov, c=US Date: 2014.02.13 11:39:24 -05'00'

## F. Table of Acronyms

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

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

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



APPENDIX I  
TIDES AND WATER LEVELS



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

August 10, 2012

MEMORANDUM FOR: Gerald Hovis, Chief, Products and Services Branch, N/OPS3

FROM: CDR Lawrence Krepp, NOAA Ship THOMAS JEFFERSON (MOA-TJ)

SUBJECT: Request for Approved Tides/Water Levels

Please provide the following data:

1. Tide Note
2. Final TCARI grid
3. Six Minute Water Level data (Co-ops web site)

Transmit data to the following:

NOAA Ship THOMAS JEFFERSON (MOA-TJ)  
439 West York St  
Norfolk, VA 23510-1145

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

Project No.: OPR-B340-TJ-12  
Registry No.: H12488  
State: New York  
Locality: Long Island  
Sublocality: East of Nissequoge River to Crane Neck Point

Attachments containing:

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

cc: MOA-TJ



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Year_DOY	Min Time	Max Time
2012_176	14:58:19	21:08:01
2012_177	12:27:39	20:55:36
2012_178	12:01:40	21:44:39
2012_179	13:57:45	21:12:49
2012_180	13:15:54	21:15:16
2012_181	12:13:01	21:15:55
2012_182	12:45:42	22:30:29
2012_208	13:56:30	21:12:26
2012_209	12:10:54	21:17:13
2012_210	12:43:03	20:20:13
2012_211	12:37:59	21:02:44
2012_212	12:12:59	15:50:21
2012_215	13:05:05	23:23:53



**UNITED STATES DEPARTMENT 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:** H12488

**LOCALITY:** East of Nissequoge River to Crane Neck Point, NY  
**TIME PERIOD:** June 24 - August 02, 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. H12488, during the time period between June 24 and August 02, 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).

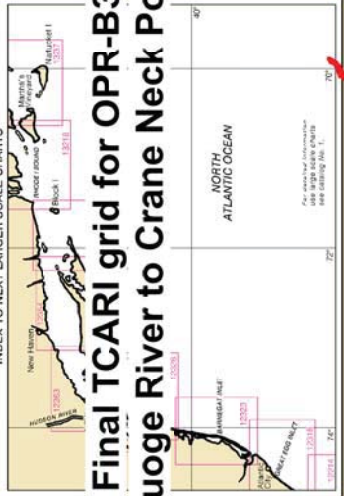
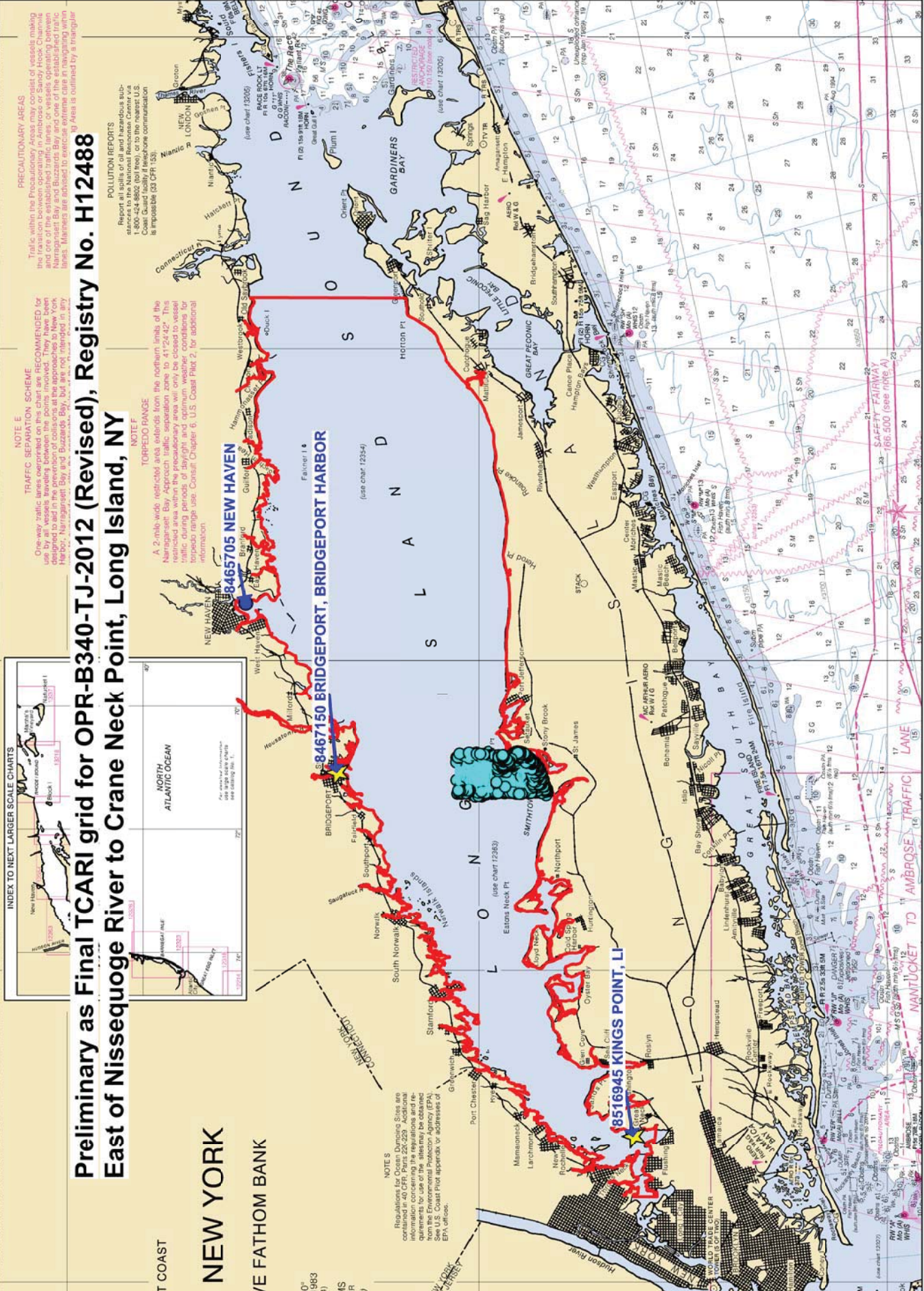
**HOVIS.GERALD**  
**D.THOMAS.13**  
**65860250**

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ou=DoD, ou=PKI, ou=OTHER,  
cn=HOVIS.GERALD.THOMAS.1365860  
250  
Date: 2012.10.11 08:33:32 -04'00'

CHIEF, PRODUCTS AND SERVICES BRANCH







**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 other channels. Vessels operating in the Precautionary Areas should be advised to exercise extreme care in navigating within these areas.

**TRAFFIC SEPARATION SCHEME**  
One-way traffic lanes operated on this chart are RECOMMENDED for use in the prevention of collisions at the approaches to New York Harbor, Narrows Bay and Buzzards Bay, but are not intended in any other area.

**NOTE E**  
A 2-mile wide restricted area is provided for the northern limits of the Narrows Bay approach traffic separation zone to 41°24'42". The restricted area within the precautionary area will only be closed to vessel traffic during periods of daylight and optimum weather conditions for torpedo range use. Consult Chapter 6, U.S. Coast Pilot 2, for additional information.

# Preliminary as Final TCARI grid for OPR-B340-TJ-2012 (Revised), Registry No. H12488 East of Nissequogue River to Crane Neck Point, Long Island, NY

**TORPEDO RANGE**  
A 2-mile wide restricted area is provided for the northern limits of the Narrows Bay approach traffic separation zone to 41°24'42". The restricted area within the precautionary area will only be closed to vessel traffic during periods of daylight and optimum weather conditions for torpedo range use. Consult Chapter 6, U.S. Coast Pilot 2, for additional information.

**NOTE F**  
Report all spills of oil and hazardous substances to the National Response Center via 1-800-254-8602 (24 hr), or to the nearest U.S. Coast Guard office. If communication is impossible (33 CFR 153).

**NOTES**  
Regulations for Ocean Dumping Sites are contained in 40 CFR, Parts 220-229. Additional information concerning the regulations and requirements for use of the sites may be obtained from the U.S. Coast Guard. See the U.S. Coast Pilot appendix, or address of the EPA, offices.

**PROJECTION**  
NAD 83  
Datum of 1983  
Datum System 1984

**HEIGHTS IN FATHOMS**  
LOWER LOW WATER  
(see navigation only)

**NOTES**  
Regulations for Ocean Dumping Sites are contained in 40 CFR, Parts 220-229. Additional information concerning the regulations and requirements for use of the sites may be obtained from the U.S. Coast Guard. See the U.S. Coast Pilot appendix, or address of the EPA, offices.

**INDEX TO NEXT LARGER SCALE CHARTS**

**INDEX TO NEXT LARGER SCALE CHARTS**

**INDEX TO NEXT LARGER SCALE CHARTS**

**INDEX TO NEXT LARGER SCALE CHARTS**



APPENDIX II

SUPPLEMENTAL SURVEY RECORDS  
AND CORRESPONDENCE



9 January 2013

MEMORANDUM TO: Jeffrey Ferguson  
Chief, Hydrographic Surveys Division

FROM: Lawrence T. Krepp, CDR/NOAA  
Commanding Officer

SUBJECT: H12488 Interim Deliverables

As per the project instructions for OPR-B340-TJ-12, NOAA Ship *Thomas Jefferson* was tasked with providing a recommendation on the vertical transformation technique to be used for each sheet. This recommendation is based upon an analysis of crossline data processed with TCARI tidal zoning and VDatum ERS. This analysis was performed using Pydro's Post Acquisition Tools.

### Crossline Analysis

Crosslines from H12488 were parallel processed with one set of depths reduced to MLLW via TCARI tidal zoning and the other set reduced via VDatum ERS. Pydro's Post Acquisition Tool "Compare Time Series Data" yielded the following results:

#### File-wise Statistics

-----  
H12488\_ERS\_TJ\_3102\_Reson7125\_400KHZ\_MiddlePD.txt | H:\Surveys\H12488\Descriptive Report\Appendices\4\_Tides\_&\_Water\_Levels\ERSvTCARI  
- (minus)  
H12488\_TCARI\_TJ\_3102\_Reson7125\_400KHZ\_MiddlePD.txt |  
H:\Surveys\H12488\Descriptive Report\Appendices\4\_Tides\_&\_Water\_Levels\ERSvTCARI  
=====  
N,mean,stdev = 92060,-0.007,0.050

H12488\_ERS\_TJ\_S222\_RESON7125\_STBD\_MiddlePD.txt | H:\Surveys\H12488\Descriptive Report\Appendices\4\_Tides\_&\_Water\_Levels\ERSvTCARI  
- (minus)  
H12488\_TCARI\_TJ\_S222\_RESON7125\_STBD\_MiddlePD.txt |  
H:\Surveys\H12488\Descriptive Report\Appendices\4\_Tides\_&\_Water\_Levels\ERSvTCARI  
=====  
N,mean,stdev = 62291,-0.071,0.068

#### Sensor-wise Statistics

-----  
MiddlePD: N,mean,stdev = 154351,-0.033,0.066



**Discussion**

Results of the analysis showed that the mean difference between ERS and TCARI tidal corrections was 3.3cm with a standard deviation of 6.6cm.

**Recommendation**

Our recommendation is to utilize ERS VDatum for tidal corrections for this survey. The results of the analysis show that there are only minor differences between sounding data reduced to MLLW using TCARI and ERS VDatum. This difference is less than the uncertainty of the VDatum model (10.2cm).



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

February 25, 2013

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

FROM: Jeffrey Ferguson  
Chief, Hydrographic Surveys Division

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

Hydrographic survey H12488 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 January 9, 2012, Subject "H12488 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.





Matthew Jaskoski - NOAA Federal &lt;matthew.jaskoski@noaa.gov&gt;

---

## Private ATON Buoy "3" Stony Brook Harbor

2 messages

---

**Matthew Jaskoski - NOAA Federal** <matthew.jaskoski@noaa.gov>

Wed, Sep 17, 2014 at 2:18 PM

To: Steven.R.Pothier@uscg.mil

Bcc: Matthew Wilson - NOAA Federal &lt;matthew.wilson@noaa.gov&gt;, Edward Owens - NOAA Federal &lt;edward.owens@noaa.gov&gt;

Mr. Pothier,

NOAA's Office of Coast Survey recently completed a survey of an area in Long Island Sound, from east of the Nissequage River to Crane Neck Point. As part of this work the field unit identified a discrepancy in a Private Aid to Navigation in Smithtown Bay, Stony Brook Harbor Approach Channel Lighted Buoy "3"

The private aid was noted by the field surveyors to be not in existence. The aid is, however, listed in the Light List as an existing lighted buoy at position:

40-56-00.00 N  
073-09-28.00 W

Additionally, the charted position for the aid disagrees with the light list position - the charted position is:

40-56-16.89 N  
073-09-27.62 W

The other ATONs in the approach channel (1, 5, & 7) were confirmed by the field surveyors to agree with both the chart and the light list position.

As you may know, for nautical charting purposes NOAA sources the position and characteristics of all ATON from IATONIS, and any discrepancies in floating aids noted by the field surveyor are routed directly to the appropriate USCG district. As a result I wanted to pass this information along to you and request any information you may have regarding this aid, e.g. has the aid been removed and discontinued by the owner or was it merely removed at the time of the survey, and is the light list position correct.

Our most current contact information lists you as the PATON chief for District 1 - if there is a more appropriate point of contact please let me know.

I have attached a couple images of the area and the ATON.

Thank you for your assistance,  
v/r

Lieutenant Matthew Jaskoski, NOAA  
Chief, Atlantic Hydrographic Branch  
439 W. York St.  
Norfolk, VA 23510  
Office: 757-441-6746 x200  
Cell: 757-647-3356

---

**3 attachments****StonyBrook\_3\_Chart\_Pos.PNG**





149K

LNM 01, LNM 02, LNM 03, LNM 04, LNM 05, LNM 06, LNM 07, LNM 08, LNM 09, LNM 10, LNM 11, LNM 12, LNM 13, LNM 14, LNM 15, LNM 16, LNM 17, LNM 18, LNM 19, LNM 20, LNM 21, LNM 22, LNM 23, LNM 24, LNM 25, LNM 26, LNM 27, LNM 28, LNM 29, LNM 30, LNM 31, LNM 32, LNM 33, LNM 34, LNM 35, LNM 36, LNM 37, LNM 38, LNM 39, LNM 40, LNM 41, LNM 42, LNM 43, LNM 44, LNM 45, LNM 46, LNM 47, LNM 48, LNM 49, LNM 50, LNM 51, LNM 52, LNM 53, LNM 54, LNM 55, LNM 56, LNM 57, LNM 58, LNM 59, LNM 60, LNM 61, LNM 62, LNM 63, LNM 64, LNM 65, LNM 66, LNM 67, LNM 68, LNM 69, LNM 70, LNM 71, LNM 72, LNM 73, LNM 74, LNM 75, LNM 76, LNM 77, LNM 78, LNM 79, LNM 80, LNM 81, LNM 82, LNM 83, LNM 84, LNM 85, LNM 86, LNM 87, LNM 88, LNM 89, LNM 90, LNM 91, LNM 92, LNM 93, LNM 94, LNM 95, LNM 96, LNM 97, LNM 98, LNM 99, LNM 100

ID	Name	MMSI	Frequency	Latitude	Longitude	Range	Status	Notes
3000	Stony Brook Light	40 52 14.000N	73 06 27.000W	20.00	20.00	20.00	OK	
3001	Stony Brook Light	40 52 14.000N	73 06 27.000W	20.00	20.00	20.00	OK	
3002	Stony Brook Light	40 52 14.000N	73 06 27.000W	20.00	20.00	20.00	OK	
3003	Stony Brook Light	40 52 14.000N	73 06 27.000W	20.00	20.00	20.00	OK	
3004	Stony Brook Light	40 52 14.000N	73 06 27.000W	20.00	20.00	20.00	OK	
3005	Stony Brook Light	40 52 14.000N	73 06 27.000W	20.00	20.00	20.00	OK	

StonyBrook\_3\_Light\_List.PNG  
25K



StonyBrook\_3\_Light\_List\_Pos.PNG  
125K

**Pothier, Steven R CIV** <Steven.R.Pothier@uscg.mil>  
 To: "matthew.jaskoski@noaa.gov" <matthew.jaskoski@noaa.gov>

Wed, Sep 17, 2014 at 2:32 PM

LT Jaskoski,

Thank you very much for the notification. Currently, that aid is not listed in our LNM as discrepant/missing. I will contact the owner and local ANT in Long Island Sound and a BNM will issued.

