

H11251

NOAA FORM 76-35A	
U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SURVEY	
DESCRIPTIVE REPORT	
Type of Survey:	Navigable Area
Registry Number:	H11251
LOCALITY	
State:	New York
General Locality:	Long Island Sound
Sub-locality:	Truman Beach to Inlet Point
2008	
CHIEF OF PARTY CDR P. Tod Schattgen NOAA	
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NOAA FORM 77-28
(11-72)

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

REGISTRY NUMBER:

HYDROGRAPHIC TITLE SHEET

H11251

INSTRUCTIONS: The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

State: **New York**

General Locality: **Long island Sound**

Sub-Locality: **Truman Beach to Inlet Point**

Scale: **1:10,000** Date of Survey: **10/07/08 to 10/27/08**

Instructions Dated: **06/24/08** Project Number: **OPR-B370-TJ-08**

Vessel: **NOAA Ship THOMAS JEFFERSON**

Chief of Party: **CDR P. Tod Schattgen**

Surveyed by: **THOMAS JEFFERSON Personnel**

Soundings by: **Reson 8101, 8125 and 7125 multibeam echosounders.**

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

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

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

Verification by: **Atlantic Hydrographic Branch Personnel**

Soundings in: **Meters at MLLW**

Remarks:

- 1) All Times are in UTC.**
- 2) This is a Navigable Area Hydrographic Survey.**
- 3) Projection is NAD83, UTM Zone 18.**

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Descriptive Report to Accompany Hydrographic Survey H11251

Project OPR-B370-TJ-08
Truman Beach to Inlet Point
Eastern Long Island Sound, NY
Scale 1:10,000
September 24th – October 27th 2008
NOAA Ship THOMAS JEFFERSON

A. AREA SURVEYED

This hydrographic survey was completed as specified by Hydrographic Survey Letter Instructions OPR-B370-TJ-08, dated 24 June, 2008 and Change 1 dated 30 September, 2008. Data acquisition was conducted from September 24th – October 27th 2008. This project will cover approximately 6.2 square nautical miles of critical survey area as designated in NOAA Hydrographic Survey Priorities, 2008 edition.

Table 1: Survey Extents

Northern Limit	Southern Limit	Western Limit	Eastern Limit
41° 9' 38.8332"	41° 6' 19.2204"	-72° 24' 19.4328"	-72° 19' 3.2268"

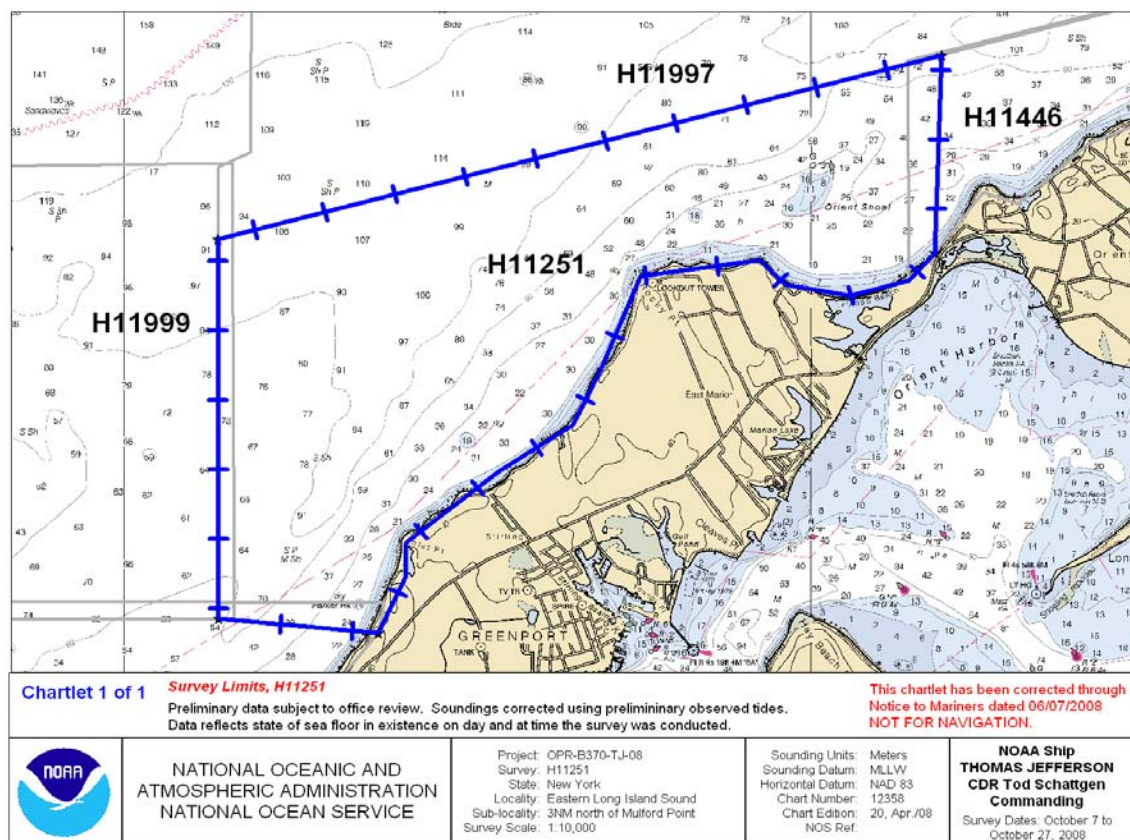
Table 2: Hydrographic Survey Statistic

NOAA Ship THOMAS JEFFERSON, Sheet E H11251	
LNM Single beam mainscheme only	N/A
LNM Multibeam mainscheme only	353.4
LNM Lidar mainscheme only	N/A
LNM Side Scan Sonar mainscheme only	46.06
Lineal nautical miles of SSS with concurrent multibeam	N/A
LNM Crosslines singlebeam and multibeam combined	20.1
LNM Lidar Crosslines	N/A
LNM development lines non mainscheme	61.7
LNM shoreline/nearshore investigations	N/A
Number of Bottom Samples	17
Number of items investigated that required additional time/effort in the field beyond the above survey operations	N/A
Total number of square nautical miles	6.3

Table 3: Dates of Multibeam Data Acquisition

Calendar Date	Julian Day	Calendar Date	Julian Day
24-Sep-2008	268	14-Oct-2008	288
01-Oct-2008	275	21-Oct-2008	295
05-Oct-2008	279	23-Oct-2008	297
06-Oct-2008	280	24-Oct-2008	298
07-Oct-2008	281	25-Oct-2008	299
08-Oct-2008	282	26-Oct-2008	300
13-Oct-2008	287	27-Oct-2008	301

Figure 1: H11251 Limits



B. DATA ACQUISITION AND PROCESSING

Refer to *Data Acquisition and Processing Report Spring Addendum-2008 (DAPR)* and addendum for a complete description of data acquisition and processing systems, survey vessels, quality control procedures and data processing methods. Additional information to supplement sounding and survey data, and any deviations from the DAPR are included in this descriptive report.

B. 1 EQUIPMENT AND VESSELS

Data were acquired by Hydrographic Survey Launches 3101, 3102 and Thomas Jefferson S222. HSL 3101 acquired RESON 8125 multibeam echosounder soundings, sound velocity profiles, and bottom samples. HSL 3102 acquired Klein 5000 side-scan imagery, RESON 8101 multibeam echosounder soundings, and sound velocity profiles. Thomas Jefferson S222 acquired RESON 7125 multibeam echosounder soundings, sound velocity profiles, and bottom samples. Vessel configurations, equipment operation and data acquisition and processing were consistent with specifications described in the DAPR.

B.2 QUALITY CONTROL

B.2.1 SYSTEM CERTIFICATION AND CALIBRATION

Refer to NOAA Ship THOMAS JEFFERSON DAPR and Hydrographic Systems Readiness Report (HSRR) for a complete description of system integration and initial calibration results for equipment and sensors used for this survey.

B.2.2 SOUNDING COVERAGE

As per the Letter Instructions, this survey was conducted using 100% side scan and complete multibeam coverage in depths from 4 to 20 meters, and complete multibeam in depths greater than 20 meters. To aid in feature management, multibeam coverage in depths shoaler than 20 meters was acquired to object detection specifications. Side Scan Sonar coverage was monitored by creation of a 100% coverage mosaic with 1 meter resolution. A list of all side-scan sonar contacts is contained in *Separates/Side Scan Contact Listing*. Bathymetry coverage was monitored by the creation of a multi-resolution BASE surface, with a 2 meter resolution in depths greater than 20 meters and a 50 centimeter resolution in depths from 4-20 meters.

Given the boulder-strewn nature of the bottom, it was time-prohibitive to identify every single side scan contact. Thus the complete multi-beam coverage that was done was conducted to object-detection criteria. This survey presented a number of unique challenges with respect to full multibeam coverage. The shallow water environment combined with large numbers of large rocks created a large number of sonar “shadows”. Small holidays remain in areas of low sounding density, however due to the shallow water environment it was not efficient to fill in every small area. The 50 centimeter multibeam BASE surface was compared to the 100% side scan mosaic and areas that contained small holidays that had no corresponding side scan features were not developed. Additionally, a 50 square meter grid was overlaid on the BASE surface, features that had multibeam holes and corresponding SSS contacts but were deemed to not be the shoalest feature were also not developed. The final criteria was to look in the grid square and determine if the area was likely to be charted as rocky, and if a large number of large rocks populated the grid square it was not developed. If any of those three criteria could not be met, additional bathymetry data was collected to fill in the hole. Several areas less than 20 meters did not get SSS coverage but were covered by object detection multibeam. Some side scan

contacts were noted to identify significant rocks that were uncharted and no multibeam data could be acquired over or encompassing the feature.

B.2.3 CROSSLINES

Multibeam echosounder cross-lines totaling 20.1 lineal nautical miles, comprising 5.7% of the originally planned multibeam hydrography, were acquired during the course of the survey. Crosslines were acquired with both vessels, so that a good comparison of same-vessel soundings for each of the vessels could be achieved. As per guidance from AHB an evaluation of the standard deviation layer of the BASE surface was performed for each fieldsheet in the survey. The average standard deviation at cross line junctions for 8101 was 0.042m for 99.3% of the samples. The 8125 and 7125 revealed std dev of 0.027m for 99.6% of the samples (see *Descriptive Report\Separates\Crossline_Comparisons\ H11251_Standard Deviation Report.doc*).

An uncertainty evaluation script V-0.2 (for experimental use) developed by Glen Rice was also used. This script needs two files that contain [X Y Z U]. X and Y are Ground coordinates with no precision. Z is the depth and U is the uncertainty (same units). These files need the same origin and resolution. The formula $z = (d_1 - d_2) / (u_1 + u_2)$ normalizes the depth difference to the total uncertainty at the node from the MS and XL surfaces. The percentage of nodes that fell inside uncertainty level 1 was at 99.64 percent. The script creates a text file of the result which can be plotted in Fledermaus. Uncertainty's outside of level one are in red. The script results can be found in *H11251\Field_Products\Public_Relation_Constituent_Products\Fledermaus\H11251_surfoutput.txt and Descriptive Report\Separates\Crossline_Comparisons\ H11251_Standard Deviation Report.doc*.

The results indicate some systematic artifacts due to attitude inputs averaging 0.24 in any area. Other areas of high standard deviation are caused by bathymetric features or man made obstructions or the transition from one multibeam echosounder to another of the three platforms. The areas are considered suspect until examination in *subset edit* revealed that the correct hypothesis was chosen for the final surface. The results of the evaluation are located in the *Descriptive Report\Separates\Crossline Comparison\ H11251 Standard Deviation Report.pdf* folder submitted with this survey.

B.2.4 JUNCTIONS AND PRIOR SURVEYS

See Figure 1: H11251 Limits for survey junctions. CARIS Base Editor was used to compute differences from the junction surveys. The following table describes those results. The difference surfaces are located in *Descriptive Report\Separates\Crossline_Comparisons\Junctions*.

Table 4 Contemporary surveys junction with H11251

Registry #	Scale	Date	Field Party	Junction side	Percentage of sounding $\pm 0.3m$ from Base
H11999	1:10,000	2008	Thomas Jefferson	W	99.9
H11997	1:10,000	2008	Thomas Jefferson	N	99.9
H11446	1:10,000	2008	Thomas Jefferson	E	97.8

B.2.5 SYSTEMATIC ERRORS

A roll error was observed on Launch 3102, 8101 data. The current value of -1.913 is currently being used for roll bias. An average of -2.250 (an increment of -0.337) was computed that would correct the error. The values however varied from beginning to end of survey by -0.2 to -0.45 leading to the belief that a roll problem in the pos/mv was being experienced. No change to HVF was made. Many of the changes were at 0.5 m or less however some did go up into the 0.6 m range.