Thanks again.....

Steve  
 D1 Paton Manager  
 [Quoted text hidden]

## APPENDIX III

### SURVEY FEATURES REPORT

AWOIS – two

Dangers to Navigation – nine

Maritime Boundary – none

Wrecks (see AWOIS and DTON sections) - three

# H12488 Feature Report

**Registry Number:** H12488  
**State:** New York  
**Locality:** Long Island Sound  
**Sub-locality:** East of Nissequogue River to Crane Neck Point  
**Project Number:** OPR-B340-TJ-12  
**Survey Dates:** 06/24/2012 - 08/07/2012

## Charts Affected

Number	Edition	Date	Scale (RNC)	RNC Correction(s)*
12364	38th	07/01/2008	1:40,000 (12364_21)	[L]NTM: ?
12363	40th	06/01/2005	1:80,000 (12363_1)	[L]NTM: ?
12353	18th	11/01/2003	1:80,000 (12353_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	43ft Wreck	Wreck	13.28 m	40° 56' 01.4" N	073° 10' 39.6" W	---
2.1	AWOIS #7699	Wreck	34.14 m	41° 01' 22.8" N	073° 11' 09.0" W	7699
2.2	AWOIS #2640	Obstruction	7.00 m	40° 55' 58.7" N	073° 11' 10.4" W	2640
3.1	DTON #1.5	Rock	5.75 m	40° 55' 27.3" N	073° 12' 32.9" W	---
3.2	DTON#1.6	Rock	10.57 m	40° 55' 41.1" N	073° 12' 25.0" W	---
3.3	DTON #2.1	Rock	6.72 m	40° 55' 37.6" N	073° 12' 14.4" W	---
3.4	DTON #2.2	Wreck	10.30 m	40° 56' 55.3" N	073° 12' 07.8" W	---
3.5	DTON #1.4	Rock	6.89 m	40° 55' 48.9" N	073° 11' 53.6" W	---
3.6	DTON #2.3	Obstruction	5.69 m	40° 55' 57.6" N	073° 10' 51.7" W	---
3.7	DTON #1.1	Rock	11.60 m	40° 58' 14.5" N	073° 10' 19.2" W	---

3.8	DTON #1.2	Rock	4.00 m	40° 58' 04.7" N	073° 10' 10.6" W	---
3.9	DTON #1.3	Rock	4.94 m	40° 58' 20.2" N	073° 09' 32.4" W	---

# **1 - New Features**



## 1.1) 43ft Wreck

### Survey Summary

**Survey Position:** 40° 56' 01.4" N, 073° 10' 39.6" W  
**Least Depth:** 13.28 m (= 43.57 ft = 7.262 fm = 7 fm 1.57 ft)  
**TPU ( $\pm 1.96\sigma$ ):** THU (TPEh) [None] ; TVU (TPEv) [None]  
**Timestamp:** 2012-220.00:00:00.000 (08/07/2012)  
**Dataset:** H12488\_for\_feature\_report\_updated.000  
**FOID:** 0\_ 0003266966 00001(FFFE0031D9960001)  
**Charts Affected:** 12364\_21, 12363\_1, 12300\_1, 13006\_1, 5161\_1, 13003\_1

**Remarks:**

WRECKS/remrks: Wreck remains found correlating to a Detached Position. There is pipe or mast south in danger circle radius. The appear simialr to AWOIS 2640 description. These have been missplaced when dropped for the fish haven

### Feature Correlation

Source	Feature	Range	Azimuth	Status
H12488_for_feature_report_updated.000	0_ 0003266966 00001	0.00	000.0	Primary

### Hydrographer Recommendations

Add new Wreck

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

43ft (12364\_21, 12363\_1)

7 ¼fm (12300\_1, 13006\_1, 13003\_1)

13.3m (5161\_1)

### S-57 Data

**Geo object 1:** Wreck (WRECKS)  
**Attributes:** CATWRK - 2:dangerous wreck  
 NINFOM - Add Wreck  
 QUASOU - 1:depth known  
 SORDAT - 20120807  
 SORIND - US,US,graph,H12488

TECSOU - 3:found by multi-beam

VALSOU - 13.281 m

WATLEV - 3:always under water/submerged

## Office Notes

SAR: Wreck verified via object detection multibeam.

Compile: Chart a 43ft wreck at the survey position.

### Feature Images

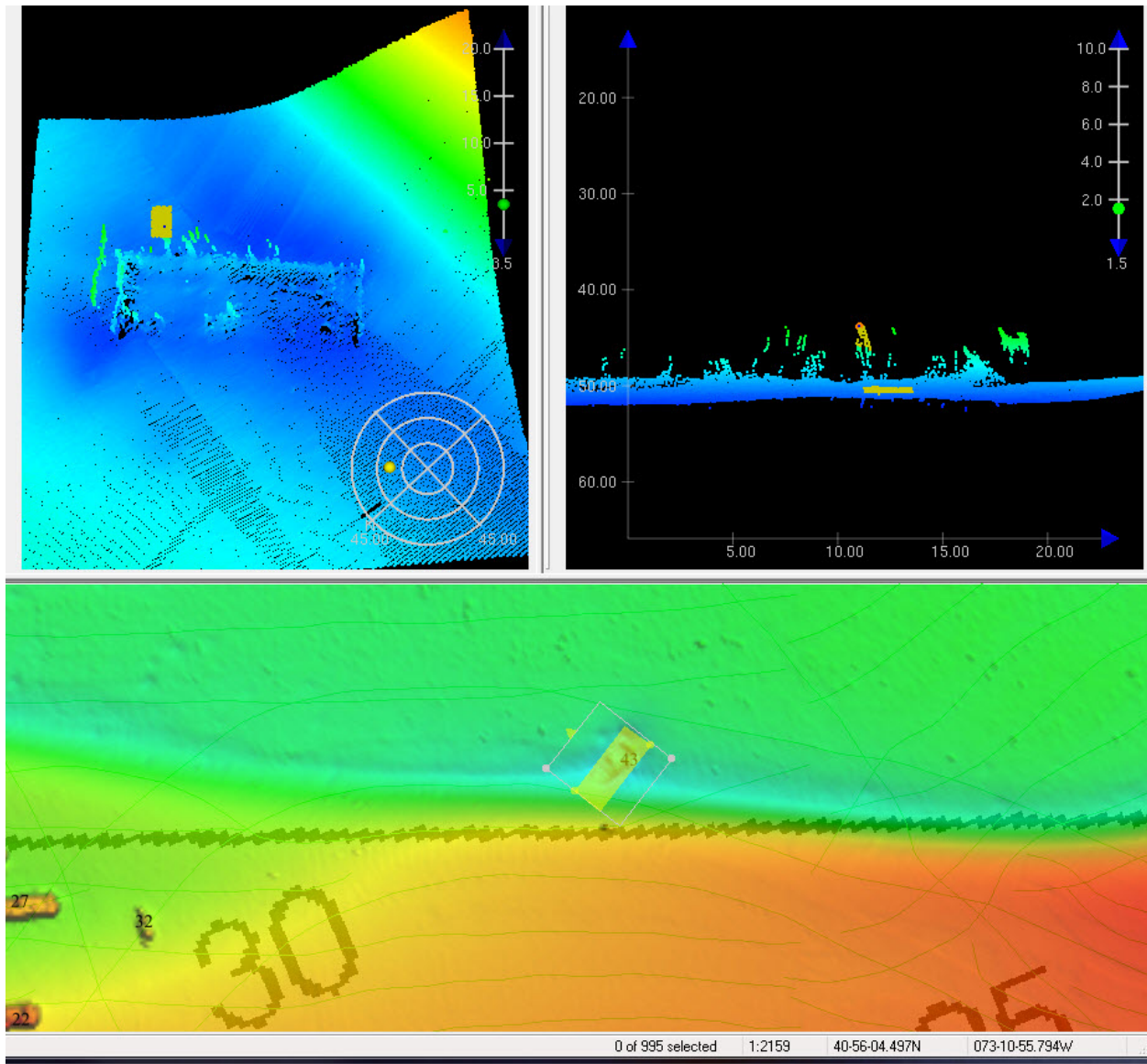


Figure 1.1.1

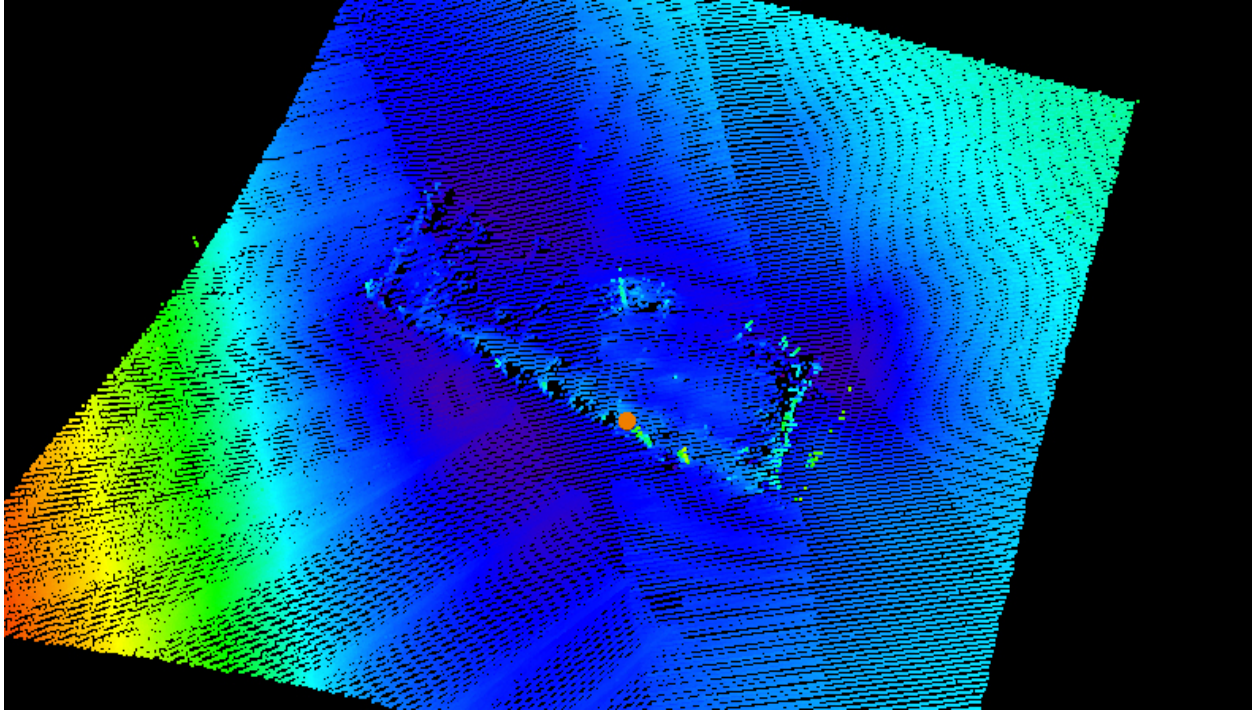


Figure 1.1.2

## **2 - AWOIS Features**

## 2.1) AWOIS #7699

### Feature for AWOIS Item #7699

**Search Position:** 41° 01' 22.8" N, 073° 11' 09.0" W  
**Historical Depth:** 34.14 m  
**Search Radius:** [unknown]  
**Search Technique:** Type: OBSTRUCTION, Itemstatus: COMPLETED, Searchtype: INFOMATION, Technique: MB, S2

#### Technique Notes:

#### History Notes:

##### History

" FE321SS/88--OPR-B660-HE-88; TARGET NO. 11; WHILE SEARCHING FOR ìTHE H.G. SMITH, A 45 FT. WRECK WAS LOCATED IN 110 FT. OF WATER IN ìLAT 41-01-23.026N, LONG 73-11-08.729W (COMPUTED FROM SIDE SCAN ìMAGERY- ACCURATE TO ABOUT 40M); NO FURTHER INVESTIGATION WAS ìCONDUCTED SINCE IT DID NOT POSE A THREAT TO NAVIGATION AND DID ìNOT MATCH THE CHARACTERISTICS OF THE H.G. SMITH; ESTIMATED LEAST ìDEPTH OF 101 FT.; PROTRUDES APPROXIMATELY 18 FT. OFF THE BOTTOM; ìHYDROGRAPHER AND EVALUATOR RECOMMENDED CHARTING 101FT. ìOBSTN (WRECKAGE) AS SHOWN ON SMOOTH SHEET. (ENTERED MSM 4/90) H11045/03 -- OPR-B340-RU-03; THIS ITEM WAS IDENTIFIED DURING MAIN SCHEME SIDE SCAN SONAR OPERATIONS AS A SMALL WRECK IN POSITION: LATITUDE 41°01' 22.974 N, LONGITUDE 073°11' 08.676 W (NAD83). SWMB REVEALED A LEAST DEPTH OF 34.02 METERS. DUE TO THE INSIGNIFICANT APPARENT HEIGHT, DIVE OPERATIONS WERE NOT CONDUCTED. THE HYDROGRAPHER BELIEVES THIS ITEM WAS INVESTIGATED ADEQUATELY TO WARRANT REPRESENTATION ON THE CHART. DUE TO THE RELATIVE HEIGHT OF THIS ITEM IN RELATION TO THE SURROUNDING BOTTOM, THE HYDROGRAPHER AND EVALUATOR RECOMMEND CHARTING AS ""111 WK"". [UPDATED 12/17/04 JCM]"

### Survey Summary

**Survey Position:** 41° 01' 22.8" N, 073° 11' 09.0" W  
**Least Depth:** 34.14 m (= 112.02 ft = 18.670 fm = 18 fm 4.02 ft)  
**TPU ( $\pm 1.96\sigma$ ):** THU (TPEh) [None] ; TVU (TPEv) [None]  
**Timestamp:** 2012-220.00:00:00.000 (08/07/2012)  
**Dataset:** H12488\_for\_feature\_report\_updated.000  
**FOID:** 0\_ 0003266970 00001(FFFE0031D99A0001)  
**Charts Affected:** 12364\_21, 12363\_1, 12300\_1, 13006\_1, 5161\_1, 13003\_1

#### Remarks:

WRECKS/remrks: charte Wk found new location depth



## Feature Correlation

Source	Feature	Range	Azimuth	Status
H12488_for_feature_report_updated.000	0_0003266970 00001	0.00	000.0	Primary

## Hydrographer Recommendations

Add new Wk

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

112ft (12364\_21, 12363\_1)

18ft (12300\_1, 13006\_1, 13003\_1)

34m (5161\_1)

## S-57 Data

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

**Attributes:** CATWRK - 1:non-dangerous wreck  
 NINFOM - Add Wreck  
 QUASOU - 6:least depth known  
 SORDAT - 20120807  
 SORIND - US,US,graph,H12488  
 TECSOU - 3:found by multi-beam  
 VALSOU - 34.143 m  
 WATLEV - 3:always under water/submerged

## Office Notes

SAR: Wreck verified via complete coverage multibeam.

Compile: Chart AWOIS#7699, a 112ft wreck, at the survey position.

### Feature Images

Project	Vessel	Day	Line	Profile	Beam	Time	Depth (m)	Q	Status	Tide (m)
12488	TJ_S222_RESON7125_STBD	2012-211	591_2044	2,492	127	2012-07-29 20:53:14.175	34.144	3	Designat...	0.81

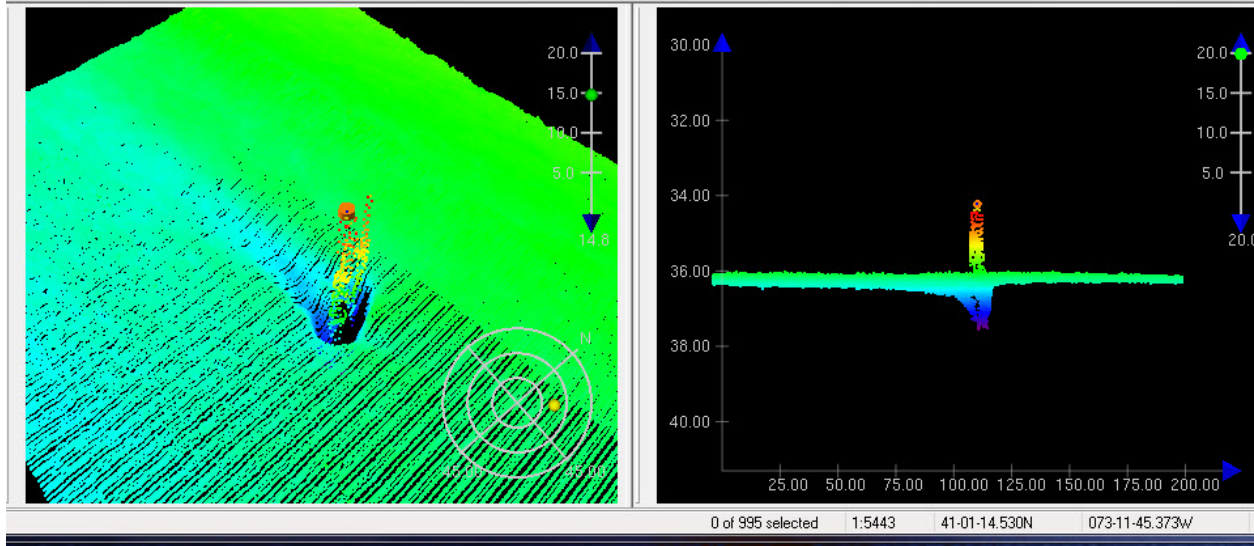
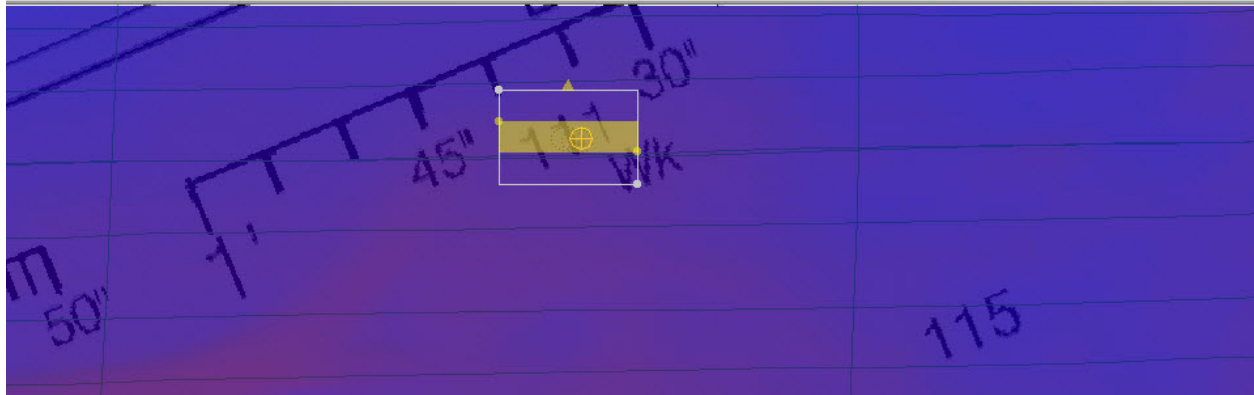


Figure 2.1.1

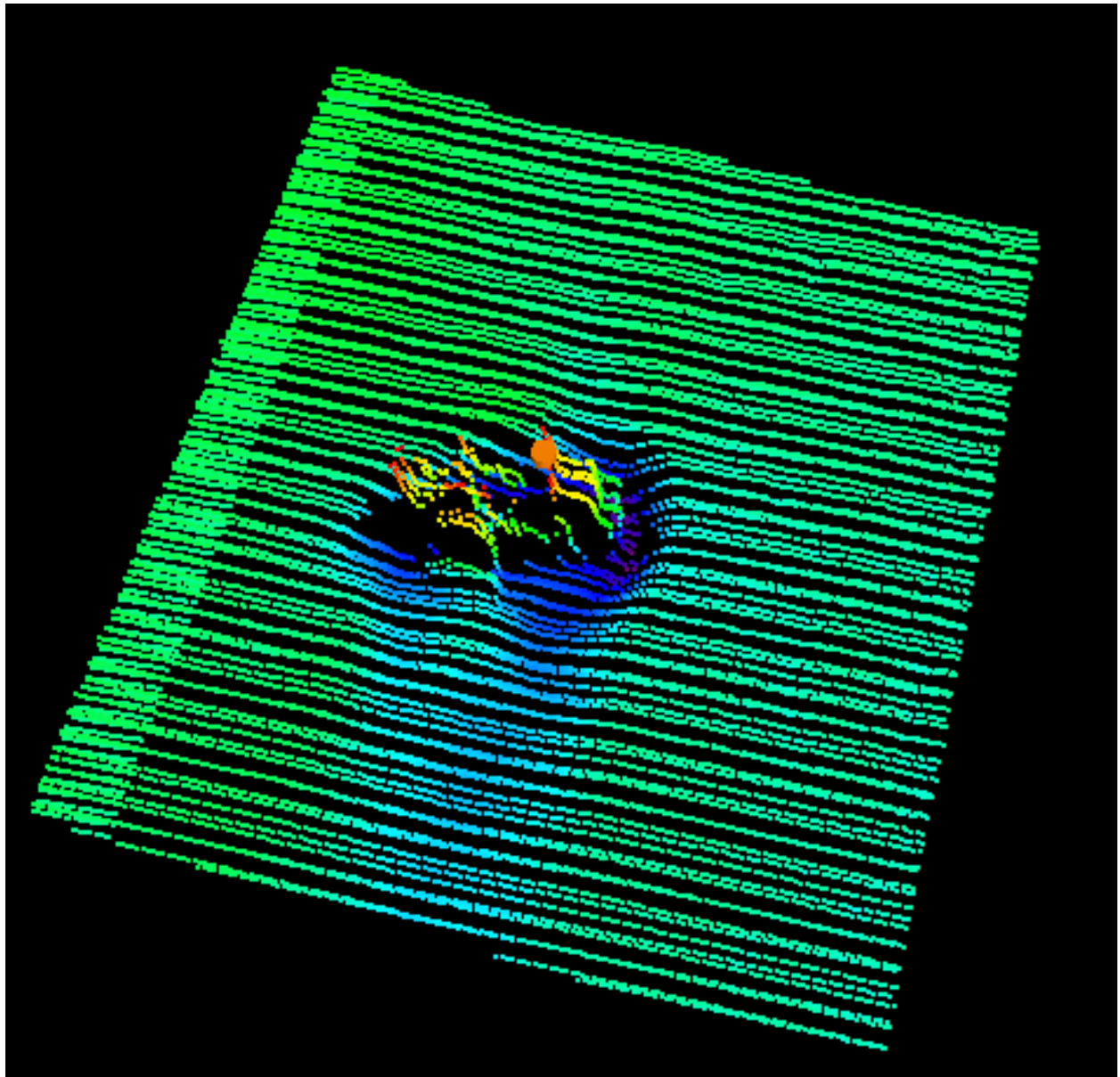


Figure 2.1.2

## 2.2) AWOIS #2640

### Feature for AWOIS Item #2640

**Search Position:** 40° 55' 58.7" N, 073° 11' 10.4" W  
**Historical Depth:** 7.00 m  
**Search Radius:** [unknown]  
**Search Technique:** Type: UNKNOWN, Itemstatus: COMPLETED, Searchtype: FULL, Technique: MB, S2

**Technique Notes:**

**History Notes:**

History

CL 123/77--New York State Department of Environmental Conservation; Permit No. 9732 (issued 8 June 1976), construction of an artificial reef, in an area approximately 150 yards x 100 yards, consisting of concrete encased structures, concrete culvert pipe and concrete ballasted auto tire strctures; the top of which is a minium of 23 ft below the plane of mlw; the center of the reef area is located approximately 4051 yards offshore; See also Proprietary below.

### Survey Summary

**Survey Position:** 40° 55' 58.7" N, 073° 11' 10.4" W  
**Least Depth:** 7.00 m (= 22.97 ft = 3.828 fm = 3 fm 4.97 ft)  
**TPU (±1.96σ):** THU (TPEh) [None] ; TVU (TPEv) [None]  
**Timestamp:** 2005-152.00:00:00.000 (06/01/2005)  
**Dataset:** H12488\_for\_feature\_report\_updated.000  
**FOID:** 0\_ 0003266969 00001(FFFE0031D9990001)  
**Charts Affected:** 12364\_21, 12353\_1, 12363\_1, 12300\_1, 13006\_1, 5161\_1, 13003\_1

**Remarks:**

OBSTRN/remrks: The assigned item is similar to AWOIS 2640 Location. No Obstns or comparable soundings were found in the Fish Haven that justify a 23ft Authmin depth. Shoal soundings were found in the Obstn area south. That area appears to have most of the items described in the AWOIS text.

### Feature Correlation

Source	Feature	Range	Azimuth	Status
H12488_for_feature_report_updated.000	0_ 0003266969 00001	0.00	000.0	Primary

## Hydrographer Recommendations

Update Chart Contact Nav Manager, State and Local Officials on current conditions

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

23ft (12364\_21, 12353\_1, 12363\_1)

3 ¾fm (12300\_1, 13006\_1, 13003\_1)

7.0m (5161\_1)

## S-57 Data

**Geo object 1:** Obstruction (OBSTRN)

**Attributes:** CATOBS - 5:fish haven

NINFOM - Retain Obstruction area

QUASOU - 7:least depth unknown, safe clearance at value shown

SORDAT - 20050600

SORIND - US,US,graph,Chart 12364

VALSOU - 7.000 m

WATLEV - 3:always under water/submerged

## Office Notes

SAR: The area is supposed to be an artificial reef but there are no signs of materials being deposited here. The least depth of the feature according to the AWOIS database is 23ft but the least depth of the object detection grid is 36 ft. It seems that the materials that are described in the AWOIS text file 2640.TXT are deposited approximately 40 meters to the East of the charted location where a new area feature is included in the final feature file. The recommendation to compiler is to contact MCD for a revision of the permit limits of the artificial reef to the location and dimensions of the object obstruction to the East of the charted location. The least depth of that the Eastern obstruction feature also needs to be updated.

Compile: Retain Obstruction Area.

### Feature Images

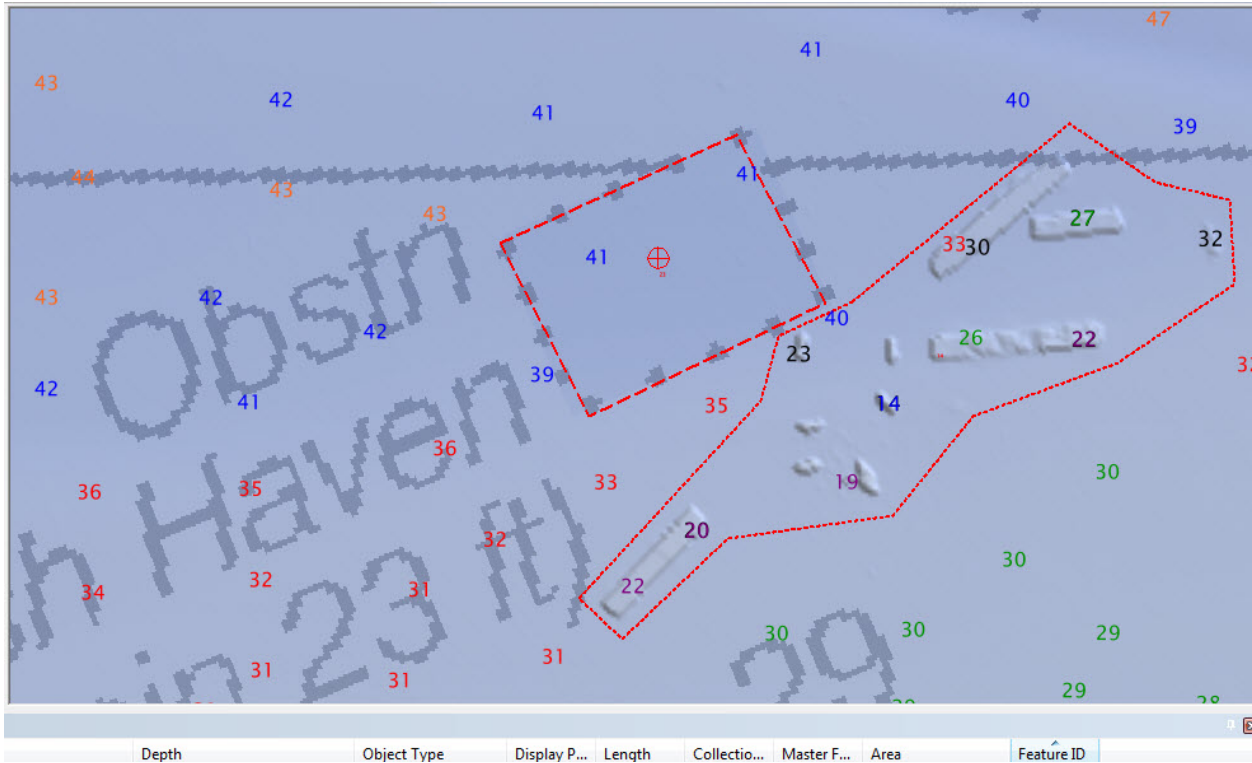


Figure 2.2.1



## **3 - Dangers To Navigation**

### 3.1) DTON #1.5

## DANGER TO NAVIGATION

### Survey Summary

**Survey Position:** 40° 55' 27.3" N, 073° 12' 32.9" W  
**Least Depth:** 5.75 m (= 18.87 ft = 3.145 fm = 3 fm 0.87 ft)  
**TPU ( $\pm 1.96\sigma$ ):** **THU (TPEh)** [None] ; **TVU (TPEv)** [None]  
**Timestamp:** 2012-220.00:00:00.000 (08/07/2012)  
**Dataset:** H12488\_for\_feature\_report\_updated.000  
**FOID:** 0\_0003266956 00001(FFFE0031D98C0001)  
**Charts Affected:** 12364\_21, 12353\_1, 12363\_1, 12300\_1, 13006\_1, 5161\_1, 13003\_1

#### Remarks:

UWTROC/remrks: Submerged rock found by reson 7125 ODMB. Data was acquired to the ellipsoid and reduced to MLLW using VDATUM separation model.

### Feature Correlation

Source	Feature	Range	Azimuth	Status
H12488_for_feature_report_updated.000	0_0003266956 00001	0.00	000.0	Primary

### Hydrographer Recommendations

Add new submerged rock least depth 5.67 meters (18.60 feet)

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

19ft (12364\_21, 12353\_1, 12363\_1)

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

5.7m (5161\_1)

### S-57 Data

**Geo object 1:** Underwater rock / awash rock (UWTROC)  
**Attributes:** NINFOM - Add DTON Rock  
 QUASOU - 6:least depth known  
 SORDAT - 20120807

SORIND - US,US,graph,H12488

TECSOU - 3:found by multi-beam

VALSOU - 5.752 m

WATLEV - 3:always under water/submerged

## Office Notes

SAR: Rock verified via object detection multibeam.

Compile: Chart DTON#1.5, a 19ft rock, at the survey position.