An error was found in 3101 Klein5000_SSS100 and 200 HVF's. The X value and the Z value currently have the wrong sign. The error for X was -0.5 and should be 0.5. The Z value was -0.66 and should be 0.66. It was determined that for SSS this was within the error budget for rigid mount SSS. No correction was made to the data acquired.

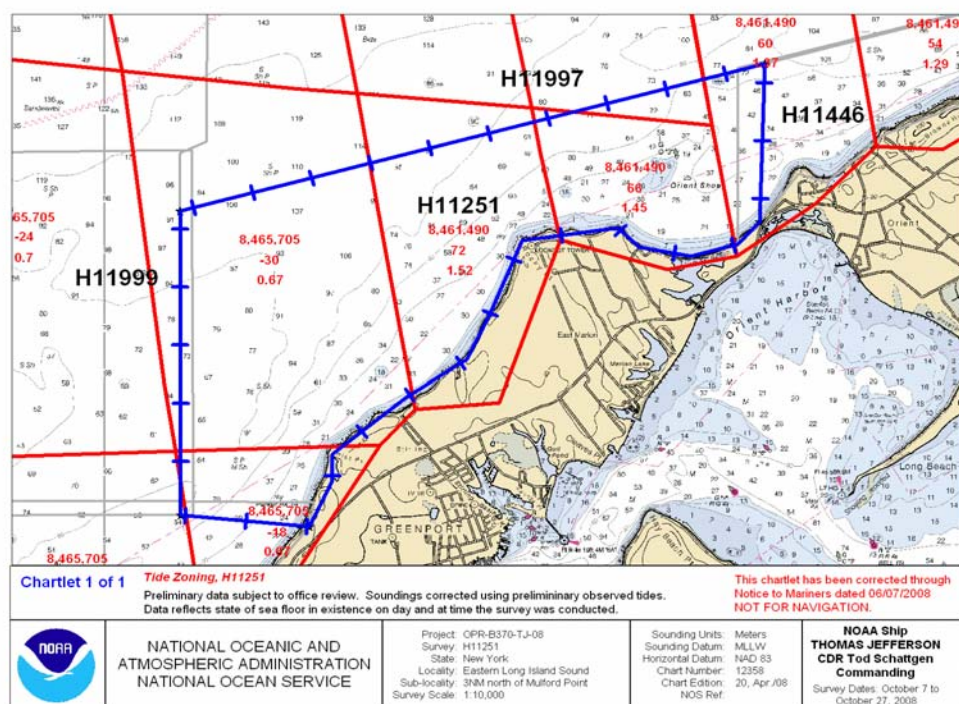
Another error observed was when the RESON 8101 projector flipped from back to forward on 3102. This is an occurrence that cannot be explained and it is why periodic monitoring of the RESON screen is implemented since it is a silent error. It may reveal itself as what looks like a roll artifact. The correction for this can be seen in the SVP pole entry in the HVF. The Azimuth field is changed 180° at the beginning of each time period that the error occurred followed by a return to 0° when the error period ends. An example of the error can be seen in the *H11251 Standard Deviation Report in the Crossline Comparison folder*.

Bathymetric data were evaluated to identify systematic errors in data correctors including motion, attitude, tide and sound velocity. Sun-illuminated digital terrain models (DTMs) did not reveal any other artifacts.

B.3 CORRECTIONS TO ECHO SOUNDING

HDCS sounding data were reduced to mean lower-low water (MLLW) using verified water levels from the primary stations 8461490, New London, CT and 8465705, New Haven, CT final zoning provided by CO-OPS as specified in the Letter Instructions and illustrated in Figure 2.

Figure 2 Tide Zoning



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

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

B.4 DATA PROCESSING

There were 763 raw files and 762 processed files. The extra raw files were false starts.

B.4.1 TOTAL PROPAGATED UNCERTAINTY

For the 2008 field season, Total Propagated Uncertainty is identified as TPE (Total Propagated error) in CARIS. The parameters for sound speed and tides are calculated separately for each project. The project-specific parameters for OPR-B370-TJ-08, Survey H11251 are as follows:

Table 5 TPU Parameters

Vessel	Tide Values		Sound Speed Values		Mode
	Measured	Zoning	Measured	Surface	
3101	0	0.19	4	0.2	CTD
3102	0	0.19	4	0.2	CTD
S222	0	0.19	4	0.2	CTD
S222	0	0.19	1	0.2	MVP

Measured Sound Speed values were calculated using the HSTP Sound Speed Estimator program and were consistently below 1 m/s for the project area (see processing logs in separates). These values were calculated for all MBES data immediately following CARIS Merge.

B.4.2 BASE SURFACES AND MOSAICS

The following table describes all BASE Surfaces and Mosaics submitted as part of Survey H11251.

Table 6 Field Sheet surfaces

<i>Name of Fieldsheet and or surface</i>	<i>Resolution</i>	<i>Type</i>	<i>Purpose</i>
H11251_2m_A.hns	2m	Cube	QC
H11251_2m_A_Final.hns	2m	Cube	QC
H11251_2m_B.hns	2m	Cube	QC
H11251_2m_B_Final.hns	2m	Cube	QC
H11251_50cm_A.hns	50cm	Cube	QC
H11251_50cm_A_Final.hns	50cm	Cube	QC
H11251_50cm_B.hns	50cm	Cube	QC
H11251_50cm_B_Final.hns	50cm	Cube	QC
H11251_50cm_C.hns	50cm	Cube	QC
H11251_50cm_C_Final.hns	50cm	Cube	QC
H11251_50cm_D.hns	50cm	Cube	QC
H11251_50cm_D_Final.hns	50cm	Cube	QC
H11251_FinComb_Thres_2m.hns	2m	Cube	Not a deliverable
H11251_50cm_mosaic.sum	1m	Mosaic	Coverage

This survey was processed using the Combined Uncertainty and Bathymetry Estimator (CUBE) algorithm. Grids were processed for each field sheet depending on the areas's resolution requirement for depths less than or greater 20 meters. Less than 20m was at 50cm Order 1 Shallow CUBE parameters. Greater than 20m were at 2m Order 1 deep CUBE parameters. All grids were finalized and combined into a 2m grid at a threshold of 0.0-22.0m for the 50cm grid and 19.0 – 50.0m for the 2m grid. The final combined grid imported into PYDRO for analysis. Refer to the 2008 Data Acquisition and Processing Report, 2008 Field Procedures Manual, and CARIS HIPS/SIPS 6.1 manual for further discussion of cube grids.

C. VERTICAL AND HORIZONTAL CONTROL

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

C.1 HORIZONTAL CONTROL

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

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

C.2 VERTICAL CONTROL

The vertical datum for this project is Mean Lower-Low Water (MLLW). The operating National Water Level Observation Network (NWLON) station at 8461490, New London, CT and 8465705, New Haven, CT will serve as datum control for H11251. Observed tide data with final zoning were applied to all sounding data.

A request for delivery of final approved (verified) tides for this survey was forwarded to N/OPS1 on October 29, 2008 in accordance with the FPM and project letter instructions. Final Tides note was received and dated November 6, 2008. CO-OPS accepted the preliminary zoning as the final zoning for the project which was dated August 4, 2008. Verified water levels with final approved zoning were applied to all sounding data on 11/17/2009.

D. RESULTS AND RECOMMENDATIONS

D.1 CHART COMPARISON

Survey H11251 was compared with the following charts 12358 (20th Ed.; April 2008, 1:40,000 inset 1:10,000). 12354 42th Ed 12/01/06 80,000 and US4NY1GM. Charts 12300, 13003, 13006, and 5161 were at a small scale such that a comparison was not warranted. Chart comparisons were performed in CARIS, in PYDRO using survey-scale excessed soundings, and in MapInfo using survey-scale and chart-scale excessed soundings exported from PYDRO.

D.1.1 CHART 12358_1

The chart revealed an even distribution of soundings either comparable, or on average 2 feet shoal or deep of the charted depths. Specific items can be found in the Pydro Feature Report.

D.1.2 CHART 12354_1

The chart revealed an even distribution of soundings either comparable, or on average 2 feet shoal or deep of the charted depths. Specific items can be found in the Pydro Feature Report.

D.1.3 US4NY1GM

The Chart revealed an even distribution of sounding either comparable, shoal or deep of the charted depths. Specific items can be found in the Pydro Feature Report appendix II.

D.2 ADDITIONAL RESULTS

D.2.1 AUTOMATED WRECK AND OBSTRUCTION INFORMATION SERVICE (AWOIS) ITEMS

Three assigned AWOIS items were located within the limits of H11251 and investigated during this survey. The items were covered by 100% item detection multibeam.

D.2.4 SHORELINE

The limits of survey were to the 4m curve and reports from the launches indicate that in many places the actual shoreline was closer than charted. Shoreline verification was not required; however, submerged rocks precluded a traditional inspection at discrete locations. Observations indicate that shoreline verification should be performed with contemporary aerial photography or satellite imaging.

D.2.5 CHARTED FEATURES

There are 5 features that clearly fall within the survey area of H11251. Some Features were either un-reachable or detected by side scan sonar only. Charted features are addressed in the Feature Report. All other charted features and item investigations are described in detail in Appendix II of this report.

D.2.6 CHARTED PIPELINES AND CABLES

There are no charted pipelines or cables in the survey area.

D.2.7 BRIDGES, FERRY ROUTES, AND OVERHEAD CABLES

There are no ferry routes, bridges, or overhead cable crossings within the limits of the survey.

D.3 DANGERS TO NAVIGATION AND SHOALS

D.3.1 DANGERS TO NAVIGATION

Dangers to Navigation (DToN) submitted (16 DToNs on 10 Mar 09) from this survey are the most significant (see, appendix I). There are numerous other features which technically meet the definition for DToNs, however there are navigationally less significant and are not reported as DToNs to avoid cluttering the navigation product (see, appendix II).

D.3.2 SHOALS

Shoaling has been found on the southeast side of Orient Shoal and extends for 0.75nm in a northeast- southwest direction. The charted foul line on chart 12358_1 near shore from Parker Rock to Truman Beach needs to be extended seaward. A geo referenced tiff was used as background in the PYDRO PSS and in BASE EDITOR. A HOB file was created for the corrected shore line. The Hob file and tif are close approximations of the foul area's. A close inspection

should be made to ascertain shoal rocks that may alter the foul line position. See *H11251\HOB\H11251_Foul_Areas.hob* and *H11251_Foulline.tif*.

D.4 AIDS TO NAVIGATION

There is one Aid to Navigation (ATON) within the limits of H11251 and is located on the north side of Orient Shoal.

D.5 COAST PILOT INFORMATION

The Hydrographer has no recommendations to the Coast Pilot.

D.6 MISCELLANEOUS

D.6.1 BOTTOM SAMPLES

Bottom samples were collected in accordance with NOAA Hydrographic Survey Specifications and Deliverables. A complete description of all bottom samples acquired during Survey H11251 is contained in the PYDRO PSS. A list of all bottom samples acquired during Survey H11251 is contained in Appendix V.

D.6.2 ENVIRONMENTAL CONDITIONS AND NOTES

The Hydrographer has no recommendations.

D.8 ADEQUACY OF SURVEY

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

D.8.1 SUMMARY AND RECOMMENDATIONS FOR ADDITIONAL WORK

The sea bottom covered by H11251 is rocky and dynamic. There are high cliffs on the shores of Long Island created from glacial till and submerged glacial erratics. There are sand waves in the survey area, which is evidence of the high tidal currents.

E. APPROVAL

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

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

Survey H11251 is adequate to supersede charted soundings in their common areas.

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

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

Approved and Forwarded:

LT Jasper D. Schaer, NOAA
Field Operations Officer

CDR P. Tod Schattgen, NOAA
Commanding Officer

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



Survey Manager:

SST Peter Lewit
Senior Survey Tech, NOAA

Appendix I

Dangers to Navigation

H11251 DTON Report

Registry Number: H11251
State: New York
Locality: Eastern Long Island Sound
Sub-locality: Truman Beach to Inlet point
Project Number: OPR-B370-TJ-08
Survey Dates: 10/05/2008 - 10/25/2008

Charts Affected

Number	Edition	Date	Scale (RNC)	RNC Correction(s)*
12358	20th	04/01/2008	1:40,000 (12358_1)	NGA NTM: None (06/07/2008) USCG LNM: None (06/03/2008) CHS NTM: None (04/25/2008)
12354	42nd	12/01/2006	1:80,000 (12354_1)	USCG LNM: 04/29/2008 (06/03/2008) CHS NTM: None (04/25/2008) NGA NTM: 12/04/1999 (06/07/2008)
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.	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	Rock	3.09 m	41° 07' 31.7" N	072° 22' 00.3" W	---
1.2	Rock	5.89 m	41° 07' 52.7" N	072° 21' 45.9" W	---
1.3	Rock	10.86 m	41° 08' 45.5" N	072° 21' 19.3" W	---
1.4	Rock	11.18 m	41° 08' 21.6" N	072° 21' 39.7" W	---
1.5	Rock	3.72 m	41° 08' 10.8" N	072° 21' 26.3" W	---
1.6	Wreck	8.83 m	41° 07' 16.1" N	072° 23' 01.3" W	---
1.7	Rock	11.64 m	41° 08' 19.4" N	072° 21' 53.1" W	---
1.8	Rock	2.55 m	41° 06' 15.8" N	072° 23' 23.4" W	---
1.9	Rock	2.28 m	41° 08' 34.3" N	072° 20' 24.0" W	---

1.10	Shoal	1.92 m	41° 08' 45.7" N	072° 19' 53.0" W	---
1.11	Shoal	2.31 m	41° 08' 51.1" N	072° 19' 44.6" W	---
1.12	Rock	1.78 m	41° 07' 16.6" N	072° 22' 17.3" W	---
1.13	Rock	2.26 m	41° 07' 10.0" N	072° 22' 38.2" W	---
1.14	Rock	11.19 m	41° 08' 33.5" N	072° 21' 36.7" W	---
1.15	Shoal	3.17 m	41° 08' 38.4" N	072° 20' 04.8" W	---
1.16	Shoal	9.65 m	41° 09' 07.2" N	072° 19' 45.4" W	---

1 - Danger To Navigation

1.1) Profile/Beam - 2094/232 from h11251 / tj_3101_reson8125 / 2008-297 / 004_1305

DANGER TO NAVIGATION

Survey Summary

Survey Position: 41° 07' 31.7" N, 072° 22' 00.3" W
Least Depth: 3.09 m (= 10.12 ft = 1.687 fm = 1 fm 4.12 ft)
TPU ($\pm 1.96\sigma$): THU (TPEh) ± 0.981 m ; TVU (TPEv) ± 0.401 m
Timestamp: 2008-297.13:07:30.376 (10/23/2008)
Survey Line: h11251 / tj_3101_reson8125 / 2008-297 / 004_1305
Profile/Beam: 2094/232
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted Dangerous Submerged Rock. The sounding was acquired by Reson 8125 multibeam and corrected to MLLW using observed water levels. Final Verified Water Levels and Final zoning were applied and resolved the sounding to 10.12ft (3.09m).

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_3101_reson8125/2008-297/004_1305	2094/232	0.00	000.0	Primary
h11251/tj_3101_reson8125/2008-297/169_1632	247/166	19.79	060.3	Secondary (grouped)
h11251/tj_3101_reson8125/2008-300/024_1538	652/162	23.65	343.3	Secondary (grouped)
h11251/tj_3101_reson8125/2008-297/169_1632	475/67	27.79	202.3	Secondary (grouped)
h11251/tj_3102_klein5000_sss100/2008-287/100_1530	0030	33.80	293.4	Secondary (grouped)
h11251/tj_3101_reson8125/2008-297/003_1257	5192/86	48.37	243.3	Secondary (grouped)
h11251/tj_3101_reson8125/2008-297/004_1305	1942/210	48.84	038.5	Secondary (grouped)
h11251/tj_3102_reson8101/2008-279/616_1713	3537/5	62.72	316.8	Secondary (grouped)
h11251/tj_3101_reson8125/2008-297/003_1257	5679/226	73.14	030.6	Secondary (grouped)
h11251/tj_3101_reson8125/2008-297/001_1241	2812/238	76.82	266.4	Secondary (grouped)
h11251/tj_3101_reson8125/2008-297/001_1241	2886/52	78.40	282.7	Secondary (grouped)
h11251/tj_3101_reson8125/2008-297/169_1632	780/133	86.14	220.0	Secondary (grouped)
h11251/tj_3101_reson8125/2008-297/002_1245	1931/205	88.80	252.0	Secondary (grouped)
h11251/tj_3102_reson8101/2008-279/616_1713	3668/95	91.19	320.2	Secondary (grouped)

h11251/tj_3101_reson8125/2008-297/001_1241	3246/26	93.52	344.3	Secondary (grouped)
h11251/tj_3101_reson8125/2008-297/001_1241	2750/3	99.63	269.0	Secondary (grouped)
h11251/tj_3102_reson8101/2008-299/018_1352	14741/41	106.28	284.4	Secondary (grouped)
h11251/tj_3101_reson8125/2008-297/002_1245	1415/240	107.82	007.2	Secondary (grouped)
h11251/tj_3101_reson8125/2008-297/003_1257	5830/225	113.75	031.3	Secondary (grouped)
h11251/tj_3101_reson8125/2008-297/003_1257	4860/60	128.22	229.0	Secondary (grouped)
h11251/tj_3101_reson8125/2008-297/002_1245	2101/239	140.38	240.4	Secondary (grouped)
h11251/tj_3102_reson8101/2008-299/018_1352	14481/85	157.97	251.4	Secondary (grouped)

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

10ft (12358_1, 12354_1)

1 ½fm (12300_1, 13006_1, 13003_1)

3.1m (5161_1)

S-57 Data

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

Attributes: OBJNAM - DTON
 QUASOU - 6:least depth known
 STATUS - 1:permanent
 TECSOU - 3:found by multi-beam
 VALSOU - 3.086 m
 VERDAT - 12:Mean lower low water
 WATLEV - 3:always under water/submerged

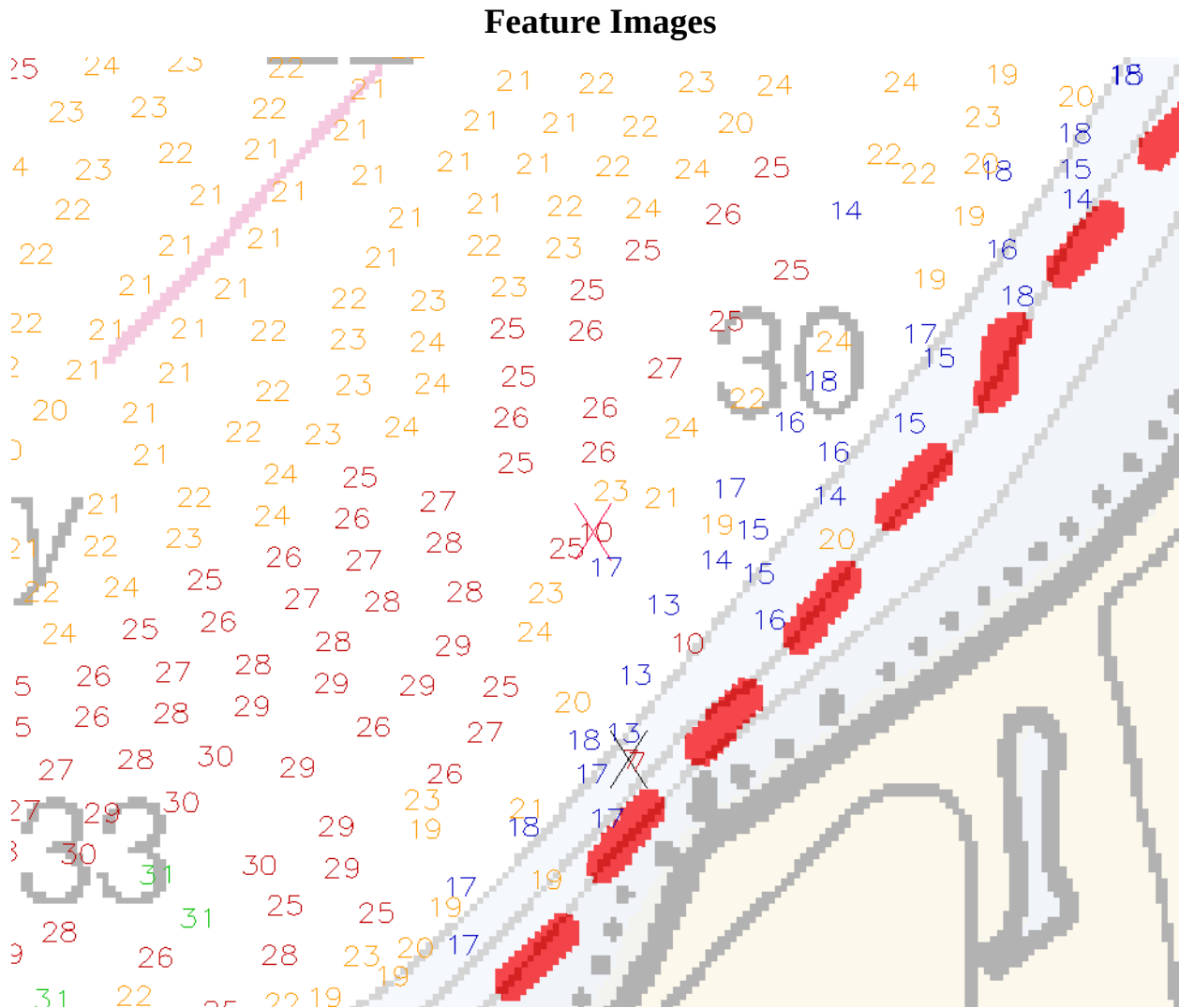


Figure 1.1.1

[Image file X:/H11251/PSS/Images/2094_232A_SC.tif does not exist.]

1.2) Profile/Beam - 4365/168 from h11251 / tj_3101_reson8125 / 2008-297 / 009_1408

DANGER TO NAVIGATION

Survey Summary

Survey Position: 41° 07' 52.7" N, 072° 21' 45.9" W
Least Depth: 5.89 m (= 19.31 ft = 3.219 fm = 3 fm 1.31 ft)
TPU ($\pm 1.96\sigma$): THU (TPEh) ± 0.981 m ; TVU (TPEv) ± 0.401 m
Timestamp: 2008-297.14:12:55.231 (10/23/2008)
Survey Line: h11251 / tj_3101_reson8125 / 2008-297 / 009_1408
Profile/Beam: 4365/168
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted Dangerous Submerged Rock. The sounding was acquired by Reson 8125 and corrected to MLLW using observed water levels. Final water levels and zoning were applied and resolved the sounding to 19.31ft (5.89m).

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_3101_reson8125/2008-297/009_1408	4365/168	0.00	000.0	Primary
h11251/tj_3101_reson8125/2008-297/170_1558	4004/235	95.29	314.1	Secondary (grouped)
h11251/tj_3101_reson8125/2008-297/013_1453	5798/85	103.67	100.5	Secondary (grouped)
h11251/tj_3101_reson8125/2008-297/005_1317	3013/18	109.83	306.2	Secondary (grouped)
h11251/tj_3102_klein5000_sss100/2008-287/100_1530	0031	137.43	264.5	Secondary (grouped)

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

19ft (12358_1, 12354_1)

3 ¼fm (12300_1, 13006_1, 13003_1)

5.9m (5161_1)

S-57 Data

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

Attributes: OBJNAM - DTON 5
QUASOU - 6:least depth known
STATUS - 1:permanent
TECSOU - 3:found by multi-beam
VALSOU - 5.886 m
VERDAT - 12:Mean lower low water
WATLEV - 3:always under water/submerged