### Feature Images

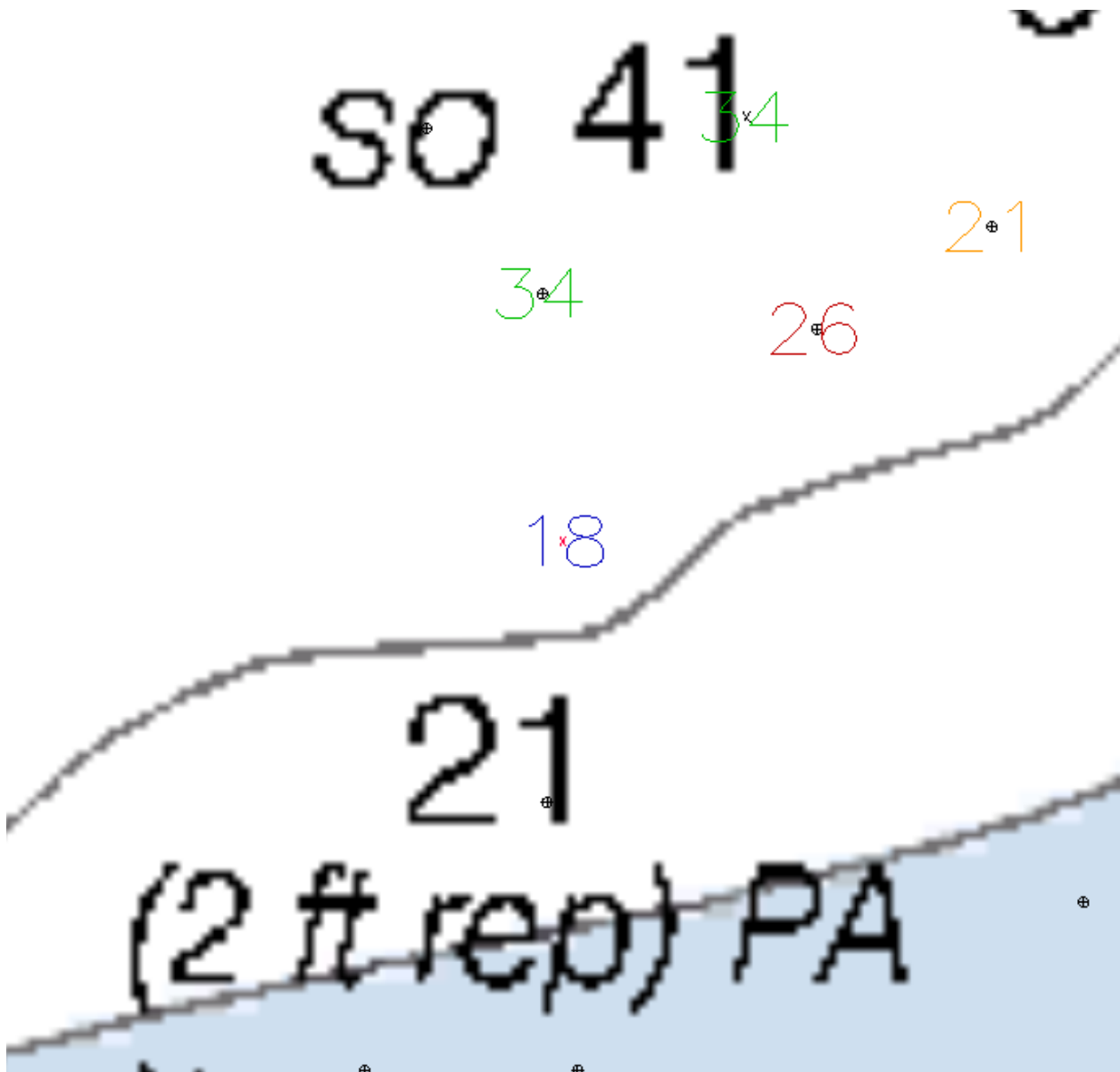


Figure 3.1.1

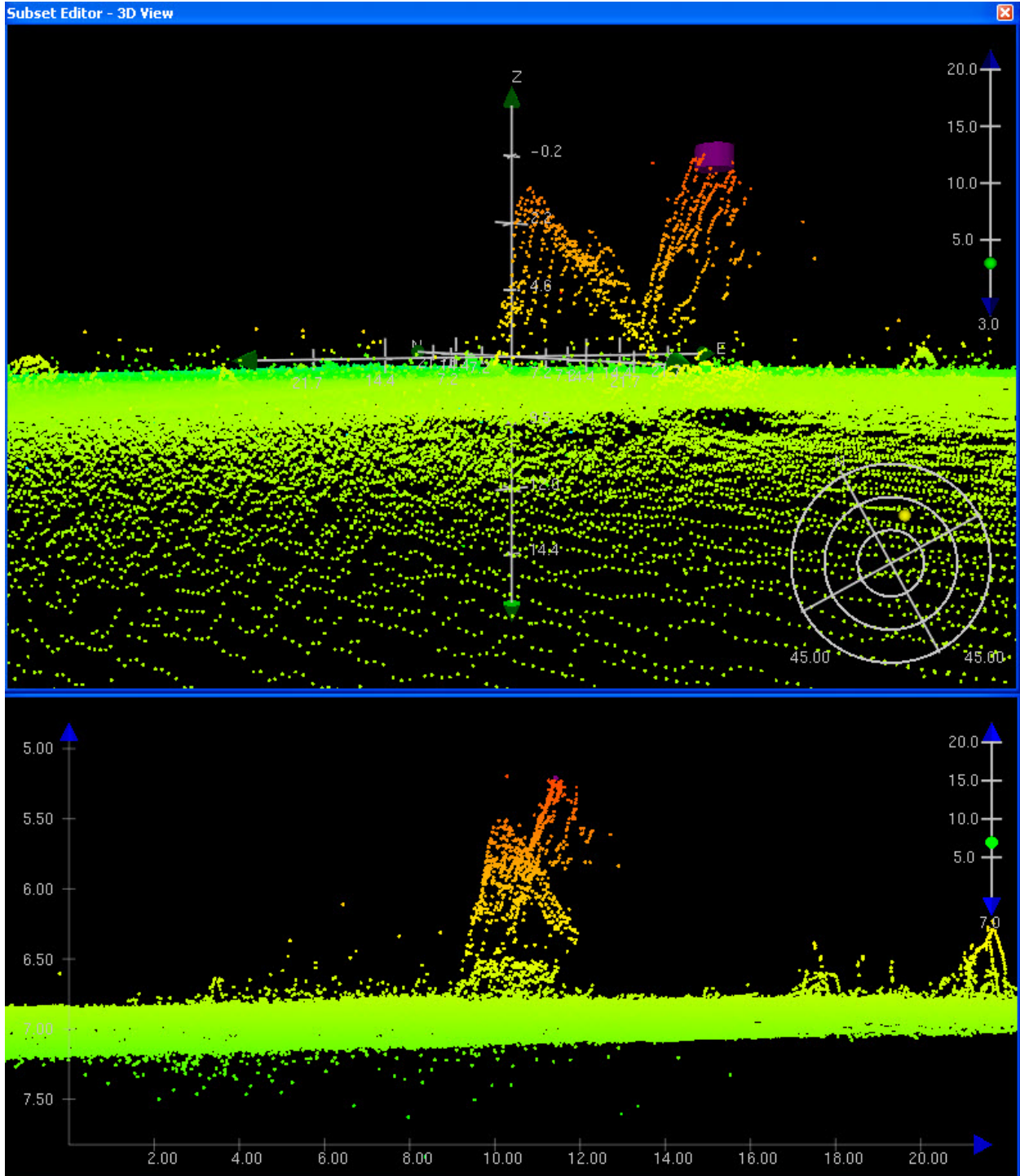


Figure 3.1.2



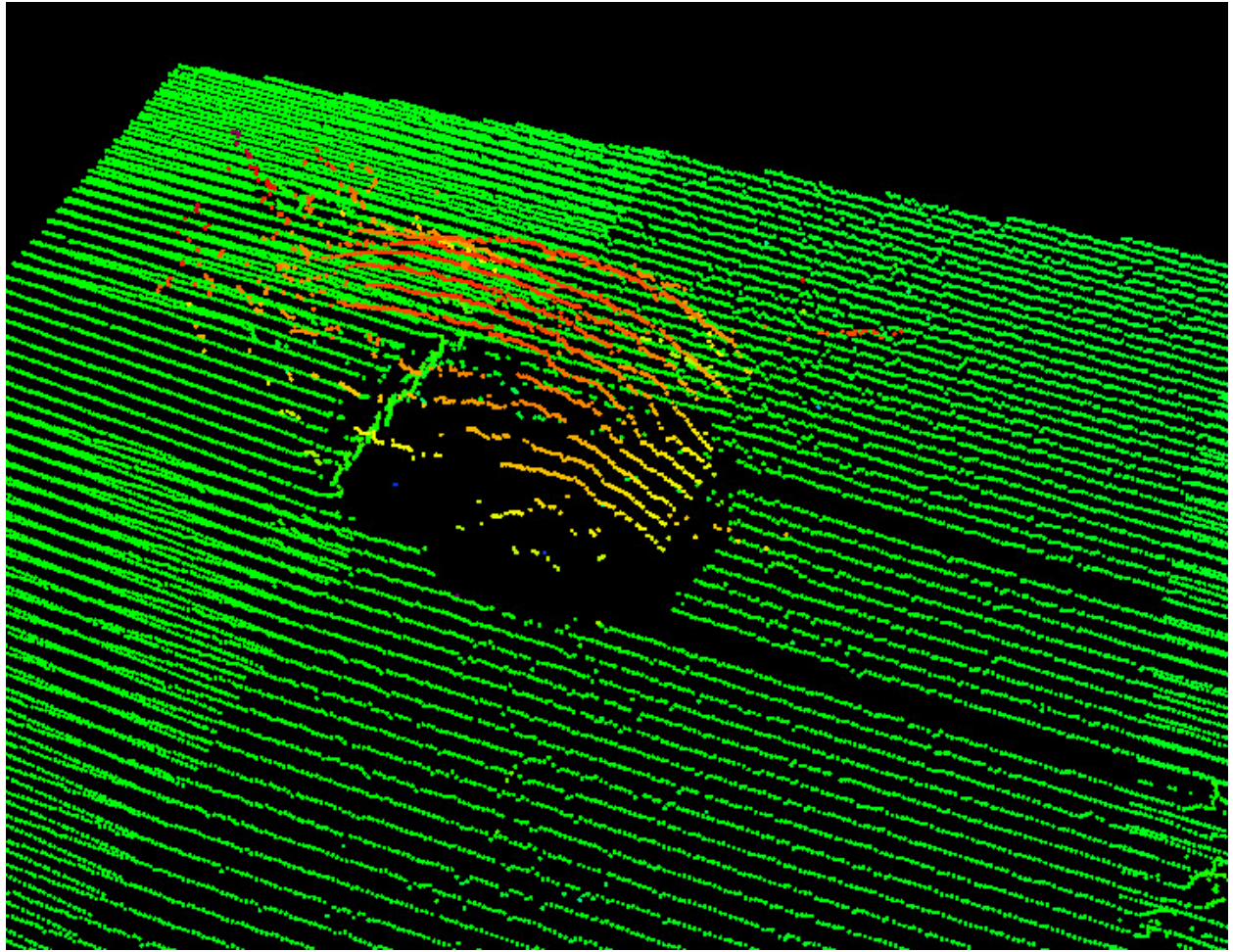


Figure 3.1.3

### 3.2) DTON#1.6

## DANGER TO NAVIGATION

### Survey Summary

**Survey Position:** 40° 55' 41.1" N, 073° 12' 25.0" W  
**Least Depth:** 10.57 m (= 34.68 ft = 5.779 fm = 5 fm 4.68 ft)  
**TPU ( $\pm 1.96\sigma$ ):** **THU (TPEh)** [None] ; **TVU (TPEv)** [None]  
**Timestamp:** 2012-220.00:00:00.000 (08/07/2012)  
**Dataset:** H12488\_for\_feature\_report\_updated.000  
**FOID:** 0\_0003289484 00001(FFFE0032318C0001)  
**Charts Affected:** 12364\_21, 12353\_1, 12363\_1, 12300\_1, 13006\_1, 5161\_1, 13003\_1

**Remarks:**

UWTROC/remrks: Submerged rock found by reson 7125 ODMB. Data was acquired to the ellipsoid and reduced to MLLW using VDATUM separation model.

### Feature Correlation

Source	Feature	Range	Azimuth	Status
H12488_for_feature_report_updated.000	0_0003289484 00001	0.00	000.0	Primary

### Hydrographer Recommendations

Add new submerged rock least depth 10.54 meters (34.58 feet)

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

- 34ft (12364\_21, 12353\_1, 12363\_1)
- 5 ¾fm (12300\_1, 13006\_1, 13003\_1)
- 10.5m (5161\_1)

### S-57 Data

**Geo object 1:** Underwater rock / awash rock (UWTROC)  
**Attributes:** QUASOU - 6:least depth known  
 SORDAT - 20120807  
 SORIND - US,US,graph,H12488

TECSOU - 3:found by multi-beam

VALSOU - 10.569 m

WATLEV - 3:always under water/submerged

## Office Notes

SAR: Charted rock verified via object detection multibeam.

Compile: Delete DTON#1.6, a 34ft rock. The rock will be represented as a sounding instead.