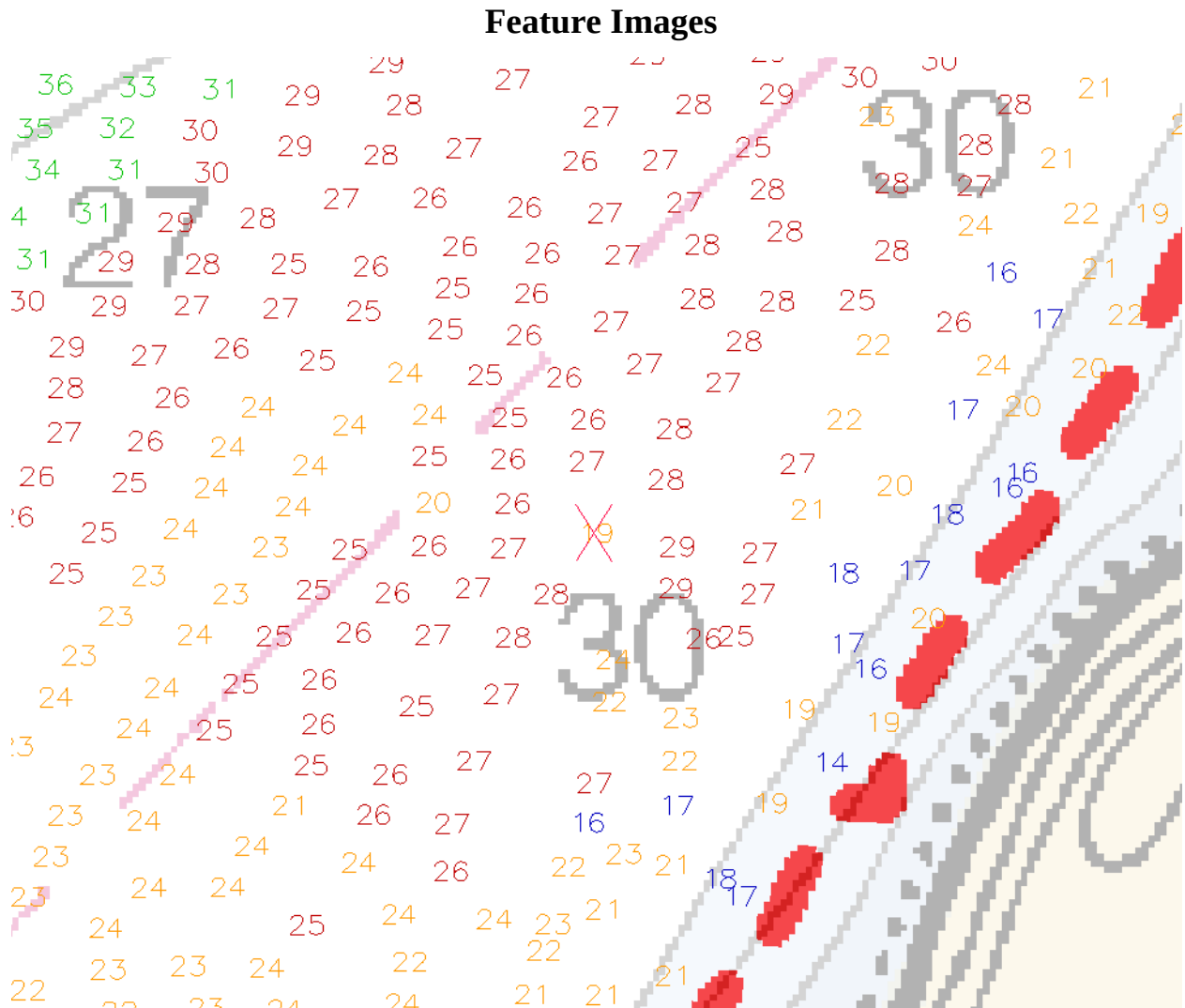


Figure 1.2.1

[Image file X:/H11251/PSS/Images/4365_168A_SC.tif does not exist.]

1.3) Profile/Beam - 1191/89 from h11251 / tj_3102_reson8101 / 2008-282 / 587_1801

DANGER TO NAVIGATION

Survey Summary

Survey Position: 41° 08' 45.5" N, 072° 21' 19.3" W
Least Depth: 10.86 m (= 35.62 ft = 5.936 fm = 5 fm 5.62 ft)
TPU ($\pm 1.96\sigma$): THU (TPEh) ± 0.985 m ; TVU (TPEv) ± 0.398 m
Timestamp: 2008-282.18:05:49.204 (10/08/2008)
Survey Line: h11251 / tj_3102_reson8101 / 2008-282 / 587_1801
Profile/Beam: 1191/89
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted Dangerous Submerged Rock. The sounding was acquired by Reson 8101 and corrected to MLLW using observed water levels. Final water levels and zoning were applied and resolved the sounding to 35.62ft (10.86m).

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_3102_reson8101/2008-282/587_1801	1191/89	0.00	000.0	Primary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

35ft (12358_1, 12354_1)
 5 ¾fm (12300_1, 13006_1, 13003_1)
 10.9m (5161_1)

S-57 Data

Geo object 1: Underwater rock / awash rock (UWTROC)
Attributes: OBJNAM - DTON 8
 QUASOU - 6:least depth known

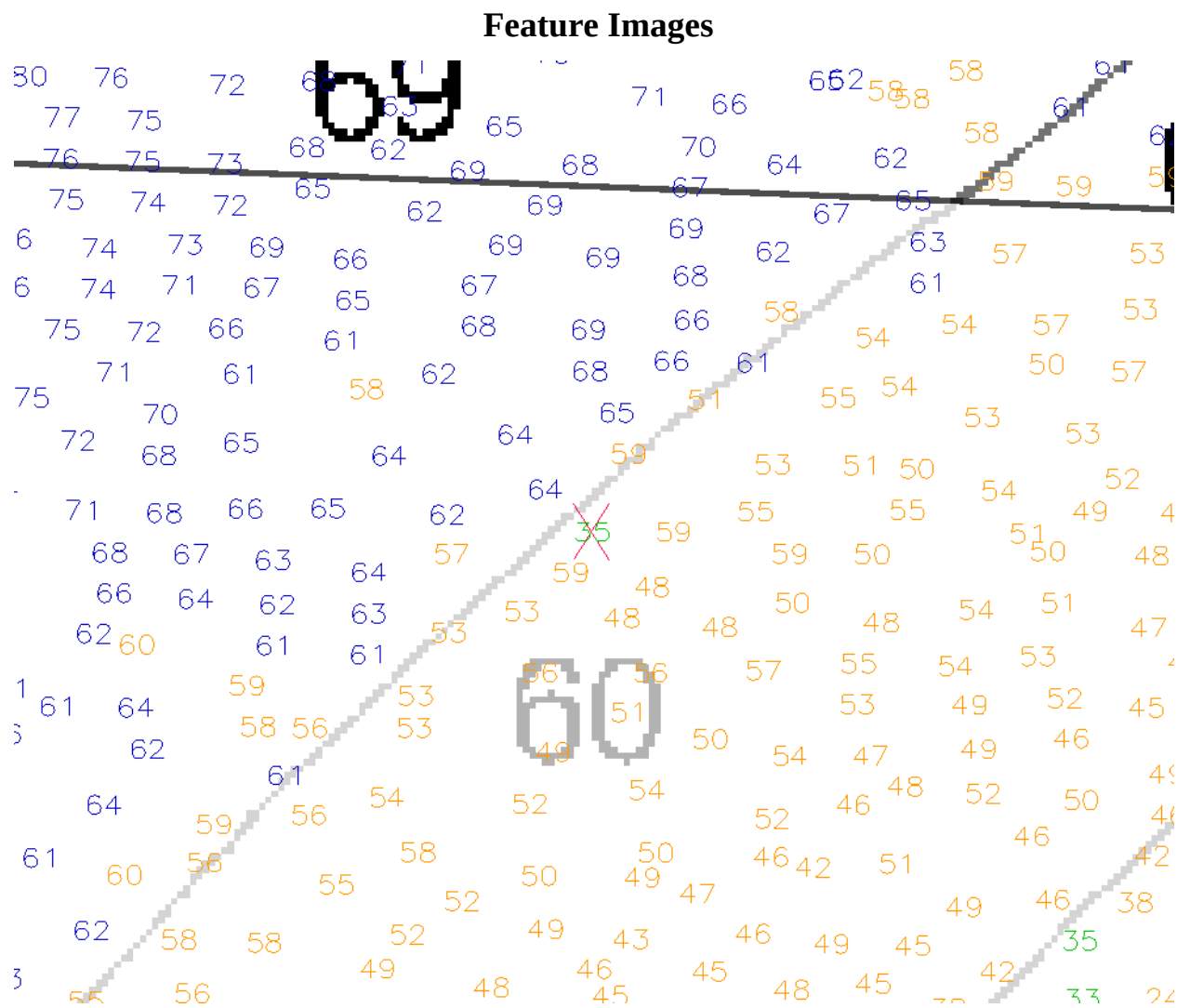
STATUS - 1:permanent

TECSOU - 3:found by multi-beam

VALSOU - 10.856 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

*Figure 1.3.1*

[Image file X:/H11251/PSS/Images/1191_089A_SC.tif does not exist.]

1.4) Profile/Beam - 2387/15 from h11251 / tj_3101_reson8125 / 2008-288 / 533_1257

DANGER TO NAVIGATION

Survey Summary

Survey Position: 41° 08' 21.6" N, 072° 21' 39.7" W
Least Depth: 11.18 m (= 36.68 ft = 6.113 fm = 6 fm 0.68 ft)
TPU ($\pm 1.96\sigma$): THU (TPEh) ± 0.988 m ; TVU (TPEv) ± 0.414 m
Timestamp: 2008-288.13:01:11.437 (10/14/2008)
Survey Line: h11251 / tj_3101_reson8125 / 2008-288 / 533_1257
Profile/Beam: 2387/15
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted Dangerous Submerged Rock. The sounding was acquired by Reson 8125 multibeam and corrected to MLLW using observed water levels. Final Verified Water Levels and Final zoning were applied and resolved the sounding to 36.68ft (11.18m).

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_3101_reson8125/2008-288/533_1257	2387/15	0.00	000.0	Primary
h11251/tj_3101_reson8125/2008-288/533_1257	2283/34	29.24	029.9	Secondary (grouped)
h11251/tj_3101_reson8125/2008-288/533_1257	2475/130	33.63	247.4	Secondary (grouped)
h11251/tj_3101_reson8125/2008-287/535_2116	1027/41	45.28	182.4	Secondary (grouped)
h11251/tj_3101_reson8125/2008-287/535_2116	1099/230	55.23	129.7	Secondary (grouped)
h11251/tj_3101_reson8125/2008-287/534_2123	2671/60	62.48	054.7	Secondary (grouped)
h11251/tj_3101_reson8125/2008-288/532_1304	1349/49	65.04	283.6	Secondary (grouped)
h11251/tj_3101_reson8125/2008-288/531_1311	2236/51	70.98	306.3	Secondary (grouped)
h11251/tj_3101_reson8125/2008-288/532_1304	1229/193	76.17	245.6	Secondary (grouped)
h11251/tj_3101_reson8125/2008-288/531_1311	2425/28	83.47	267.6	Secondary (grouped)
h11251/tj_3101_reson8125/2008-288/533_1257	2655/110	88.92	231.5	Secondary (grouped)
h11251/tj_3101_reson8125/2008-287/535_2116	932/169	93.09	191.0	Secondary (grouped)
h11251/tj_3101_reson8125/2008-288/530_1317	1369/126	100.81	301.6	Secondary (grouped)
h11251/tj_3102_reson8101/2008-280/537_2015	2001/6	143.42	125.5	Secondary (grouped)

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

36ft (12358_1, 12354_1)

6fm (12300_1, 13006_1, 13003_1)

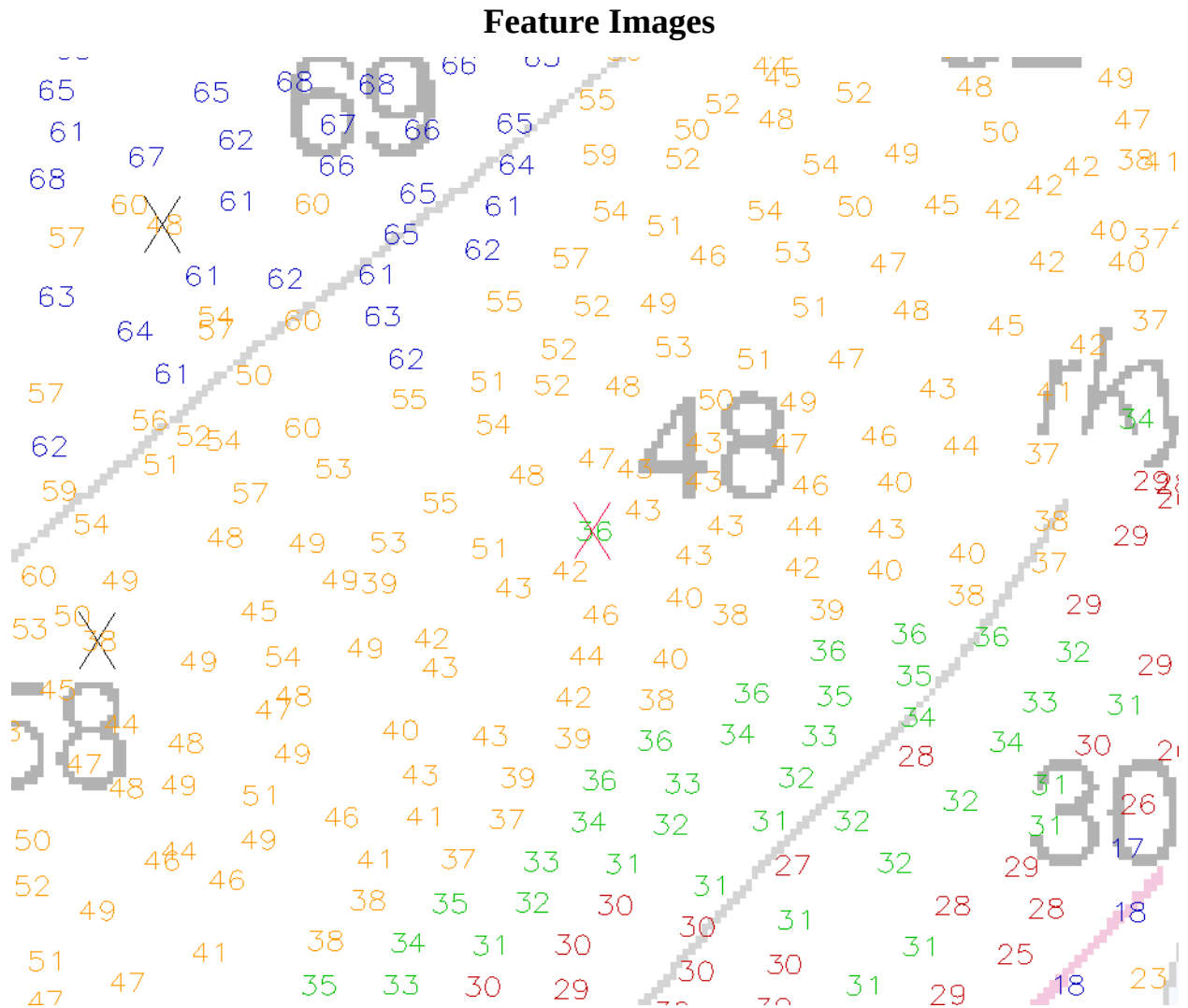
11.2m (5161_1)