Feature Images

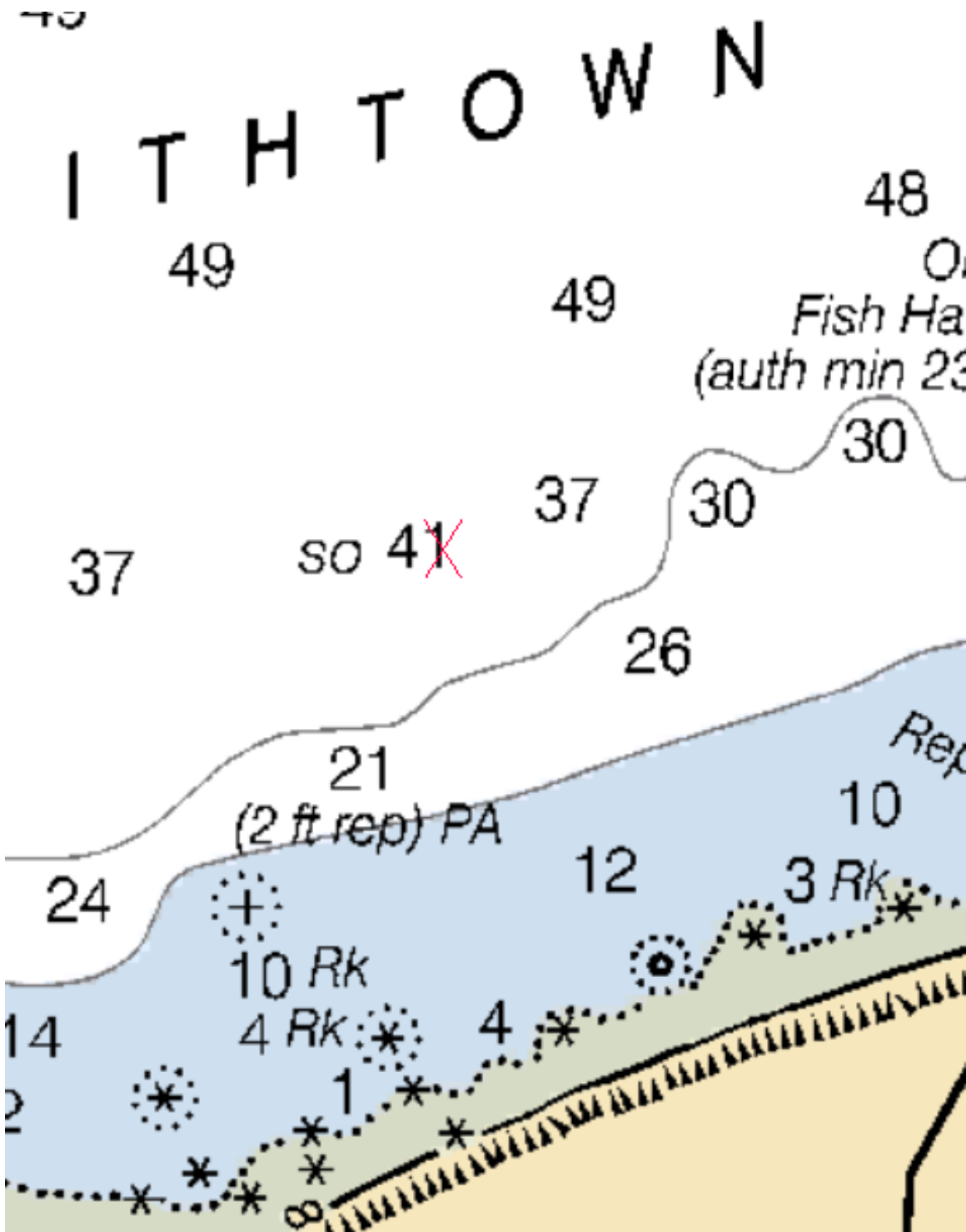


Figure 3.2.1

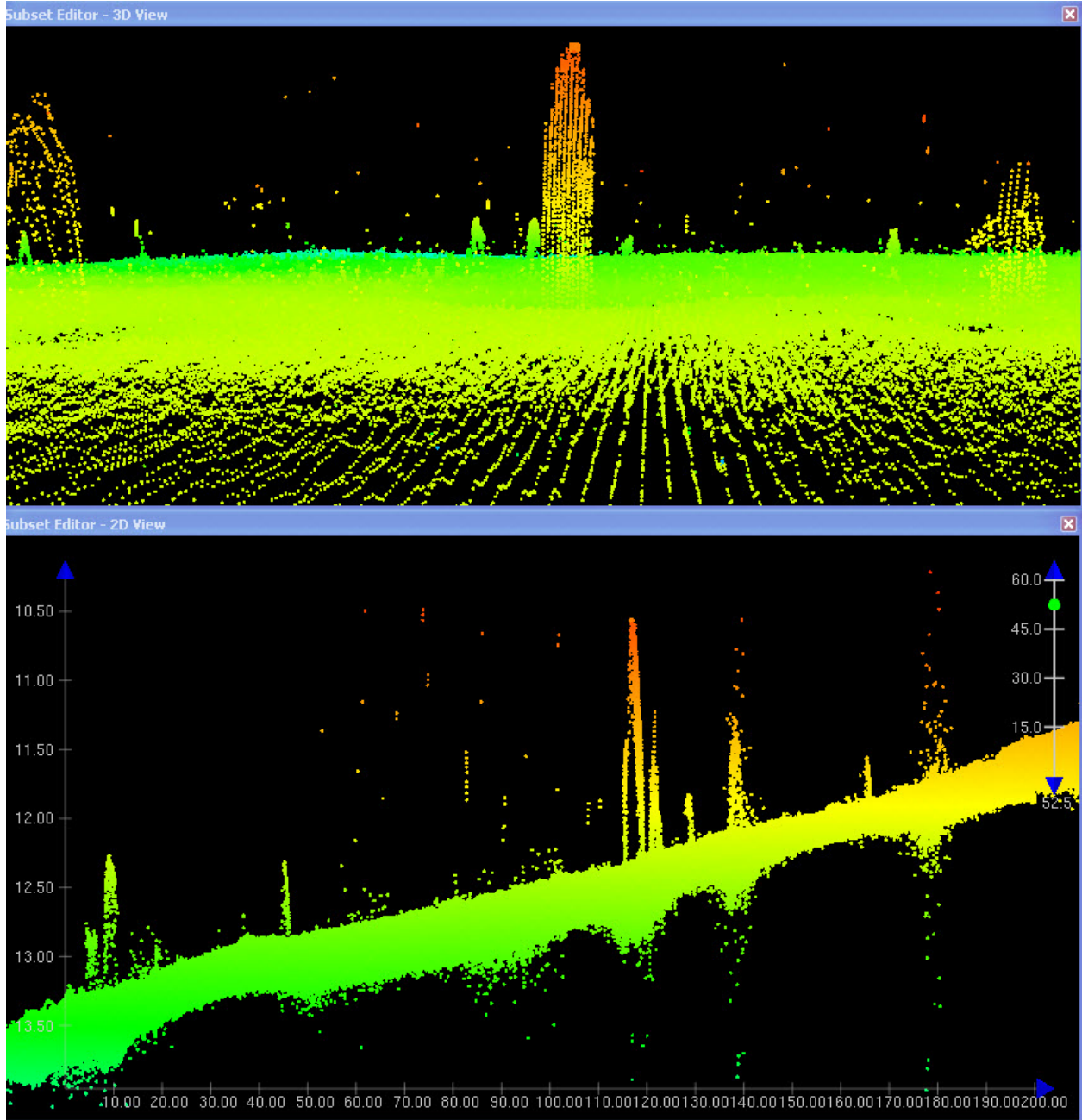


Figure 3.2.2



### 3.3) DTON #2.1

## DANGER TO NAVIGATION

### Survey Summary

**Survey Position:** 40° 55' 37.6" N, 073° 12' 14.4" W  
**Least Depth:** 6.72 m (= 22.05 ft = 3.675 fm = 3 fm 4.05 ft)  
**TPU ( $\pm 1.96\sigma$ ):** THU (TPEh) [None] ; TVU (TPEv) [None]  
**Timestamp:** 2012-220.00:00:00.000 (08/07/2012)  
**Dataset:** H12488\_for\_feature\_report\_updated.000  
**FOID:** 0\_0003266950 00001(FFFE0031D9860001)  
**Charts Affected:** 12364\_21, 12353\_1, 12363\_1, 12300\_1, 13006\_1, 5161\_1, 13003\_1

#### Remarks:

[None]

### Feature Correlation

Source	Feature	Range	Azimuth	Status
H12488_for_feature_report_updated.000	0_0003266950 00001	0.00	000.0	Primary

### Hydrographer Recommendations

[None]

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

22ft (12364\_21, 12353\_1, 12363\_1)

3 ½fm (12300\_1, 13006\_1, 13003\_1)

6.7m (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 - Add DTON Rock  
 QUASOU - 6:least depth known  
 SORDAT - 20120807

SORIND - US,US,graph,H12488

TECSOU - 3:found by multi-beam

VALSOU - 6.720 m

WATLEV - 3:always under water/submerged

## Office Notes

SAR: Rock verified via object detection multibeam.

Compile: Chart DTON#2.1, a 22ft rock, at the survey position.

### Feature Images

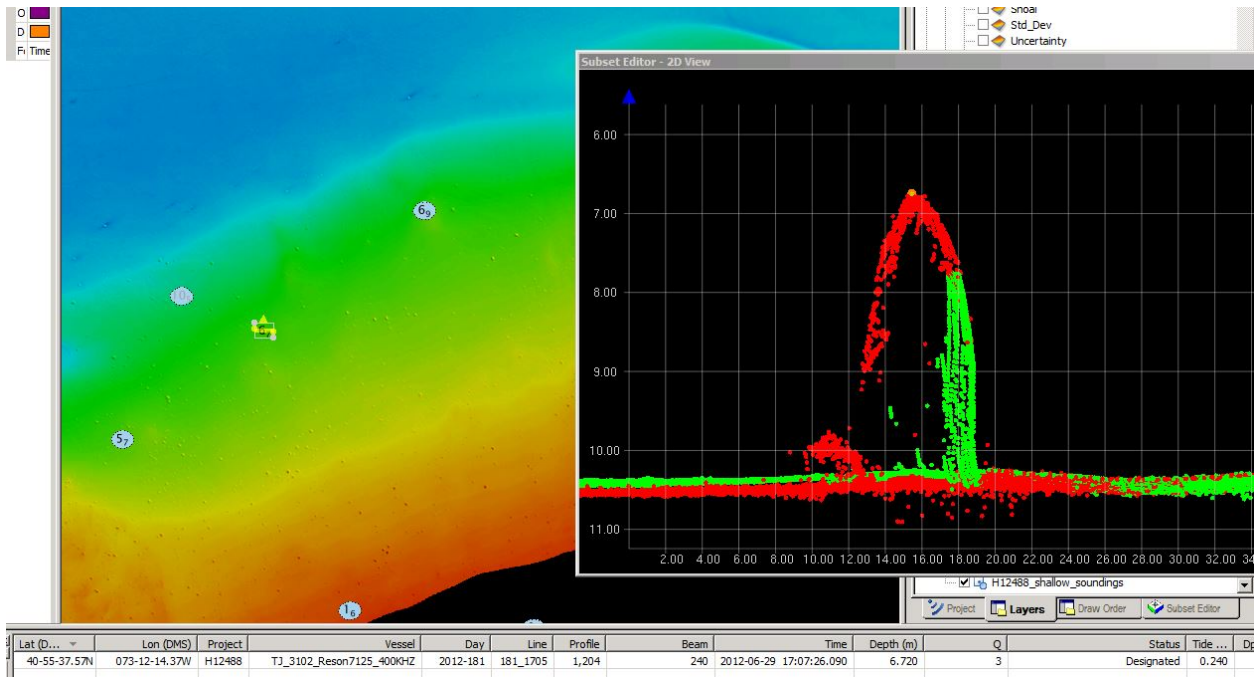


Figure 3.3.1

### 3.4) DTON #2.2

## DANGER TO NAVIGATION

### Survey Summary

**Survey Position:** 40° 56' 55.3" N, 073° 12' 07.8" W  
**Least Depth:** 10.30 m (= 33.79 ft = 5.632 fm = 5 fm 3.79 ft)  
**TPU ( $\pm 1.96\sigma$ ):** **THU (TPEh)** [None] ; **TVU (TPEv)** [None]  
**Timestamp:** 2012-220.00:00:00.000 (08/07/2012)  
**Dataset:** H12488\_for\_feature\_report\_updated.000  
**FOID:** 0\_ 0003266965 00001(FFFE0031D9950001)  
**Charts Affected:** 12364\_21, 12363\_1, 12300\_1, 13006\_1, 5161\_1, 13003\_1

**Remarks:**

WRECKS/remrks: Uncharted Wk Found

### Feature Correlation

Source	Feature	Range	Azimuth	Status
H12488_for_feature_report_updated.000	0_ 0003266965 00001	0.00	000.0	Primary

### Hydrographer Recommendations

Add new Wk

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

34ft (12364\_21, 12363\_1)  
 5 ½fm (12300\_1, 13006\_1, 13003\_1)  
 10.3m (5161\_1)

### S-57 Data

**Geo object 1:** Wreck (WRECKS)  
**Attributes:** CATWRK - 2:dangerous wreck  
 NINFOM - Add DTON Wreck  
 QUASOU - 6:least depth known  
 SORDAT - 20120807

SORIND - US,US,graph,H12488

TECSOU - 3:found by multi-beam

VALSOU - 10.299 m

WATLEV - 3:always under water/submerged

## Office Notes

SAR: Wreck verified via object detection multibeam.

Compile: Chart DTON#2.2, a 34ft wreck, at the survey position.