S-57 Data

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

Attributes:

- QUASOU - 6:least depth known
- TECSOU - 3:found by multi-beam
- VALSOU - 11.179 m
- VERDAT - 12:Mean lower low water
- WATLEV - 3:always under water/submerged

*Figure 1.4.1*

[Image file X:/H11251/PSS/Images/2387_015A_SC.tif does not exist.]

1.5) Profile/Beam - 7452/53 from h11251 / tj_3101_reson8125 / 2008-297 / 008_1359

DANGER TO NAVIGATION

Survey Summary

Survey Position: 41° 08' 10.8" N, 072° 21' 26.3" W
Least Depth: 3.72 m (= 12.20 ft = 2.034 fm = 2 fm 0.20 ft)
TPU ($\pm 1.96\sigma$): THU (TPEh) ± 0.980 m ; TVU (TPEv) ± 0.400 m
Timestamp: 2008-297.14:08:01.386 (10/23/2008)
Survey Line: h11251 / tj_3101_reson8125 / 2008-297 / 008_1359
Profile/Beam: 7452/53
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted Dangerous Submerged Rock. The sounding was acquired by Reson 8125 multibeam and corrected to MLLW using observed water levels. Final Verified Water Levels and Final zoning were applied and resolved the sounding to 12.20ft(3.72m).

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_3101_reson8125/2008-297/008_1359	7452/53	0.00	000.0	Primary
h11251/tj_3102_klein5000_sss100/2008-287/100_1531	0003	1.14	331.0	Secondary (grouped)
h11251/tj_3102_klein5000_sss100/2008-287/100_1531	0004	21.10	188.4	Secondary (grouped)
h11251/tj_3101_reson8125/2008-297/007_1335	1226/15	30.13	285.2	Secondary (grouped)
h11251/tj_3102_klein5000_sss100/2008-287/100_1531	0001	30.81	065.7	Secondary (grouped)
h11251/tj_3101_reson8125/2008-297/009_1408	1305/49	32.52	071.2	Secondary (grouped)
h11251/tj_3102_klein5000_sss100/2008-287/100_1531	0002	32.91	106.1	Secondary (grouped)
h11251/tj_3101_reson8125/2008-297/009_1408	1164/229	34.19	111.4	Secondary (grouped)
h11251/tj_3101_reson8125/2008-297/007_1335	1391/89	37.78	342.9	Secondary (grouped)
h11251/tj_3101_reson8125/2008-297/010_1419	9520/235	49.21	164.6	Secondary (grouped)
h11251/tj_3102_reson8101/2008-287/100_1648	16799/5	50.95	328.7	Secondary (grouped)
h11251/tj_3102_reson8101/2008-299/018_1352	9704/12	57.98	242.4	Secondary (grouped)
h11251/tj_3101_reson8125/2008-297/007_1335	7/70	63.63	353.6	Secondary (grouped)
h11251/tj_3101_reson8125/2008-297/008_1359	7184/238	69.01	029.1	Secondary (grouped)

h11251/tj_3101_reson8125/2008-297/011_1431	1177/232	81.19	145.3	Secondary (grouped)
h11251/tj_3101_reson8125/2008-297/006_1326	8228/161	81.23	358.9	Secondary (grouped)
h11251/tj_3102_klein5000_sss100/2008-287/100_1531	0015	92.37	351.0	Secondary (grouped)
h11251/tj_3102_reson8101/2008-299/018_1352	10249/5	92.56	349.6	Secondary (grouped)
h11251/tj_3101_reson8125/2008-297/007_1335	710/28	96.90	195.2	Secondary (grouped)
h11251/tj_3102_reson8101/2008-299/018_1352	10319/96	101.42	011.0	Secondary (grouped)
h11251/tj_3102_klein5000_sss100/2008-287/100_1531	0005	116.59	232.8	Secondary (grouped)
h11251/tj_3102_reson8101/2008-299/018_1352	9436/1	118.28	224.9	Secondary (grouped)

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

12ft (12358_1, 12354_1)

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

3.7m (5161_1)

S-57 Data

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

Attributes:

- QUASOU - 6:least depth known
- TECSOU - 3:found by multi-beam
- VALSOU - 3.719 m
- VERDAT - 12:Mean lower low water
- WATLEV - 3:always under water/submerged

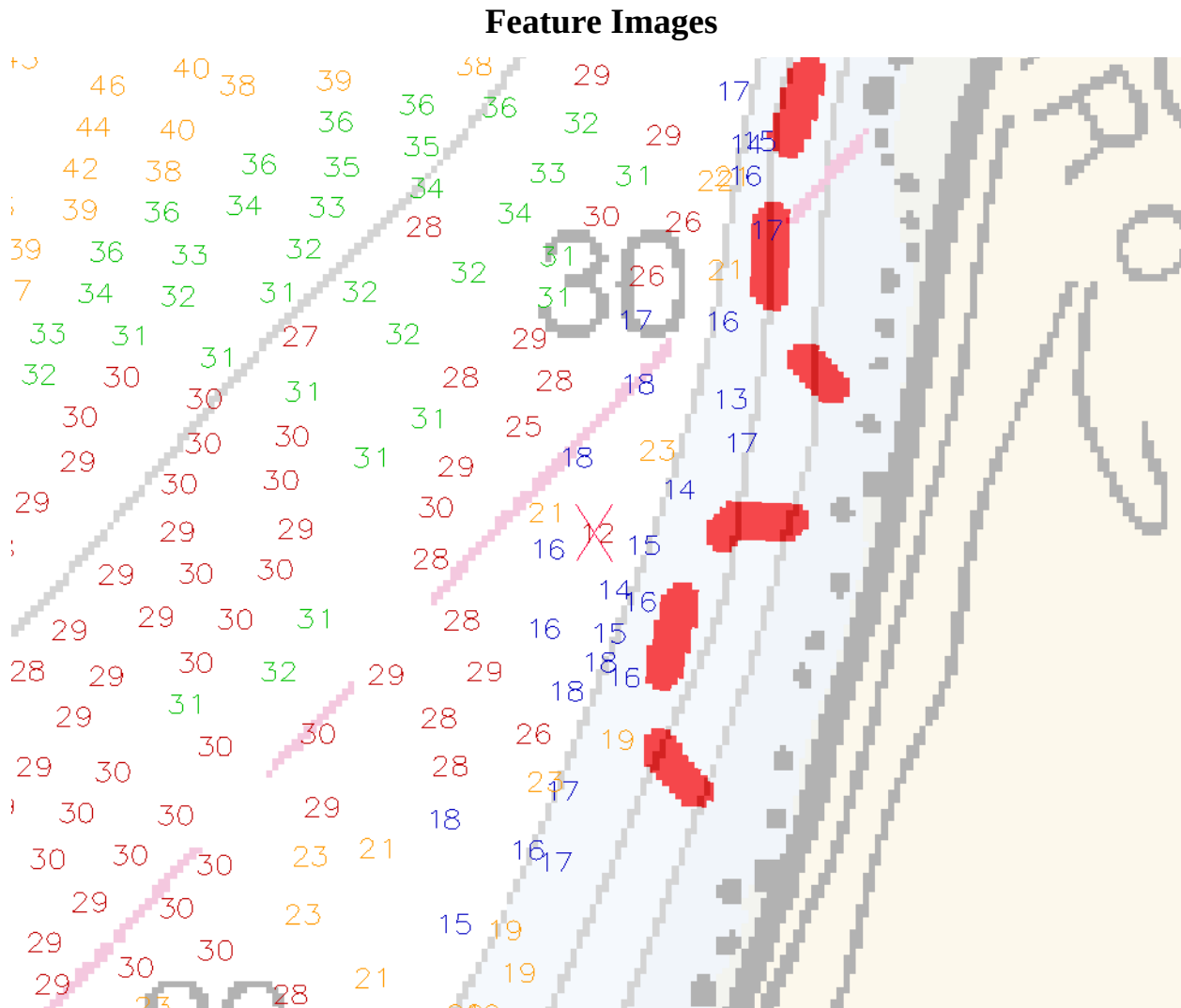


Figure 1.5.1

[Image file X:/H11251/PSS/Images/7452_053A_SC.tif does not exist.]

1.6) Profile/Beam - 2167/10 from h11251 / tj_3102_reson8101 / 2008-279 / 516_1914

DANGER TO NAVIGATION

Survey Summary

Survey Position: 41° 07' 16.1" N, 072° 23' 01.3" W
Least Depth: 8.83 m (= 28.96 ft = 4.827 fm = 4 fm 4.96 ft)
TPU ($\pm 1.96\sigma$): THU (TPEh) ± 0.986 m ; TVU (TPEv) ± 0.401 m
Timestamp: 2008-279.19:22:11.054 (10/05/2008)
Survey Line: h11251 / tj_3102_reson8101 / 2008-279 / 516_1914
Profile/Beam: 2167/10
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted Submerged Wreck. The sounding was acquired by Reson 8101 multibeam and corrected to MLLW using observed water levels. Final Verified Water Levels and Final zoning were applied and resolved the sounding to 28.96ft (8.83m).

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_3102_reson8101/2008-279/516_1914	2167/10	0.00	000.0	Primary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

29ft (12358_1, 12354_1)

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

8.8m (5161_1)

S-57 Data

Geo object 1: Wreck (WRECKS)
Attributes: CATWRK - 2:dangerous wreck
 CONVIS - 2:not visual conspicuous

QUASOU - 6:least depth known

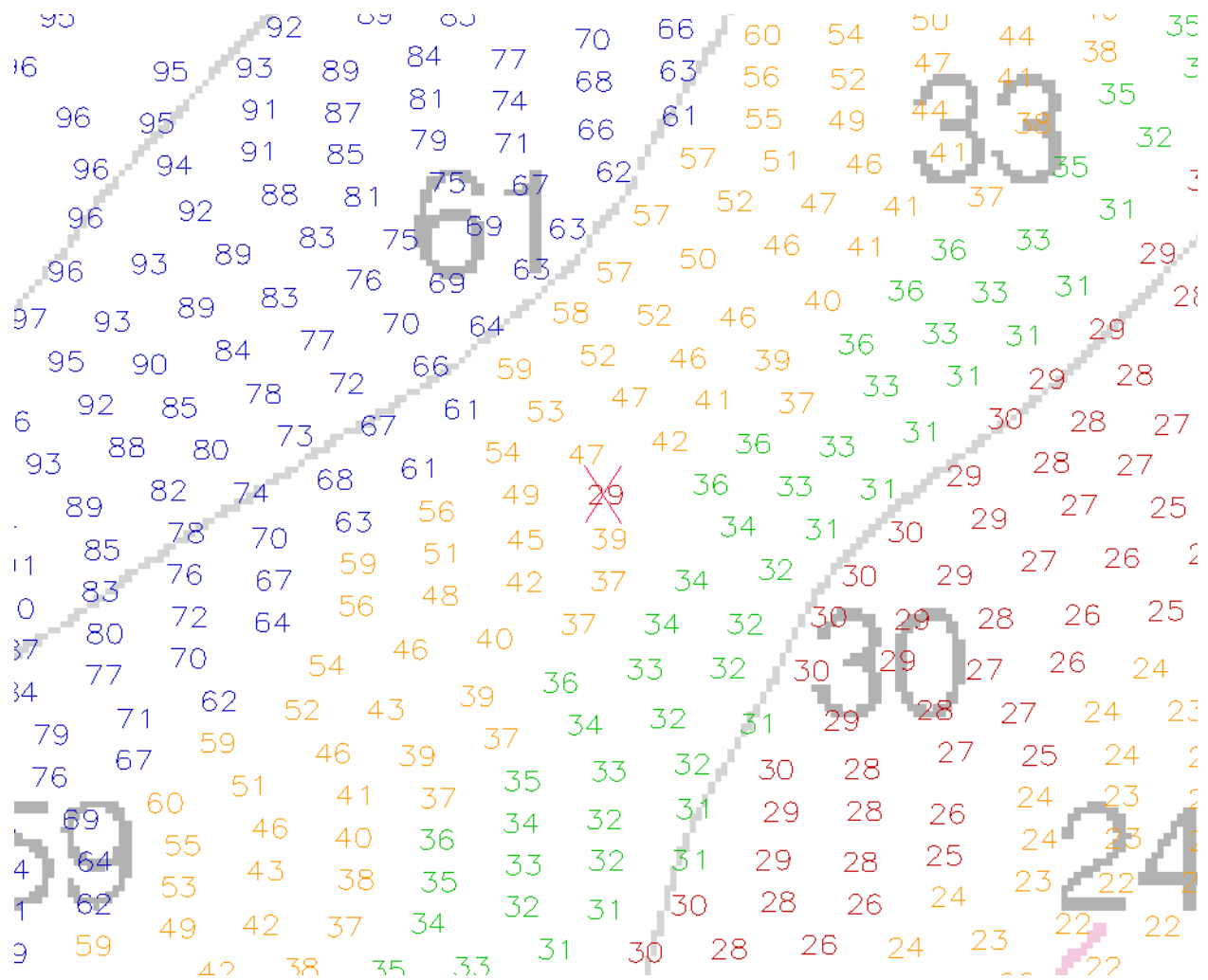
STATUS - 1:permanent

TECSOU - 3:found by multi-beam

VALSOU - 8.828 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Feature Images*Figure 1.6.1*

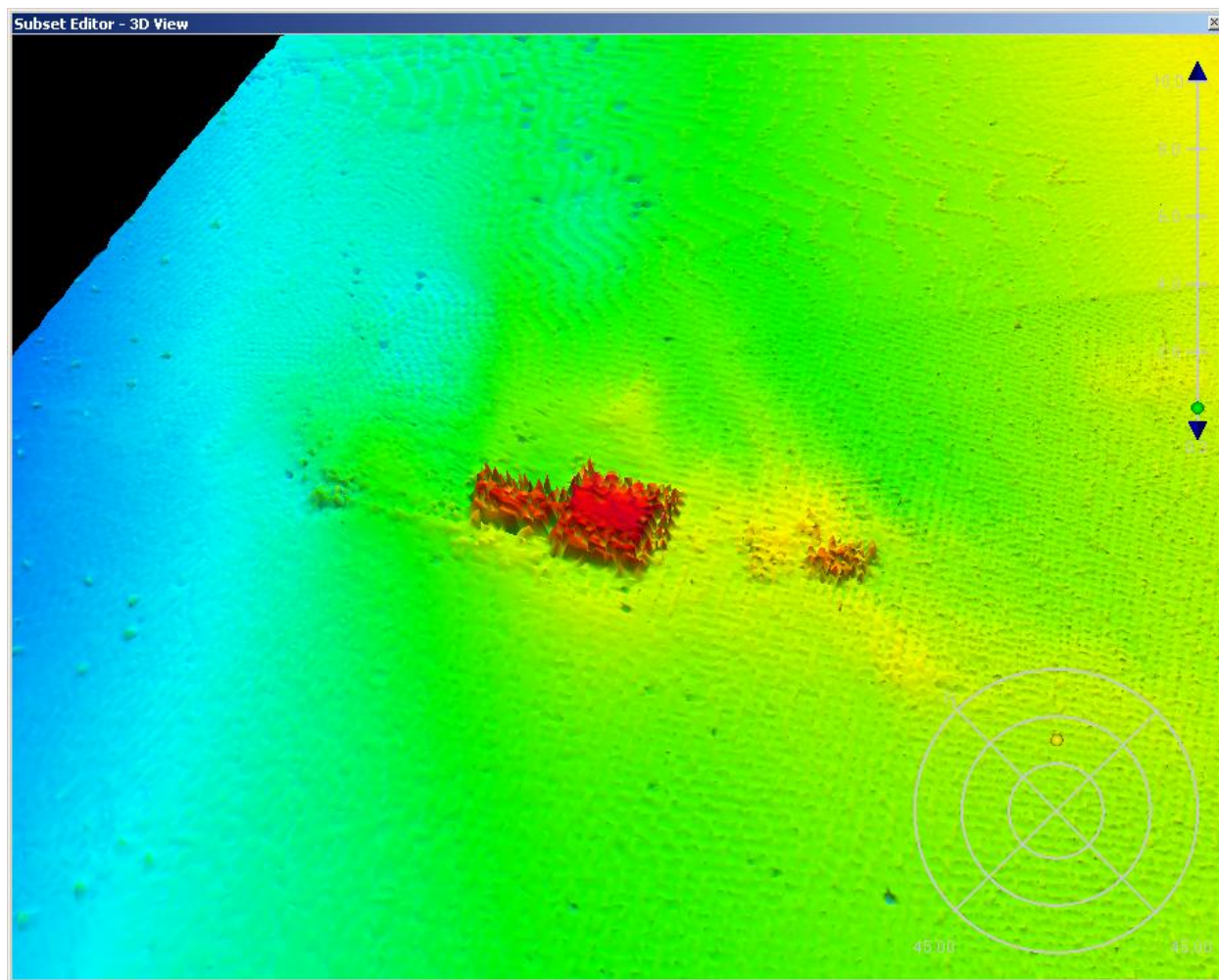


Figure 1.6.2

[Image file X:/H11251/PSS/Images/2167_010A_SC.tif does not exist.]

1.7) Profile/Beam - 3033/4 from h11251 / tj_3102_reson8101 / 2008-279 / 539_2051

DANGER TO NAVIGATION

Survey Summary

Survey Position: 41° 08' 19.4" N, 072° 21' 53.1" W
Least Depth: 11.64 m (= 38.19 ft = 6.364 fm = 6 fm 2.19 ft)
TPU ($\pm 1.96\sigma$): THU (TPEh) ± 1.005 m ; TVU (TPEv) ± 0.482 m
Timestamp: 2008-279.20:59:28.247 (10/05/2008)
Survey Line: h11251 / tj_3102_reson8101 / 2008-279 / 539_2051
Profile/Beam: 3033/4
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted Dangerous Submerged Rock. The sounding was acquired by Reson 8101 multibeam and corrected to MLLW using observed water levels. Final Verified Water Levels and Final zoning were applied and resolved the sounding to 38.19ft(11.64m).

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_3102_reson8101/2008-279/539_2051	3033/4	0.00	000.0	Primary
h11251/tj_3101_reson8125/2008-295/132_1741	3420/77	22.78	134.2	Secondary (grouped)
h11251/tj_3102_reson8101/2008-279/617_1652	217/97	40.26	200.1	Secondary (grouped)
h11251/tj_3101_reson8125/2008-295/132_1741	3324/213	40.43	040.2	Secondary (grouped)
h11251/tj_3102_reson8101/2008-279/542_2015	31/6	44.29	099.9	Secondary (grouped)
h11251/tj_3101_reson8125/2008-297/126_1650	635/15	54.92	344.4	Secondary (grouped)
h11251/tj_3101_reson8125/2008-297/126_1650	757/54	64.63	281.9	Secondary (grouped)
h11251/tj_3101_reson8125/2008-295/205_1310	9227/211	73.54	176.6	Secondary (grouped)
h11251/tj_3101_reson8125/2008-297/126_1650	570/13	78.14	006.6	Secondary (grouped)
h11251/tj_3102_reson8101/2008-280/538_1953	1198/28	84.94	319.5	Secondary (grouped)
ChartGPs - ENC US4NY1GM	Depth 42	91.36	350.8	Secondary (grouped)
h11251/tj_3101_reson8125/2008-297/126_1650	582/195	94.65	349.1	Secondary (grouped)
h11251/tj_3102_reson8101/2008-279/617_1652	314/17	103.12	230.8	Secondary (grouped)
h11251/tj_3102_reson8101/2008-279/617_1652	388/64	103.13	259.6	Secondary (grouped)

h11251/tj_3102_reson8101/2008-280/538_1953	1257/10	104.50	331.1	Secondary (grouped)
h11251/tj_3101_reson8125/2008-295/131_1252	884/180	119.07	291.5	Secondary (grouped)
h11251/tj_3101_reson8125/2008-295/131_1252	913/196	127.98	285.8	Secondary (grouped)
h11251/tj_3101_reson8125/2008-287/536_1604	1753/105	141.17	300.3	Secondary (grouped)
h11251/tj_3102_reson8101/2008-279/617_1652	393/4	145.49	245.0	Secondary (grouped)
h11251/tj_3101_reson8125/2008-295/131_1252	1080/91	157.39	256.0	Secondary (grouped)
h11251/tj_3101_reson8125/2008-287/536_1604	1575/120	168.13	271.6	Secondary (grouped)
h11251/tj_3102_reson8101/2008-279/617_1652	500/3	180.84	258.5	Secondary (grouped)
h11251/tj_3102_reson8101/2008-279/540_2038	466/6	183.76	233.7	Secondary (grouped)
h11251/tj_3101_reson8125/2008-287/534_2123	2336/60	198.72	286.5	Secondary (grouped)
h11251/tj_3101_reson8125/2008-287/535_2116	1338/121	210.81	269.7	Secondary (grouped)
h11251/tj_3102_reson8101/2008-279/617_1652	588/6	216.48	274.5	Secondary (grouped)

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

38ft (12358_1, 12354_1)

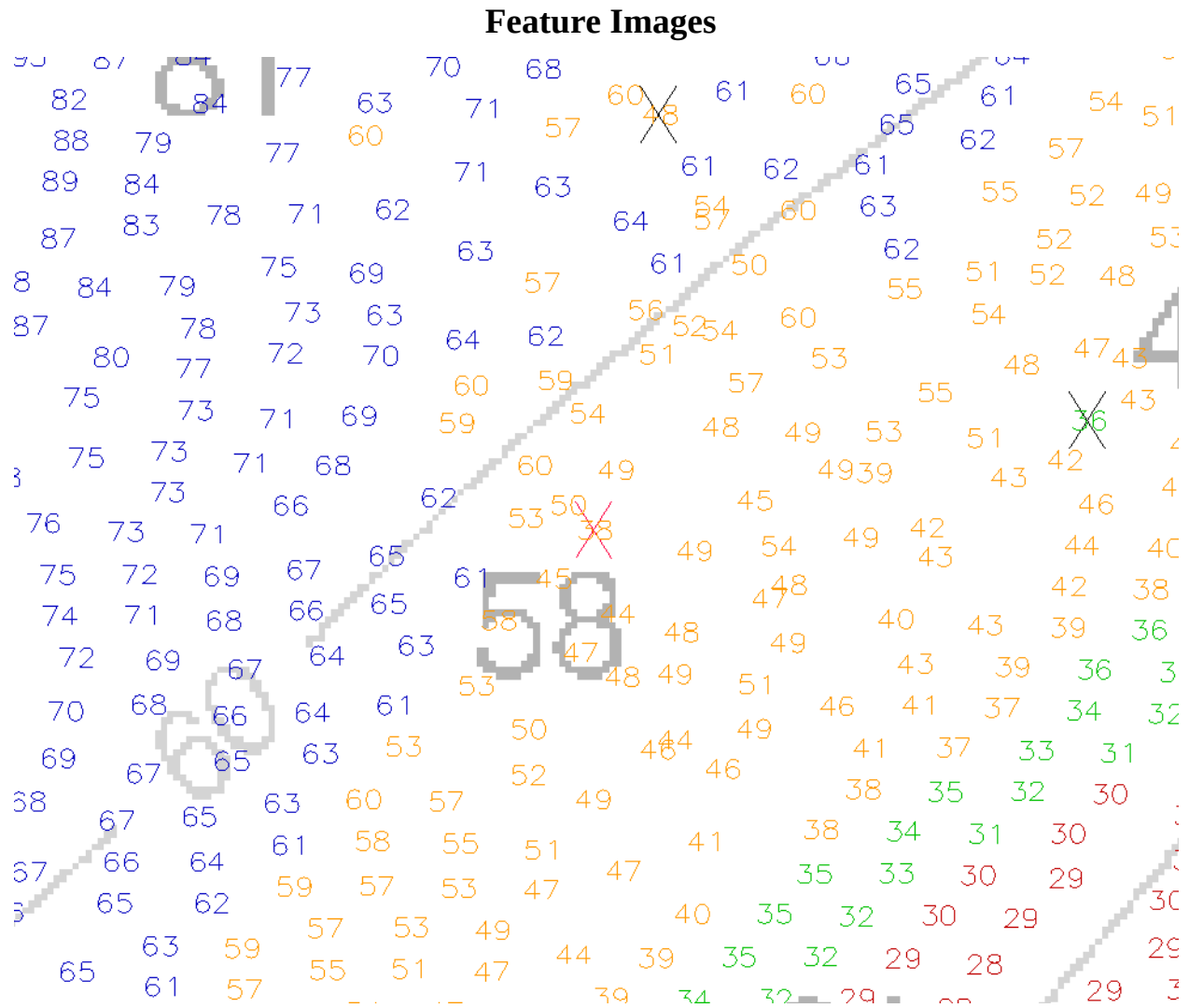
6 ¼fm (12300_1, 13006_1, 13003_1)

11.6m (5161_1)

S-57 Data

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

Attributes: QUASOU - 6:least depth known
TECSOU - 3:found by multi-beam
VALSOU - 11.639 m
VERDAT - 12:Mean lower low water
WATLEV - 3:always under water/submerged

*Figure 1.7.1*

[Image file X:/H11251/PSS/Images/3033_004A_SC.tif does not exist.]