### Feature Images

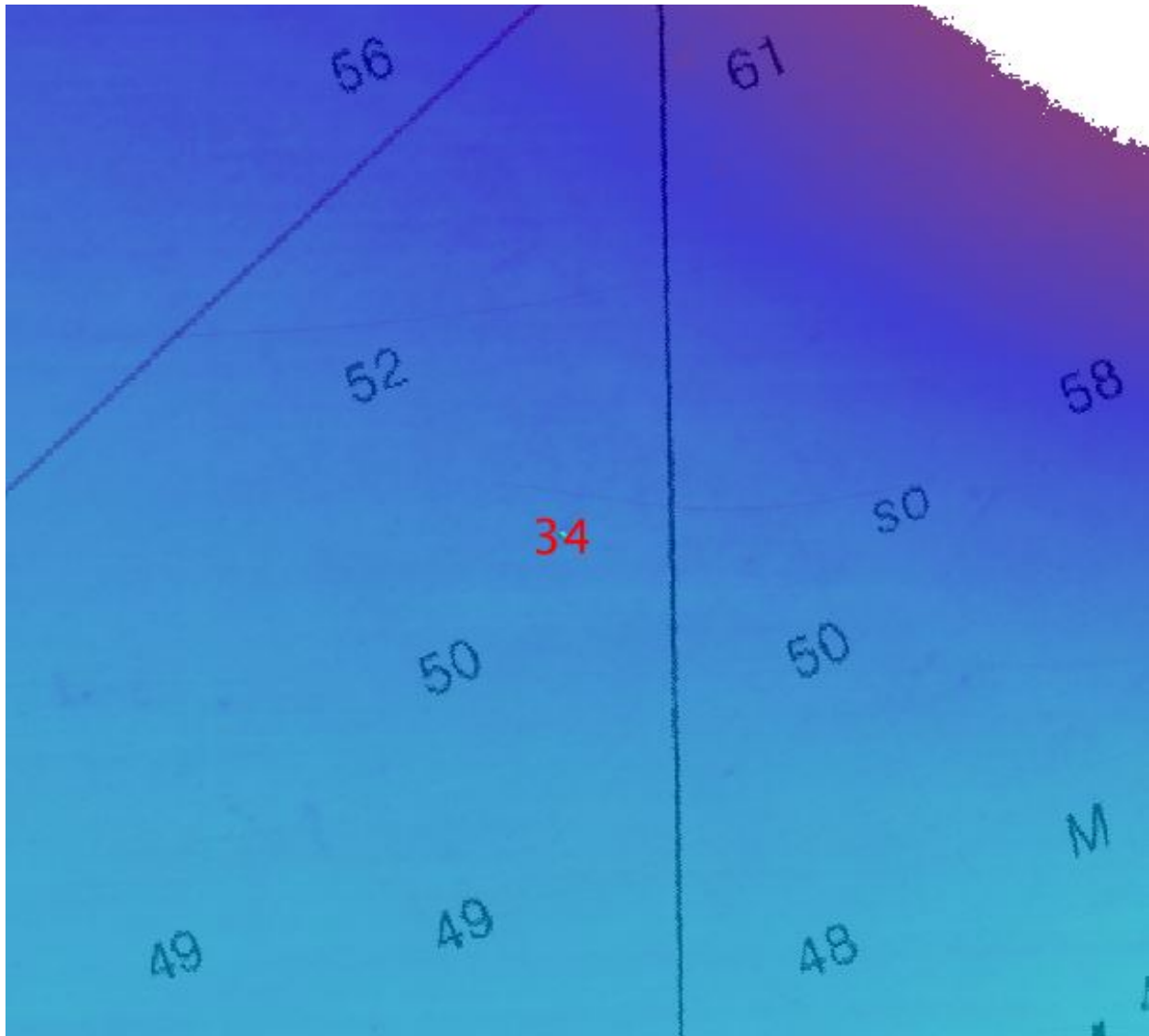


Figure 3.4.1



Figure 3.4.2

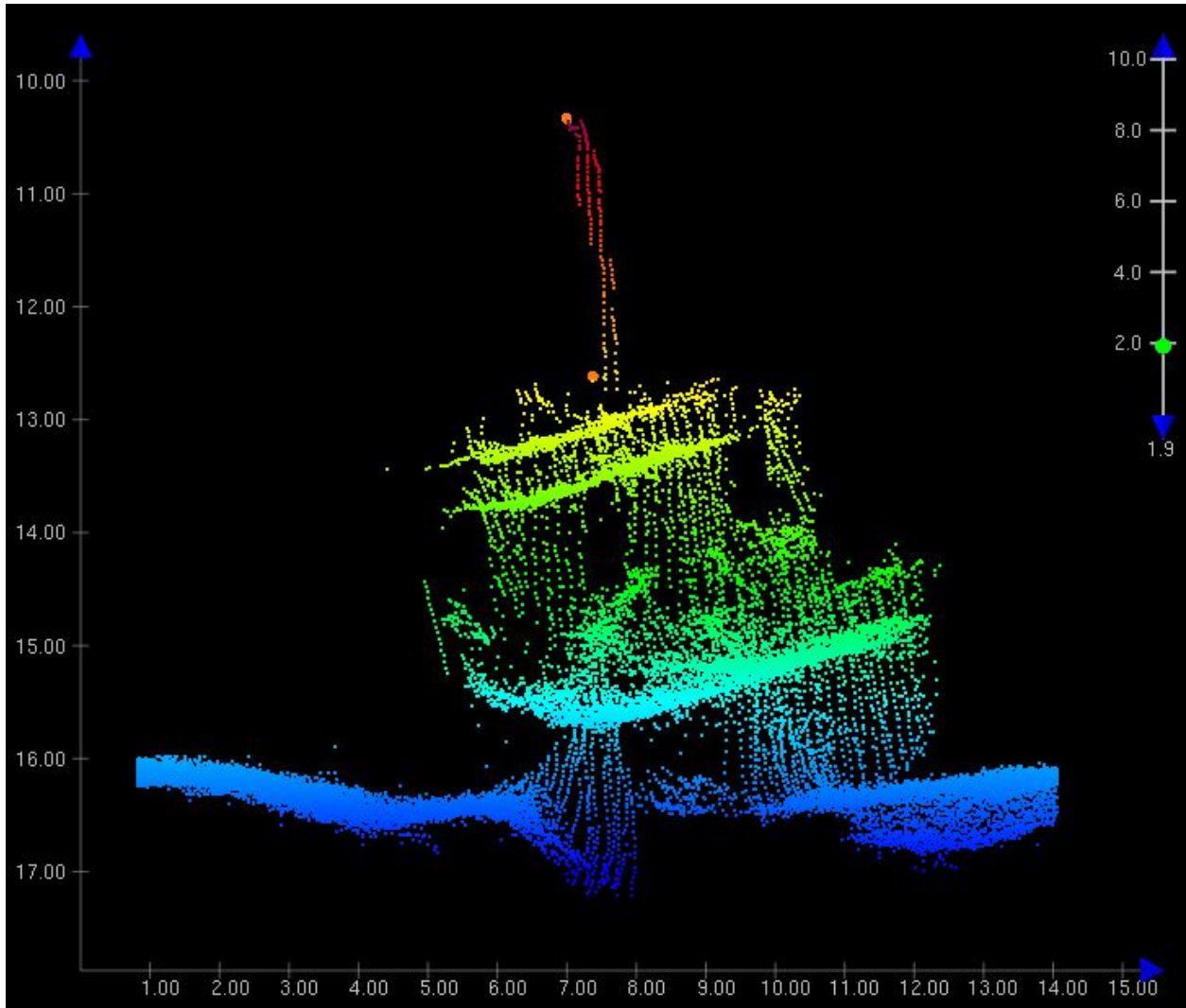


Figure 3.4.3

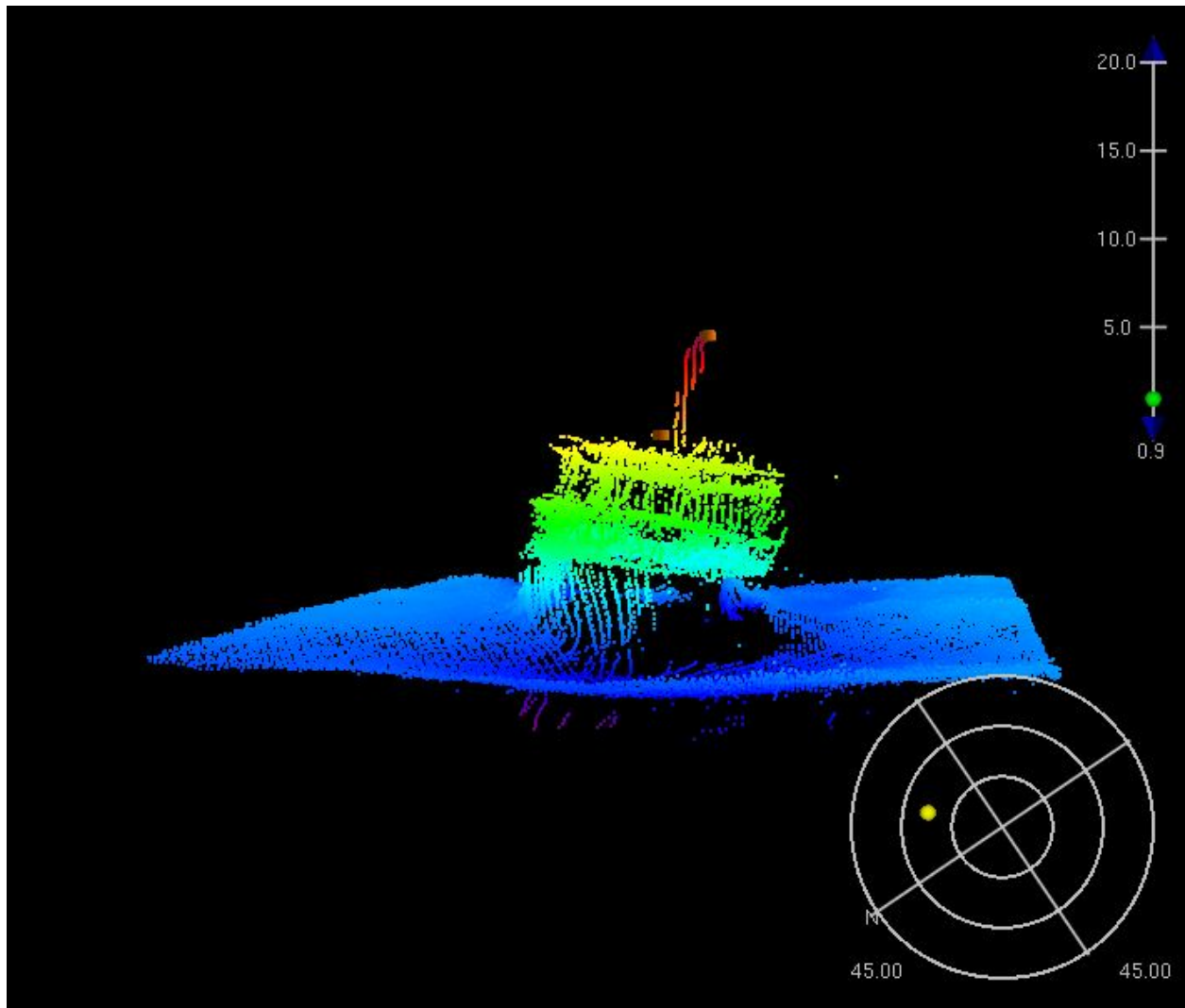


Figure 3.4.4

### 3.5) DTON #1.4

## DANGER TO NAVIGATION

### Survey Summary

**Survey Position:** 40° 55' 48.9" N, 073° 11' 53.6" W  
**Least Depth:** 6.89 m (= 22.60 ft = 3.767 fm = 3 fm 4.60 ft)  
**TPU ( $\pm 1.96\sigma$ ):** **THU (TPEh)** [None] ; **TVU (TPEv)** [None]  
**Timestamp:** 2012-220.00:00:00.000 (08/07/2012)  
**Dataset:** H12488\_for\_feature\_report\_updated.000  
**FOID:** 0\_0003266951 00001(FFFE0031D9870001)  
**Charts Affected:** 12364\_21, 12353\_1, 12363\_1, 12300\_1, 13006\_1, 5161\_1, 13003\_1

#### Remarks:

UWTROC/remrks: Submerged rock found by reson 7125 ODMB. Data was acquired to the ellipsoid and reduced to MLLW using VDATUM separation model.

### Feature Correlation

Source	Feature	Range	Azimuth	Status
H12488_for_feature_report_updated.000	0_0003266951 00001	0.00	000.0	Primary

### Hydrographer Recommendations

Add new submerged rock least depth 6.86 meters (22.52 feet)

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

22ft (12364\_21, 12353\_1, 12363\_1)

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

6.9m (5161\_1)

### S-57 Data

**Geo object 1:** Underwater rock / awash rock (UWTROC)  
**Attributes:** NINFOM - Add DTON Rock  
 QUASOU - 6:least depth known  
 SORDAT - 20120807



SORIND - US,US,graph,H12488

TECSOU - 3:found by multi-beam

VALSOU - 6.889 m

WATLEV - 3:always under water/submerged

## Office Notes

SAR: Rock verified via object detection multibeam.

Compile: Chart DTON#1.4, a 22ft rock, at the survey position.

### Feature Images

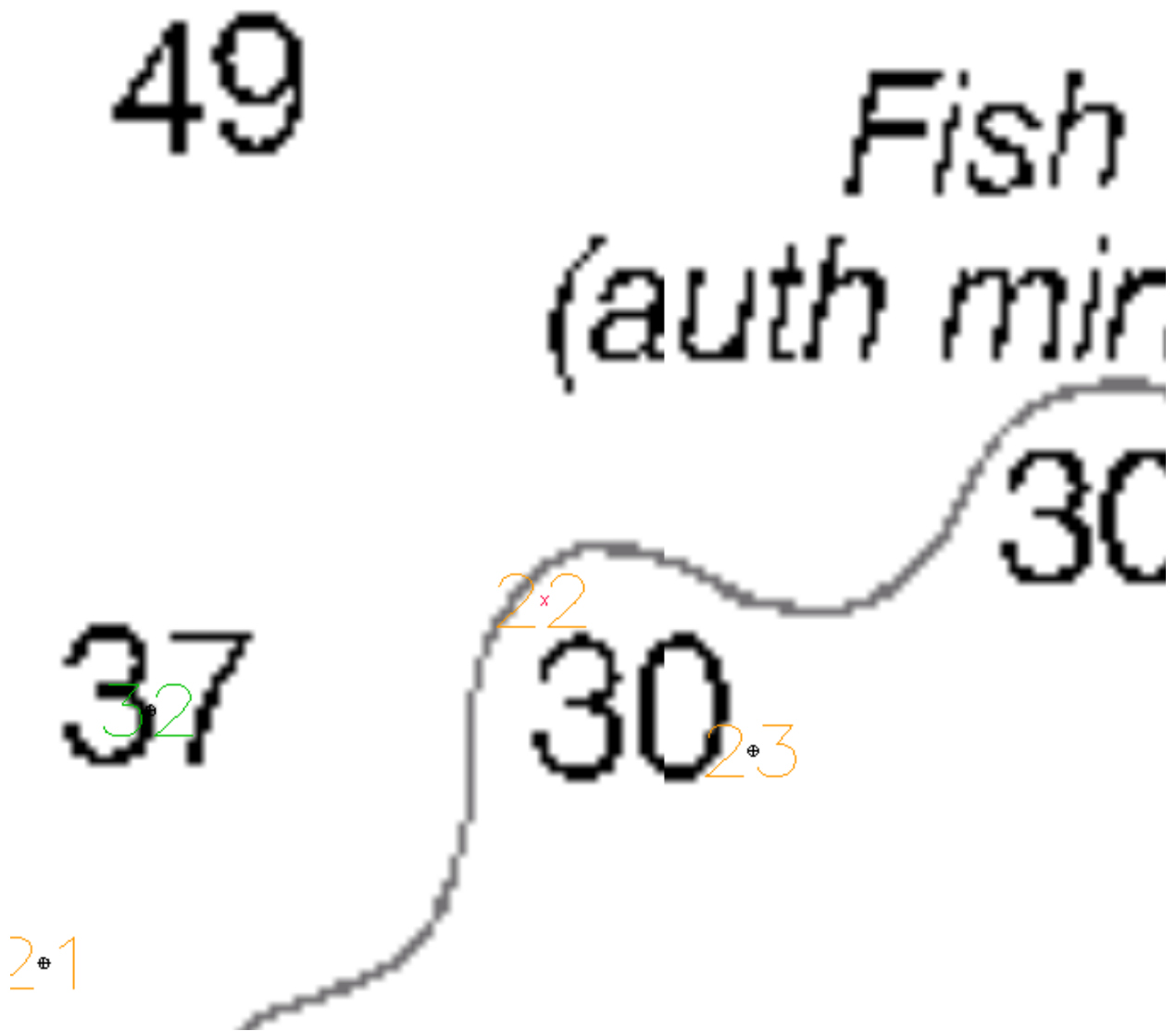


Figure 3.5.1

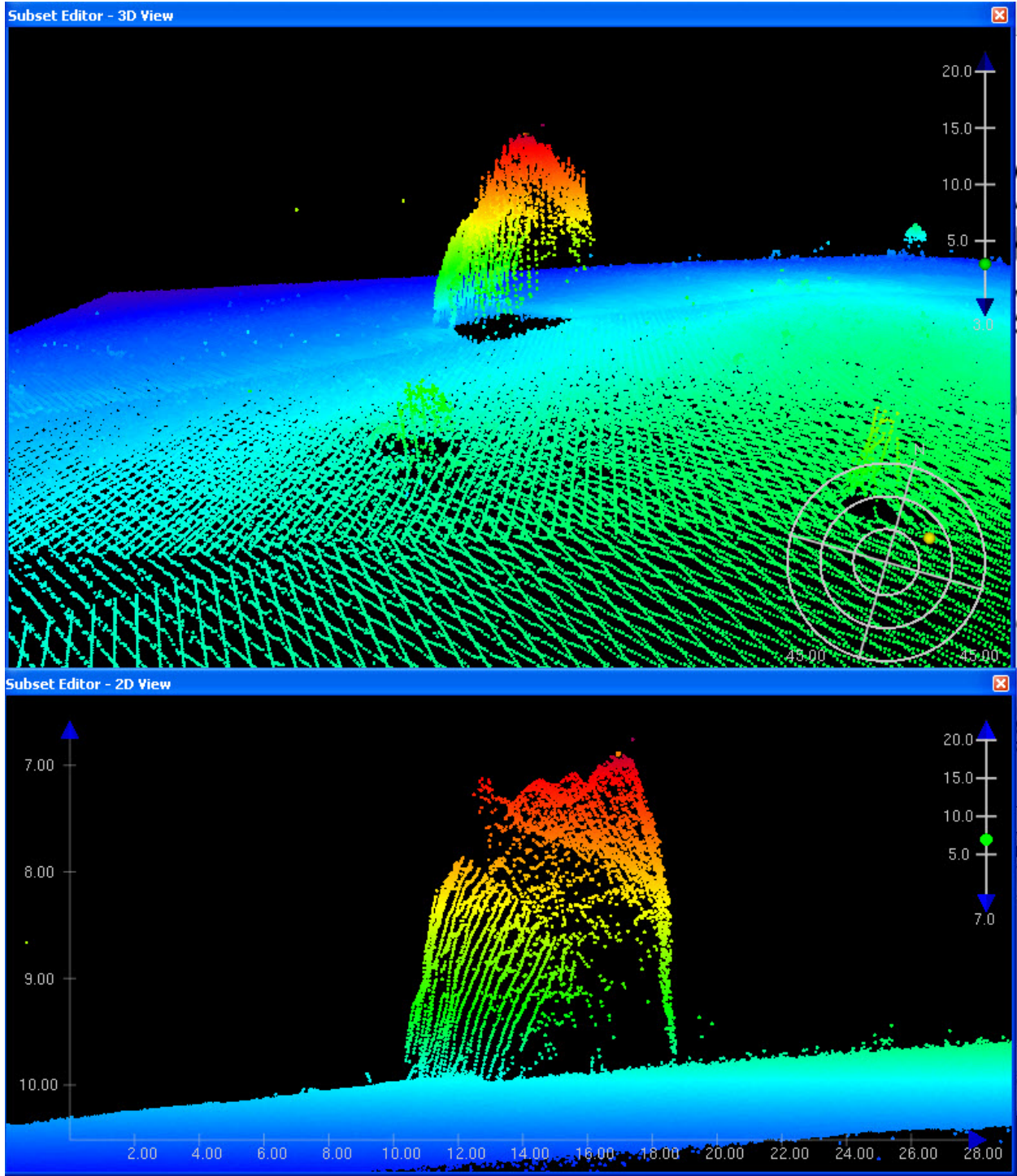


Figure 3.5.2

### 3.6) DTON #2.3

## DANGER TO NAVIGATION

### Survey Summary

**Survey Position:** 40° 55' 57.6" N, 073° 10' 51.7" W  
**Least Depth:** 5.69 m (= 18.66 ft = 3.111 fm = 3 fm 0.66 ft)  
**TPU (±1.96σ):** **THU (TPEh)** [None] ; **TVU (TPEv)** [None]  
**Timestamp:** 2012-220.00:00:00.000 (08/07/2012)  
**Dataset:** H12488\_for\_feature\_report\_updated.000  
**FOID:** 0\_ 0003266948 00001(FFFE0031D9840001)  
**Charts Affected:** 12364\_21, 12353\_1, 12363\_1, 12300\_1, 13006\_1, 5161\_1, 13003\_1

**Remarks:**

OBSTRN/remrks: Wks and Obstns abound outside of Fish Have with least Depth of 16.759.  
 This is similar to an AFF assigned item and AWOIS 2640 description. No Obstns or comparable soundings were found in the Fish Haven that justify a 23ft Auth min depth. Shoal soundings were found in the Obstn area south. That area appears to have most of the items described in the AWOIS text.

### Feature Correlation

Source	Feature	Range	Azimuth	Status
H12488_for_feature_report_updated.000	0_ 0003266948 00001	0.00	000.0	Primary

### Hydrographer Recommendations

Chart new Wk AREA with least depthof 4.289m. Inform NY state environmental authorites of conditions near this Fish Haven

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

- 18ft (12364\_21, 12353\_1, 12363\_1)
- 3fm (12300\_1, 13006\_1, 13003\_1)
- 5.7m (5161\_1)

### S-57 Data

**Geo object 1:** Obstruction (OBSTRN)  
**Attributes:** NINFOM - Add DTON obstruction area

QUASOU - 6:least depth known  
SORDAT - 20120807  
SORIND - US,US,graph,H12488  
TECSOU - 3:found by multi-beam  
VALSOU - 5.689 m  
WATLEV - 3:always under water/submerged

### Office Notes

SAR: A series of wrecks and obstructions that compose an artificial reef (AWOIS 2640) were intended to be located within the charted fish haven to the northwest, but instead lie within these bounds. Recommend to either update the bounds of the fish haven to encompass the obstructions as they exist, or to chart a new area obstruction. The least depth within the area obstruction was verified via object detection multibeam.

Compile: Chart DTON 2.3, Area Obstruction, at the survey position.



### Feature Images

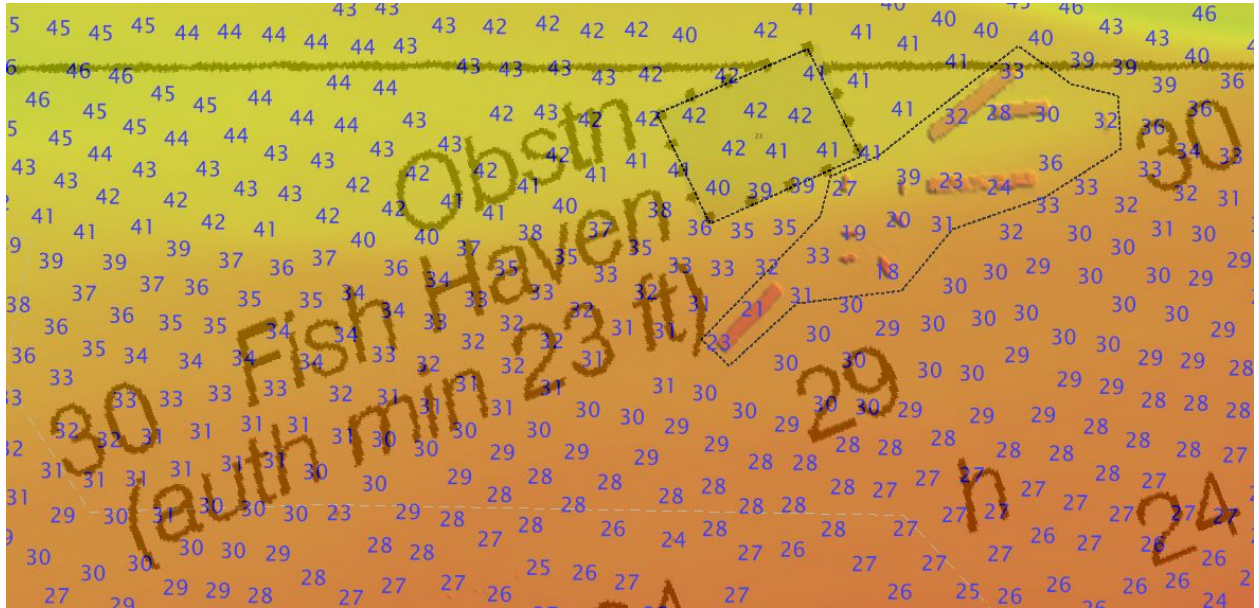


Figure 3.6.1

### 3.7) DTON #1.1

## DANGER TO NAVIGATION

### Survey Summary

**Survey Position:** 40° 58' 14.5" N, 073° 10' 19.2" W  
**Least Depth:** 11.60 m (= 38.05 ft = 6.342 fm = 6 fm 2.05 ft)  
**TPU ( $\pm 1.96\sigma$ ):** THU (TPEh) [None] ; TVU (TPEv) [None]  
**Timestamp:** 2012-220.00:00:00.000 (08/07/2012)  
**Dataset:** H12488\_for\_feature\_report\_updated.000  
**FOID:** 0\_0003266959 00001(FFFE0031D98F0001)  
**Charts Affected:** 12364\_21, 12363\_1, 12300\_1, 13006\_1, 5161\_1, 13003\_1

#### Remarks:

UWTROC/remrks: Submerged rock found by reson 7125 ODMB. Data was acquired to the ellipsoid and reduced to MLLW using VDATUM separation model.

### Feature Correlation

Source	Feature	Range	Azimuth	Status
H12488_for_feature_report_updated.000	0_0003266959 00001	0.00	000.0	Primary

### Hydrographer Recommendations

Add new submerged rock least depth 11.50 meters (37.73 feet)

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

38ft (12364\_21, 12363\_1)

6 ¼fm (12300\_1, 13006\_1, 13003\_1)

11.6m (5161\_1)

### S-57 Data

**Geo object 1:** Underwater rock / awash rock (UWTROC)  
**Attributes:** NINFOM - Add DTON Rock  
 QUASOU - 6:least depth known  
 SORDAT - 20120807

SORIND - US,US,graph,H12488

TECSOU - 3:found by multi-beam

VALSOU - 11.598 m

WATLEV - 3:always under water/submerged

## Office Notes

SAR: Rock verified via object detection multibeam.

Compile: Chart DTON#1.1, a 38ft rock, at the survey position.

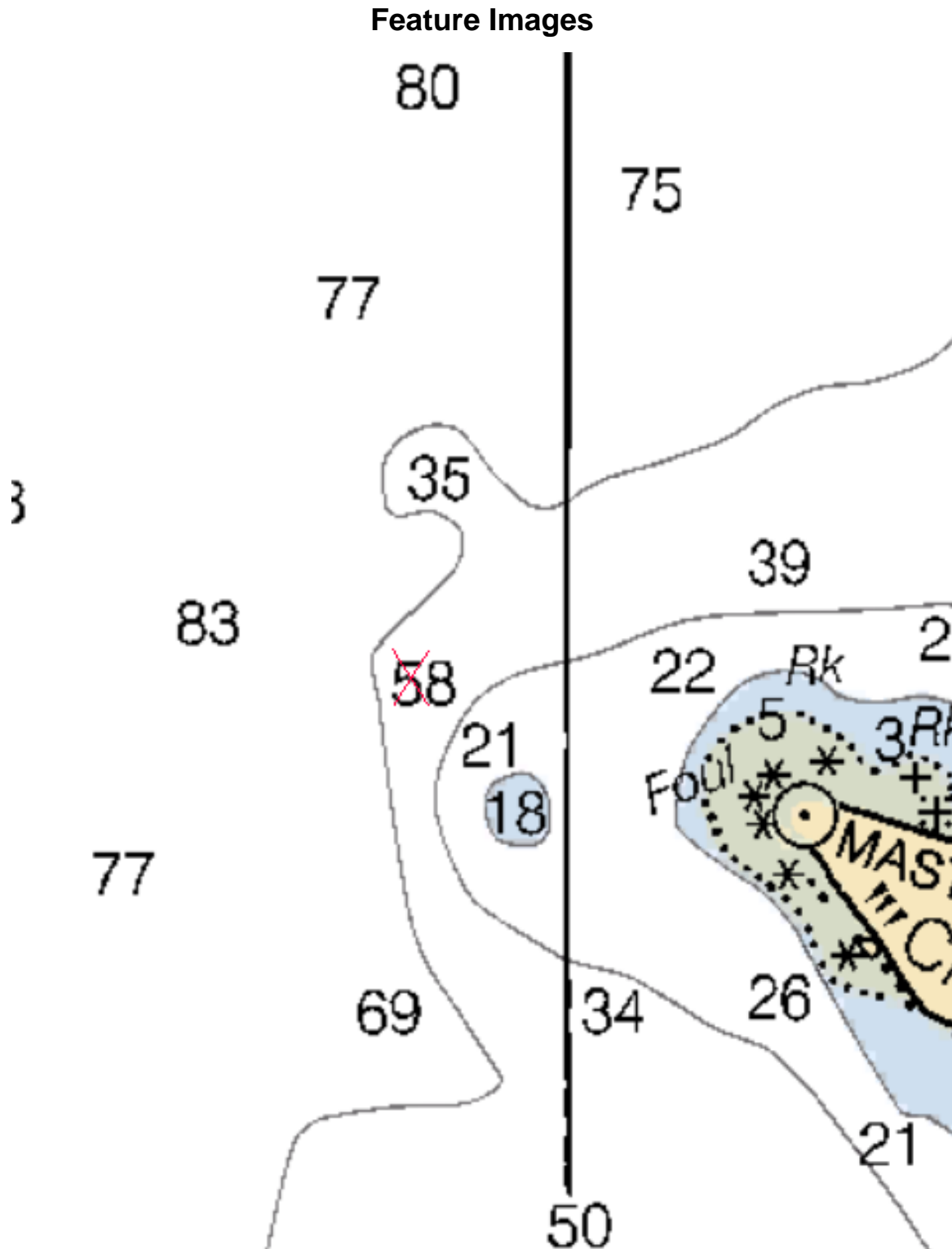


Figure 3.7.1

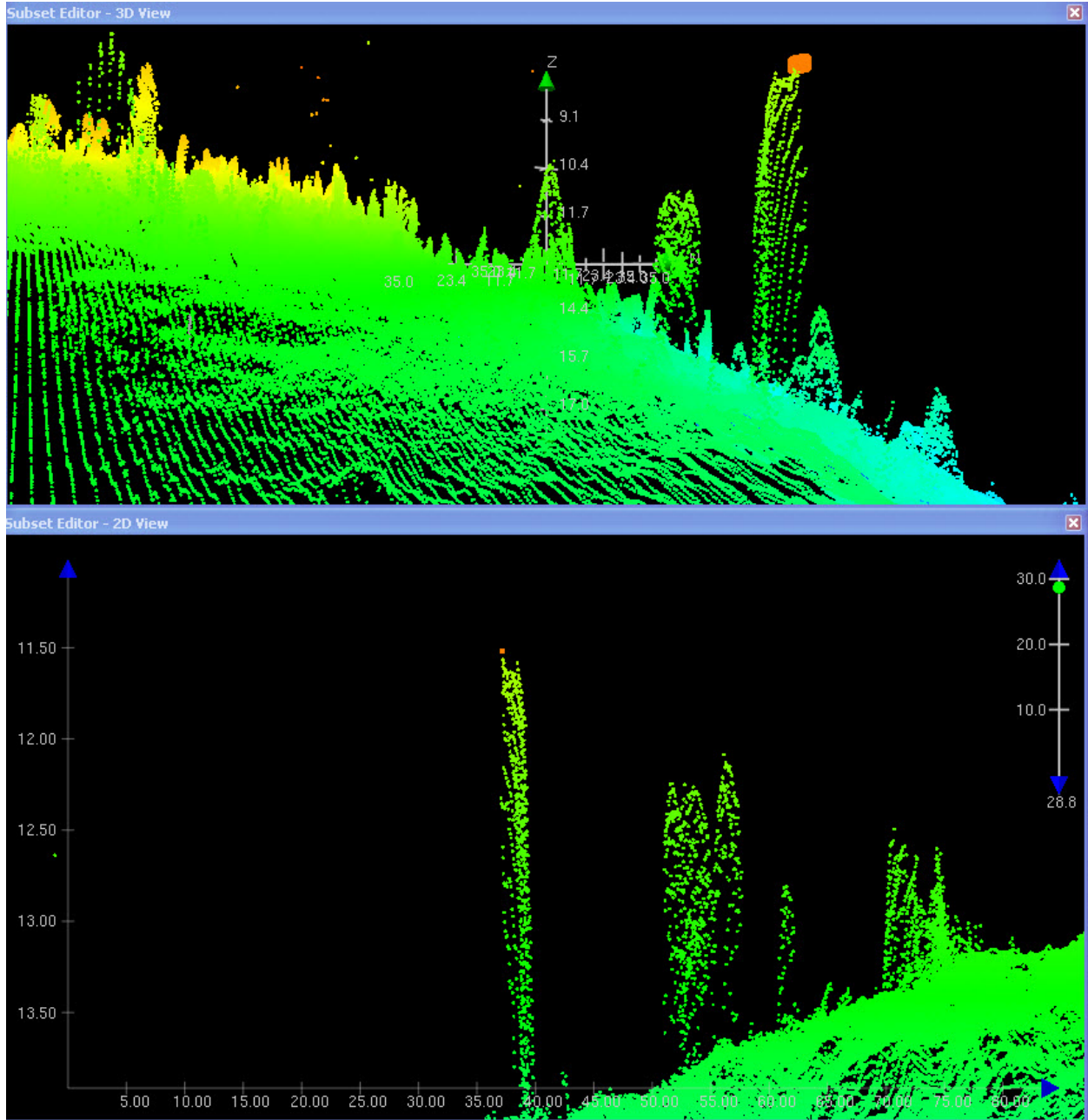


Figure 3.7.2



### 3.8) DTON #1.2

## DANGER TO NAVIGATION

### Survey Summary

**Survey Position:** 40° 58' 04.7" N, 073° 10' 10.6" W  
**Least Depth:** 4.00 m (= 13.12 ft = 2.186 fm = 2 fm 1.12 ft)  
**TPU ( $\pm 1.96\sigma$ ):** THU (TPEh) [None] ; TVU (TPEv) [None]  
**Timestamp:** 2012-220.00:00:00.000 (08/07/2012)  
**Dataset:** H12488\_for\_feature\_report\_updated.000  
**FOID:** 0\_0003266952 00001(FFFE0031D9880001)  
**Charts Affected:** 12364\_21, 12363\_1, 12300\_1, 13006\_1, 5161\_1, 13003\_1

#### Remarks:

UWTROC/remrks: Submerged rock found by reson 7125 ODMB. Data was acquired to the ellipsoid and reduced to MLLW using VDATUM separation model.

### Feature Correlation

Source	Feature	Range	Azimuth	Status
H12488_for_feature_report_updated.000	0_0003266952 00001	0.00	000.0	Primary

### Hydrographer Recommendations

Add new submerged rock least depth 3.94 meters (12.94 feet)

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

13ft (12364\_21, 12363\_1)

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

4.0m (5161\_1)

### S-57 Data

**Geo object 1:** Underwater rock / awash rock (UWTROC)  
**Attributes:** NINFOM - Add DTON Rock  
 QUASOU - 6:least depth known  
 SORDAT - 20120807

SORIND - US,US,graph,H12488

TECSOU - 3:found by multi-beam

VALSOU - 3.998 m

WATLEV - 3:always under water/submerged

## Office Notes

SAR: Rock verified via object detection multibeam.

Compile: Chart DTON#1.2, a 13ft rock, at the survey position.