1.8) Profile/Beam - 33210/83 from h11251 / tj_3102_reson8101 / 2008-287 / 100_1648

DANGER TO NAVIGATION

Survey Summary

Survey Position: 41° 06' 15.8" N, 072° 23' 23.4" W
Least Depth: 2.55 m (= 8.35 ft = 1.392 fm = 1 fm 2.35 ft)
TPU ($\pm 1.96\sigma$): THU (TPEh) ± 0.980 m ; TVU (TPEv) ± 0.388 m
Timestamp: 2008-287.17:38:48.714 (10/13/2008)
Survey Line: h11251 / tj_3102_reson8101 / 2008-287 / 100_1648
Profile/Beam: 33210/83
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted Dangerous Submerged Rock. The sounding was acquired by Reson 8101 multibeam and corrected to MLLW using observed water levels. Final Verified Water Levels and Final zoning were applied and resolved the sounding to 8.35ft(2.55m).

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_3102_reson8101/2008-287/100_1648	33210/83	0.00	000.0	Primary
h11251/tj_3102_reson8101/2008-287/100_1648	33206/74	1.17	246.5	Secondary (grouped)
h11251/tj_3102_reson8101/2008-287/100_1648	33104/1	27.13	226.9	Secondary (grouped)
h11251/tj_3102_reson8101/2008-287/100_1739	226/17	52.27	184.1	Secondary (grouped)
h11251/tj_3102_reson8101/2008-287/100_1739	217/1	59.78	178.3	Secondary (grouped)
h11251/tj_3102_reson8101/2008-287/100_1648	32914/69	79.12	213.6	Secondary (grouped)
h11251/tj_3102_reson8101/2008-287/100_1739	375/95	93.61	204.5	Secondary (grouped)

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

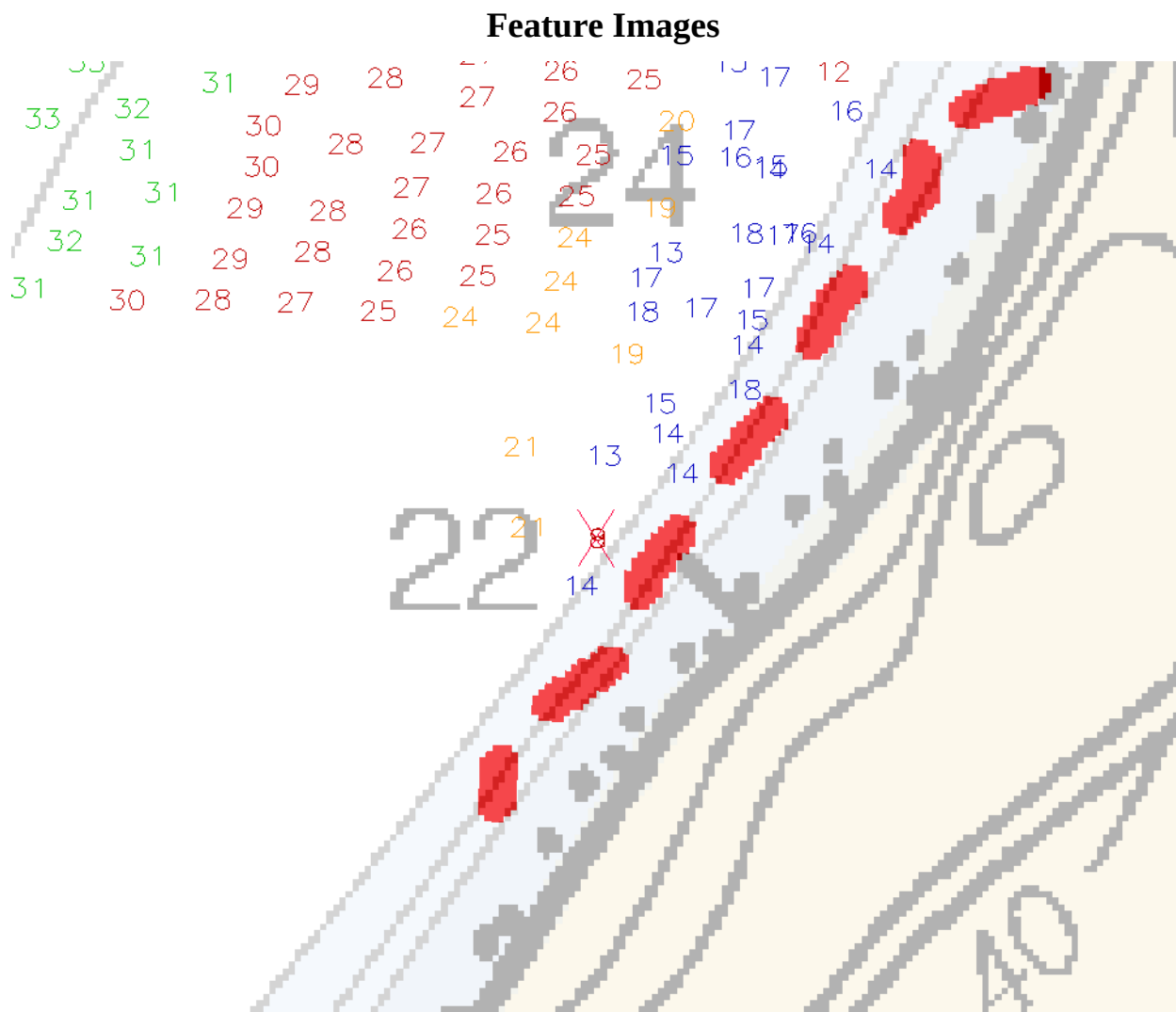
8ft (12358_1, 12354_1)

1 ¼fm (12300_1, 13006_1, 13003_1)

2.5m (5161_1)

S-57 Data

Geo object 1: Underwater rock / awash rock (UWTROC)
Attributes: QUASOU - 6:least depth known
TECSOU - 3:found by multi-beam
VALSOU - 2.546 m
VERDAT - 12:Mean lower low water
WATLEV - 3:always under water/submerged

*Figure 1.8.1*

1.9) Profile/Beam - 5641/30 from h11251 / tj_3102_reson8101 / 2008-287 / 445_1828

DANGER TO NAVIGATION

Survey Summary

Survey Position: 41° 08' 34.3" N, 072° 20' 24.0" W
Least Depth: 2.28 m (= 7.47 ft = 1.246 fm = 1 fm 1.47 ft)
TPU ($\pm 1.96\sigma$): THU (TPEh) ± 0.980 m ; TVU (TPEv) ± 0.389 m
Timestamp: 2008-287.18:35:31.073 (10/13/2008)
Survey Line: h11251 / tj_3102_reson8101 / 2008-287 / 445_1828
Profile/Beam: 5641/30
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted Dangerous Submerged Rock. The sounding was acquired by Reson 8101 multibeam and corrected to MLLW using observed water levels. Final Verified Water Levels and Final zoning were applied and resolved the sounding to 7.47ft (2.28m).

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_3102_reson8101/2008-287/445_1828	5641/30	0.00	000.0	Primary
h11251/tj_3102_klein5000_sss100/2008-287/100_1532	0005	3.28	067.4	Secondary (grouped)
h11251/tj_3102_reson8101/2008-287/100_1648	8208/1	32.38	012.4	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/019_1458	312/1	37.33	162.3	Secondary
h11251/tj_3102_reson8101/2008-287/100_1648	8319/6	43.61	045.0	Secondary (grouped)
h11251/tj_3102_reson8101/2008-287/100_1648	7974/5	52.06	312.6	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/092_1503	284/44	57.70	132.7	Secondary (grouped)
h11251/tj_3101_reson8125/2008-282/446_2119	1892/94	64.23	252.7	Secondary (grouped)
h11251/tj_3102_reson8101/2008-299/018_1352	787/3	70.60	300.0	Secondary (grouped)
h11251/tj_3101_reson8125/2008-282/457_2022	3344/20	73.90	211.0	Secondary (grouped)
h11251/tj_3101_reson8125/2008-282/458_2009	5096/122	77.38	155.5	Secondary (grouped)
h11251/tj_3102_reson8101/2008-287/444_1836	21/7	84.29	093.8	Secondary (grouped)
h11251/tj_3101_reson8125/2008-282/447_2033	4027/122	115.68	251.0	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/158_1512	110/5	128.43	097.9	Secondary (grouped)

h11251/tj_3102_reson8101/2008-297/157_1506	453/98	142.46	082.8	Secondary (grouped)
h11251/tj_3102_reson8101/2008-287/100_1648	8972/3	177.79	078.5	Secondary (grouped)

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

7ft (12358_1, 12354_1)

1 ¼fm (12300_1, 13006_1, 13003_1)

2.3m (5161_1)

S-57 Data

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

Attributes:
QUASOU - 6:least depth known
TECSOU - 3:found by multi-beam
VALSOU - 2.278 m
VERDAT - 12:Mean lower low water
WATLEV - 3:always under water/submerged

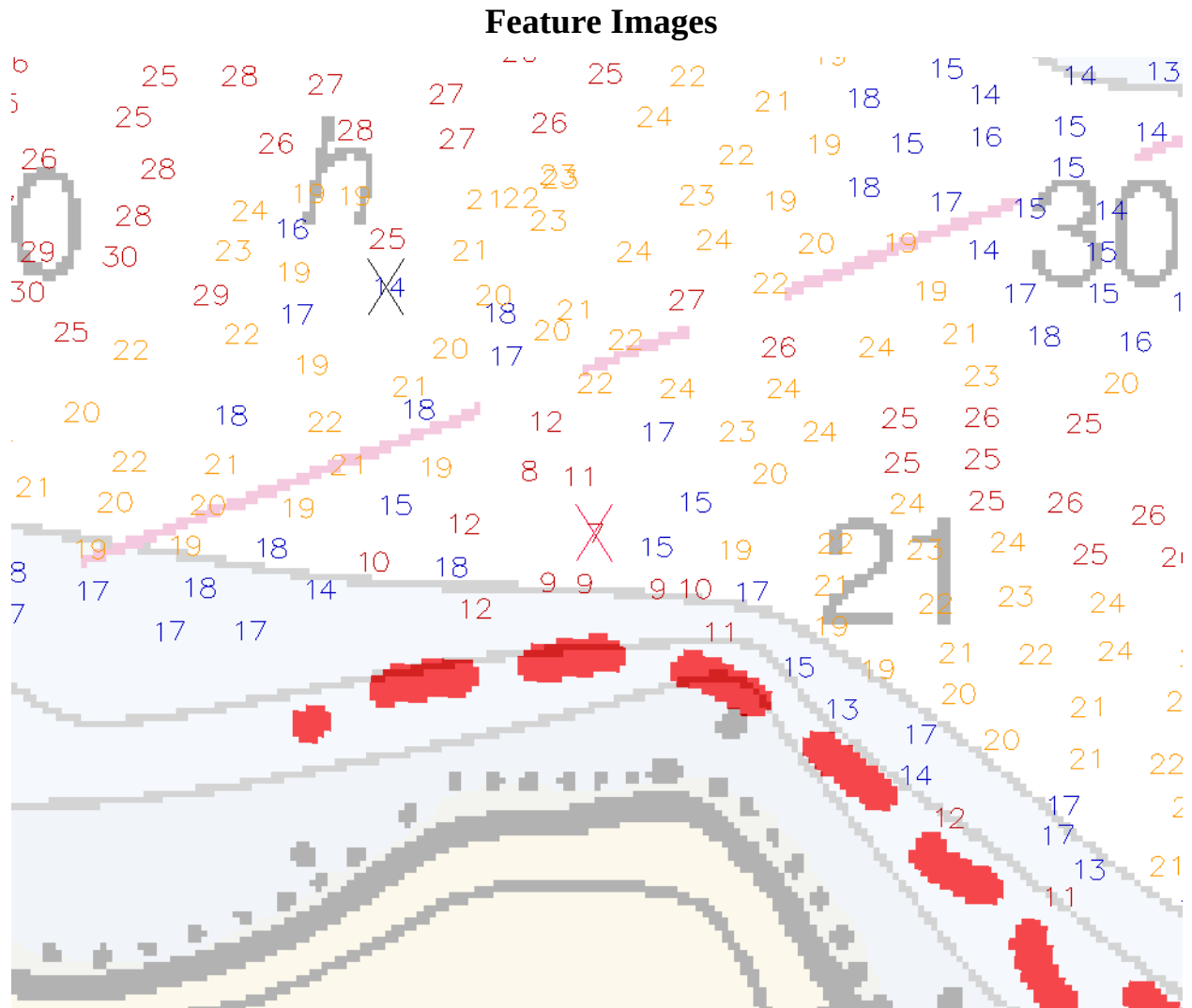


Figure 1.9.1

[Image file X:/H11251/PSS/Images/5641_030A_SC.tif does not exist.]