### Feature Images

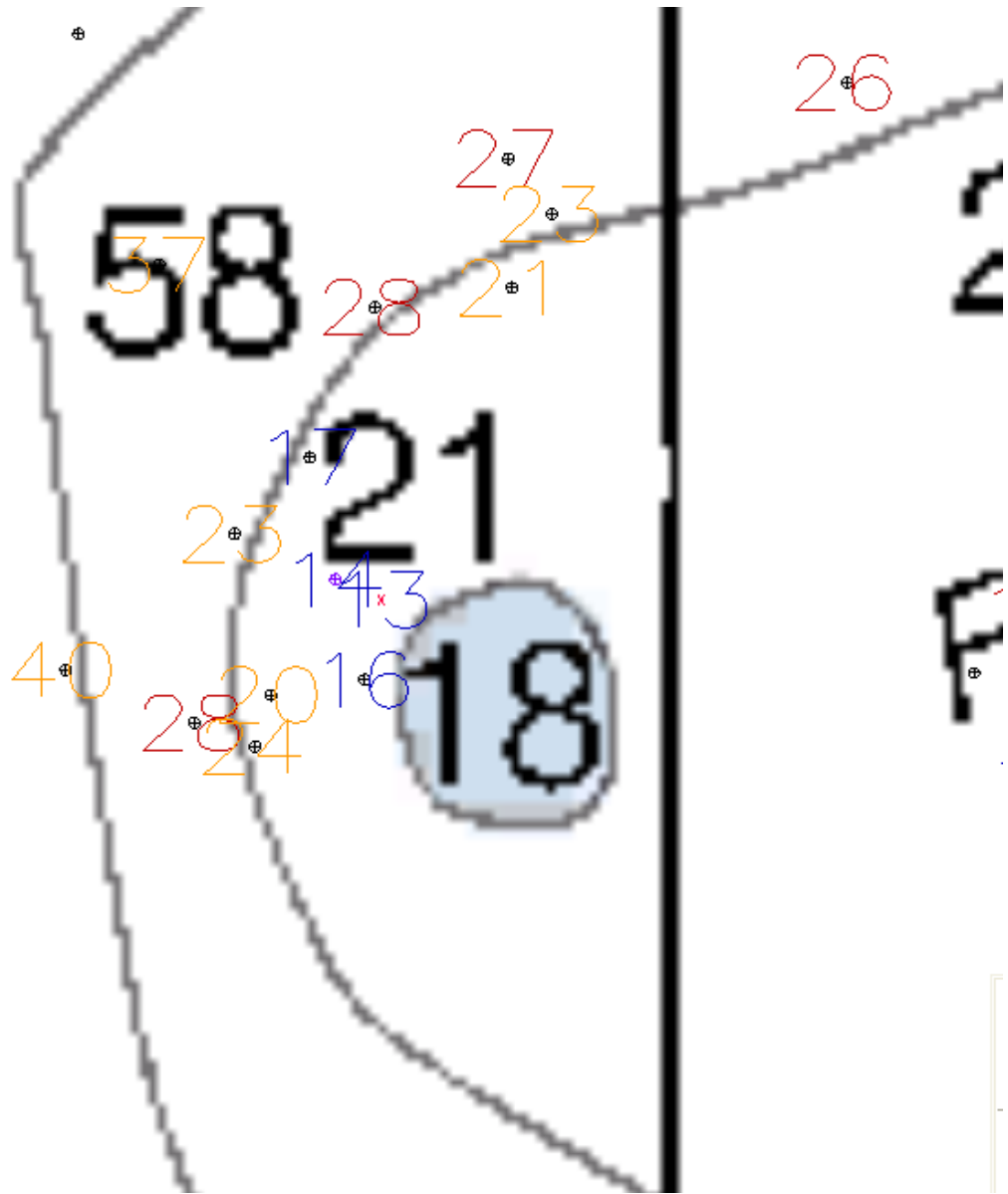


Figure 3.8.1

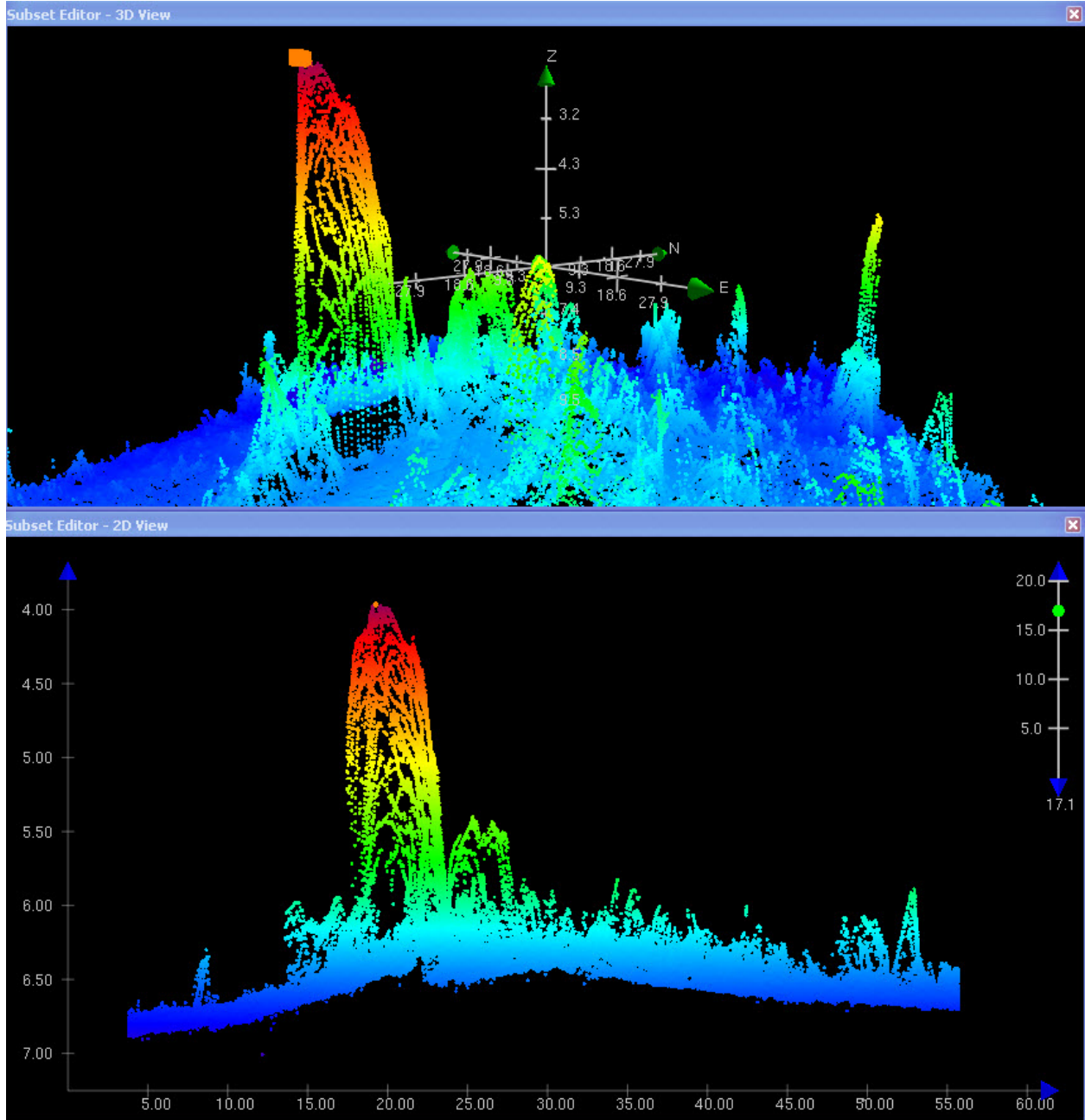


Figure 3.8.2

### 3.9) DTON #1.3

## DANGER TO NAVIGATION

### Survey Summary

**Survey Position:** 40° 58' 20.2" N, 073° 09' 32.4" W  
**Least Depth:** 4.94 m (= 16.20 ft = 2.701 fm = 2 fm 4.20 ft)  
**TPU ( $\pm 1.96\sigma$ ):** **THU (TPEh)** [None] ; **TVU (TPEv)** [None]  
**Timestamp:** 2012-220.00:00:00.000 (08/07/2012)  
**Dataset:** H12488\_for\_feature\_report\_updated.000  
**FOID:** 0\_0003266964 00001(FFFE0031D9940001)  
**Charts Affected:** 12364\_21, 12363\_1, 12300\_1, 13006\_1, 5161\_1, 13003\_1

#### Remarks:

UWTROC/remrks: Submerged rock found by reson 7125 ODMB. Data was acquired to the ellipsoid and reduced to MLLW using VDATUM separation model. After further processing, it was found that the DtoN was designated on fluff that was masked by acceptable data. The Rock is 0.119 meters deeper than the DtoN depth and southwest by 4.29 meters. Note Designated clos by at 4.939 was shoalest meter after processing

### Feature Correlation

Source	Feature	Range	Azimuth	Status
H12488_for_feature_report_updated.000	0_0003266964 00001	0.00	000.0	Primary

### Hydrographer Recommendations

Add new submerged rock least depth 4.82 meters (15.82 feet). The hydrographer recommends retaining the DtoN position and depth.

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

16ft (12364\_21, 12363\_1)

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

4.9m (5161\_1)

### S-57 Data

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

**Attributes:** NINFOM - Add DTON Rock



QUASOU - 6:least depth known  
SORDAT - 20120807  
SORIND - US,US,graph,H12488  
TECSOU - 3:found by multi-beam  
VALSOU - 4.939 m  
WATLEV - 3:always under water/submerged

### **Office Notes**

SAR: Rock verified via object detection multibeam.

Compile: Chart DTON#1.3, a 16ft rock, at the survey position.

### Feature Images

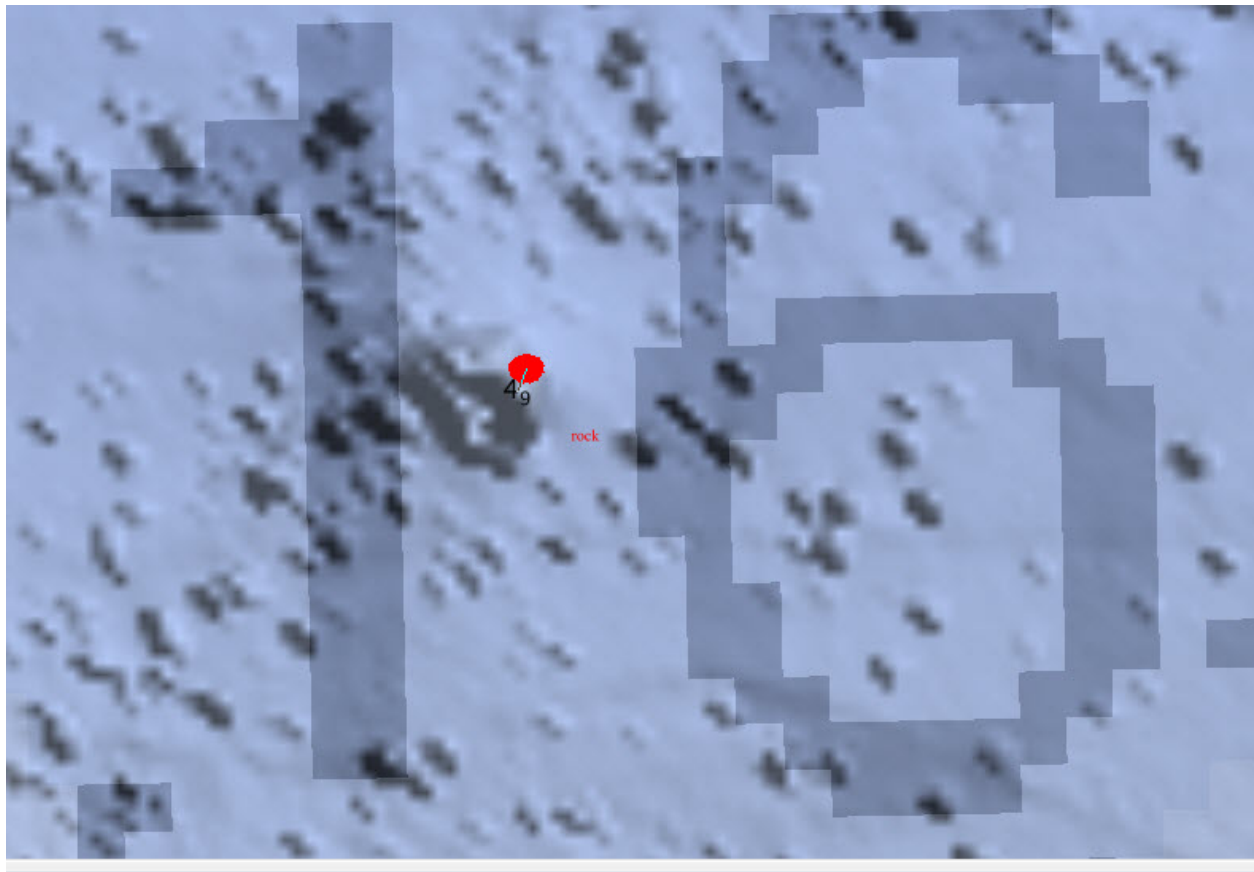


Figure 3.9.1

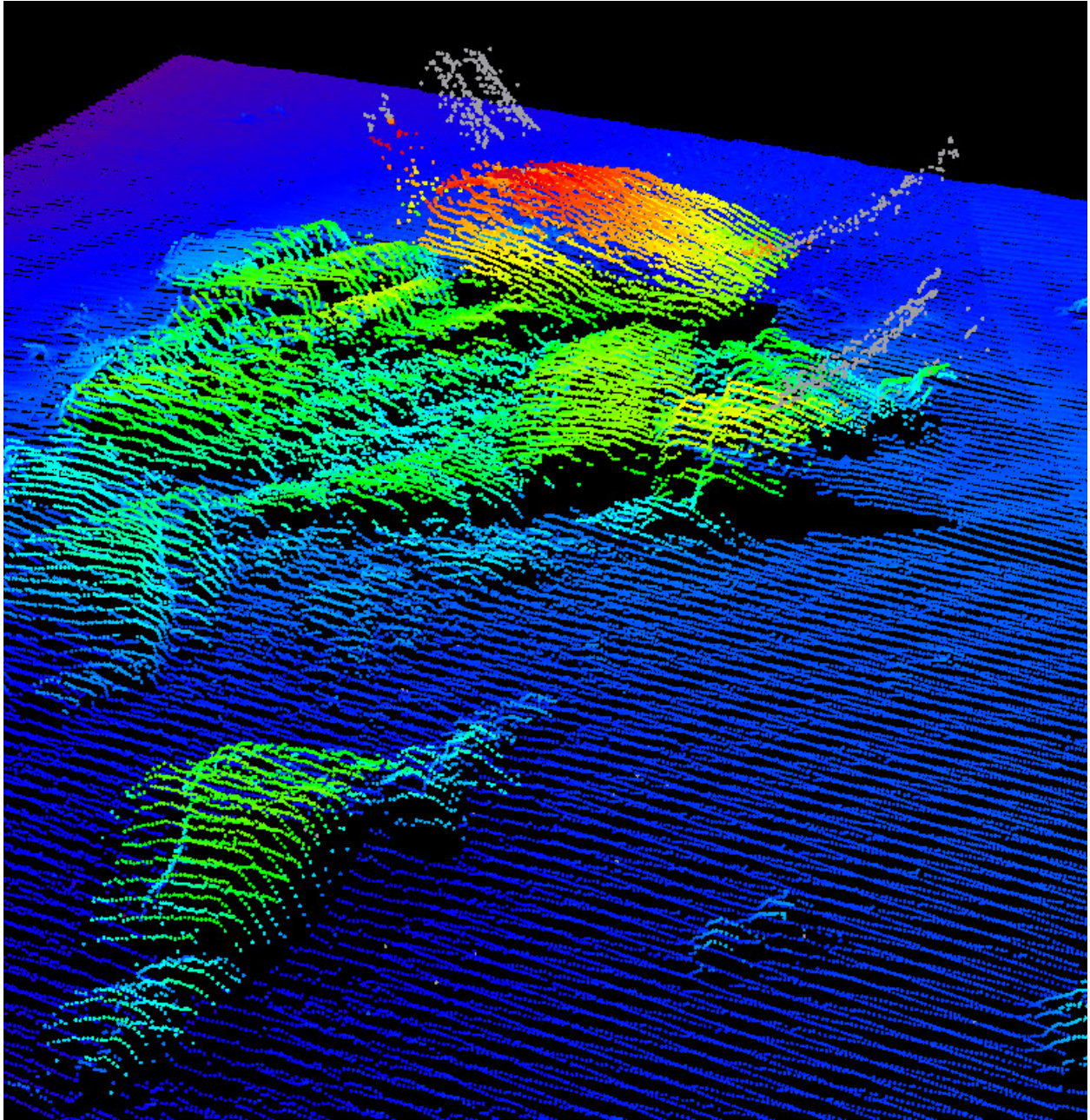


Figure 3.9.2

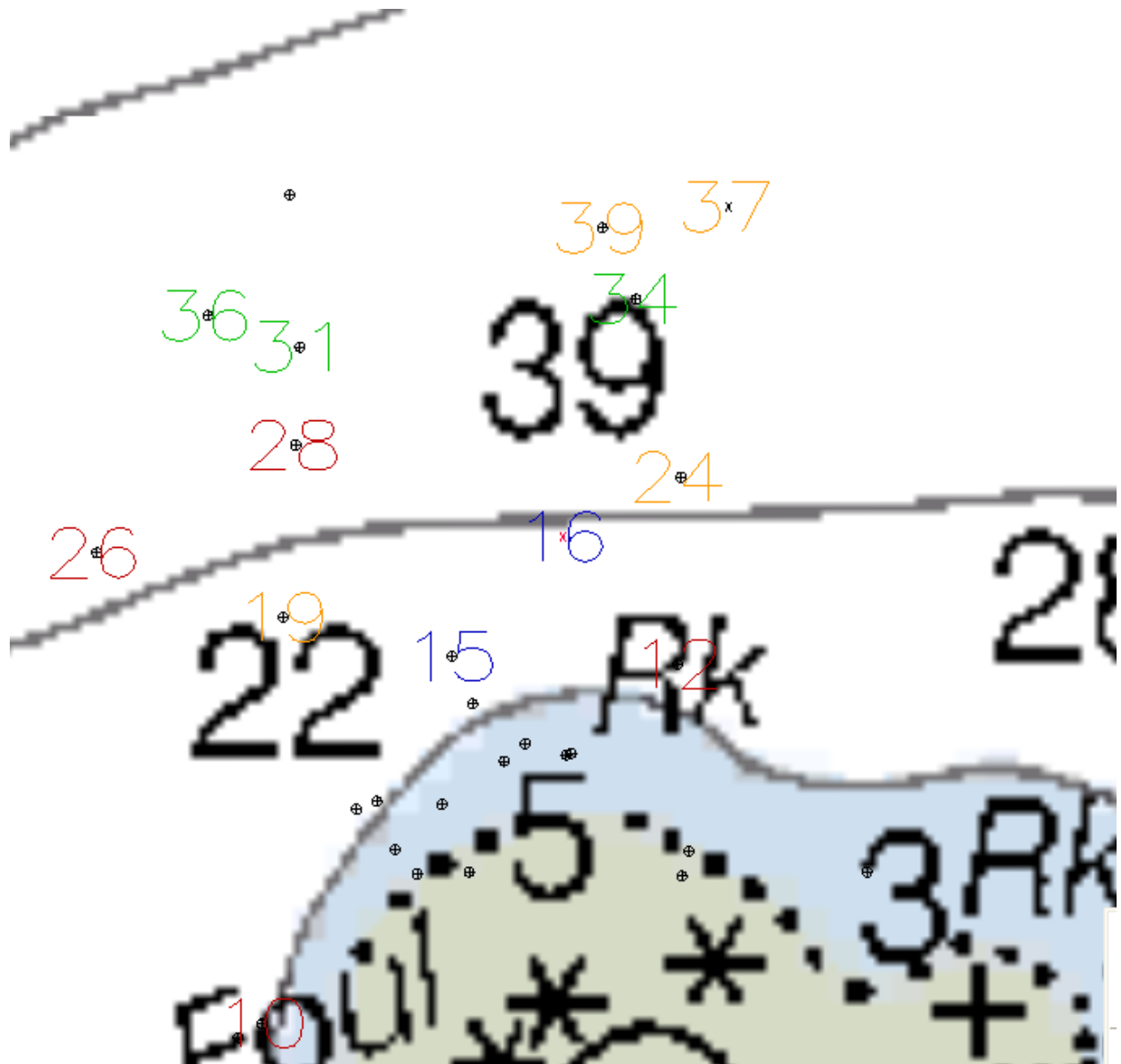


Figure 3.9.3

APPROVAL PAGE

H12488

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

- H12488\_DR.pdf
- Collection of depth varied resolution BAGS
- Processed survey data and records
- H12488\_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