1.10) Profile/Beam - 581/2 from h11251 / tj_3102_reson8101 / 2008-288 / 473_1243

DANGER TO NAVIGATION

Survey Summary

Survey Position: 41° 08' 45.7" N, 072° 19' 53.0" W
Least Depth: 1.92 m (= 6.29 ft = 1.049 fm = 1 fm 0.29 ft)
TPU ($\pm 1.96\sigma$): THU (TPEh) ± 0.982 m ; TVU (TPEv) ± 0.395 m
Timestamp: 2008-288.12:44:20.995 (10/14/2008)
Survey Line: h11251 / tj_3102_reson8101 / 2008-288 / 473_1243
Profile/Beam: 581/2
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted Dangerous Submerged Rock. The sounding was acquired by Reson 8101 multibeam and corrected to MLLW using observed water levels. Final Verified Water Levels and Final zoning were applied and resolved the sounding to 6.29ft(1.92m).

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_3102_reson8101/2008-288/473_1243	581/2	0.00	000.0	Primary
h11251/tj_3102_reson8101/2008-288/474_1353	791/4	20.24	220.1	Secondary (grouped)
h11251/tj_3102_reson8101/2008-288/471_1345	4321/1	21.53	039.1	Secondary (grouped)
h11251/tj_3102_reson8101/2008-288/469_1234	4556/2	74.23	040.1	Secondary (grouped)
h11251/tj_3102_reson8101/2008-288/476_1402	3643/1	94.74	139.0	Secondary (grouped)
h11251/tj_3102_reson8101/2008-288/477_1252	3858/1	100.07	148.7	Secondary (grouped)
h11251/tj_3102_reson8101/2008-288/479_1419	1324/3	106.59	160.9	Secondary (grouped)
h11251/tj_3102_reson8101/2008-288/473_1243	936/1	117.06	088.4	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/081_1343	257/2	123.97	044.0	Secondary (grouped)
h11251/tj_3102_reson8101/2008-288/479_1419	1019/91	127.50	195.2	Secondary (grouped)
h11251/tj_3102_reson8101/2008-288/471_1345	3872/1	133.75	081.3	Secondary (grouped)
h11251/tj_3102_reson8101/2008-295/064_1652	3944/2	145.98	173.6	Secondary (grouped)
h11251/tj_3102_reson8101/2008-288/469_1234	4127/1	165.00	070.6	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/151_1341	764/1	169.81	044.5	Secondary (grouped)

h11251/tj_3102_reson8101/2008-288/482_1444	1050/1	173.38	195.6	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/079_1658	2280/1	183.49	177.7	Secondary (grouped)
h11251/tj_3101_reson8125/2008-282/h11251_3101_dp	2/1	183.54	041.3	Secondary (grouped)
h11251/tj_3102_reson8101/2008-288/483_1428	2938/9	212.13	195.6	Secondary (grouped)
h11251/tj_3102_reson8101/2008-295/085_1942	588/4	220.72	042.1	Secondary (grouped)
h11251/tj_3102_reson8101/2008-288/485_1309	2928/3	268.35	200.2	Secondary (grouped)
h11251/tj_3102_reson8101/2008-288/503_1434	762/1	285.13	199.6	Secondary (grouped)
h11251/tj_3102_reson8101/2008-288/546_1315	814/1	325.13	198.9	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/089_1553	54/3	386.28	201.9	Secondary (grouped)

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

6ft (12358_1, 12354_1)

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

1.9m (5161_1)

S-57 Data

Geo object 1: Sand waves (SNDWAV)

Geo object 2: Sounding (SOUNDG)

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

QUASOU - 6:least depth known

TECSOU - 3:found by multi-beam

VERDAT - 12:Mean lower low water

[Image file X:/H11251/PSS/Images/581_002A_SC.tif does not exist.]

1.11) Profile/Beam - 646/1 from h11251 / tj_3102_reson8101 / 2008-288 / 482_1444

DANGER TO NAVIGATION

Survey Summary

Survey Position: 41° 08' 51.1" N, 072° 19' 44.6" W
Least Depth: 2.31 m (= 7.58 ft = 1.264 fm = 1 fm 1.58 ft)
TPU ($\pm 1.96\sigma$): THU (TPEh) ± 0.983 m ; TVU (TPEv) ± 0.404 m
Timestamp: 2008-288.14:45:06.159 (10/14/2008)
Survey Line: h11251 / tj_3102_reson8101 / 2008-288 / 482_1444
Profile/Beam: 646/1
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted Dangerous Submerged Rock. The sounding was acquired by Reson 8101 multibeam and corrected to MLLW using observed water levels. Final Verified Water Levels and Final zoning were applied and resolved the sounding to 7.58ft(2.31m).

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_3102_reson8101/2008-288/482_1444	646/1	0.00	000.0	Primary
h11251/tj_3102_reson8101/2008-288/483_1428	3502/11	41.75	204.0	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/087_1547	1052/3	43.05	024.8	Secondary (grouped)
h11251/tj_3102_reson8101/2008-288/485_1309	3507/99	73.24	202.4	Secondary (grouped)
h11251/tj_3102_reson8101/2008-288/485_1309	3574/2	100.19	202.9	Secondary (grouped)
h11251/tj_3102_reson8101/2008-288/476_1402	4377/1	112.89	038.0	Secondary (grouped)
h11251/tj_3102_reson8101/2008-288/477_1252	4427/4	133.92	056.7	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/087_1547	102/1	136.43	201.1	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/088_1550	1527/101	193.41	208.6	Secondary (grouped)
h11251/tj_3102_reson8101/2008-295/161_1454	877/2	261.29	221.0	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/149_1703	891/6	310.38	218.0	Secondary (grouped)

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

7ft (12358_1, 12354_1)

1 ¼fm (12300_1, 13006_1, 13003_1)

2.3m (5161_1)

S-57 Data

Geo object 1: Sand waves (SNDWAV)

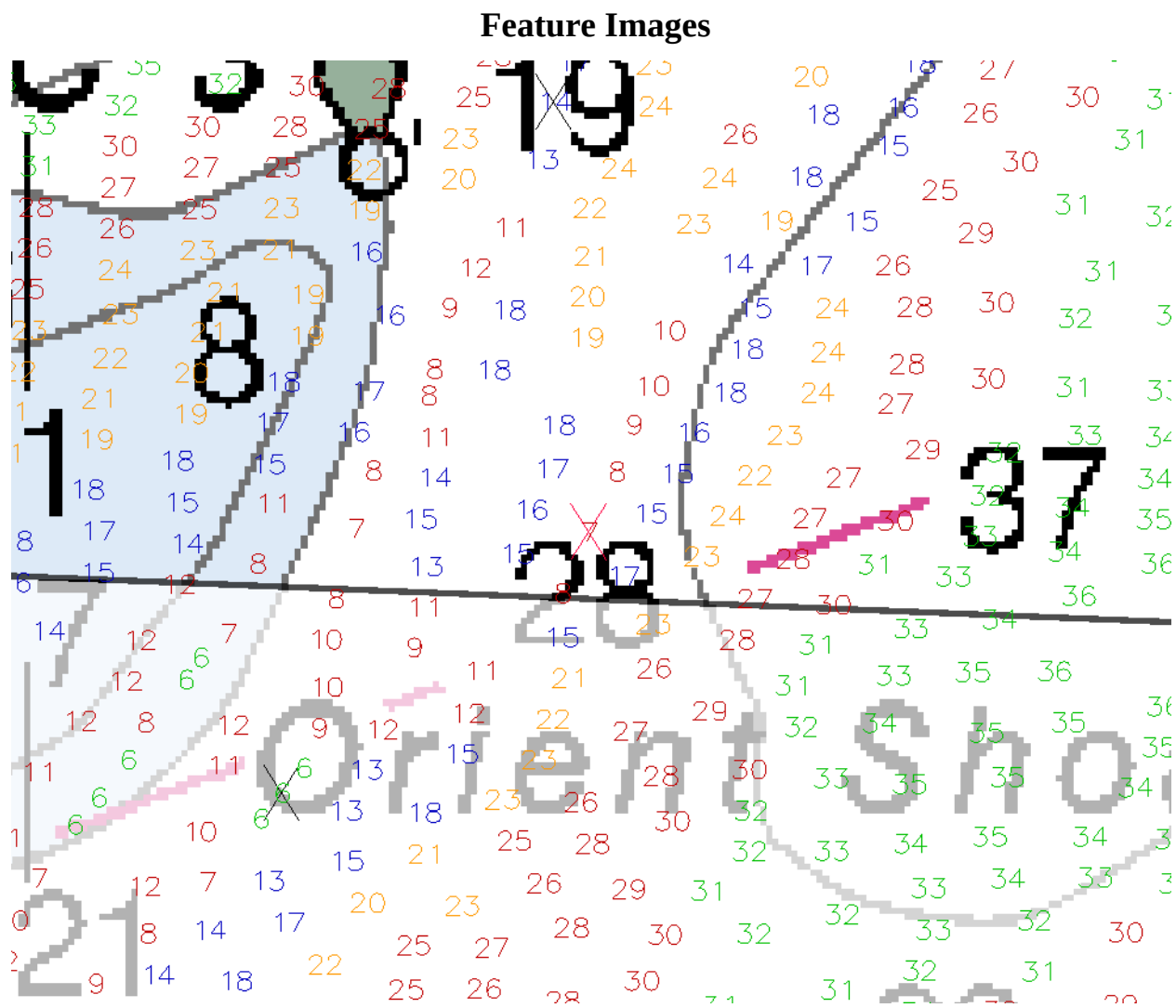
Geo object 2: Sounding (SOUNDG)

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

QUASOU - 6:least depth known

TECSOU - 3:found by multi-beam

VERDAT - 12:Mean lower low water



[Image file X:/H11251/PSS/Images/646_001A_SC.tif does not exist.]

1.12) Profile/Beam - 17147/7 from h11251 / tj_3102_reson8101 / 2008-299 / 018_1352

DANGER TO NAVIGATION

Survey Summary

Survey Position: 41° 07' 16.6" N, 072° 22' 17.3" W
Least Depth: 1.78 m (= 5.85 ft = 0.975 fm = 0 fm 5.85 ft)
TPU ($\pm 1.96\sigma$): THU (TPEh) ± 0.981 m ; TVU (TPEv) ± 0.389 m
Timestamp: 2008-299.14:26:37.976 (10/25/2008)
Survey Line: h11251 / tj_3102_reson8101 / 2008-299 / 018_1352
Profile/Beam: 17147/7
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Foul Area, Needs to be moved. Uncharted Dangerous Submerged Rock. The sounding was acquired by Reson 8101 multibeam and corrected to MLLW using observed water levels. Final Verified Water Levels and Final zoning were applied and resolved the sounding to 5.85ft(1.78m).

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_3102_reson8101/2008-299/018_1352	17147/7	0.00	000.0	Primary

Hydrographer Recommendations

[None]

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: QUASOU - 1:depth known
 TECSOU - 3:found by multi-beam

VALSOU - 1.783 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

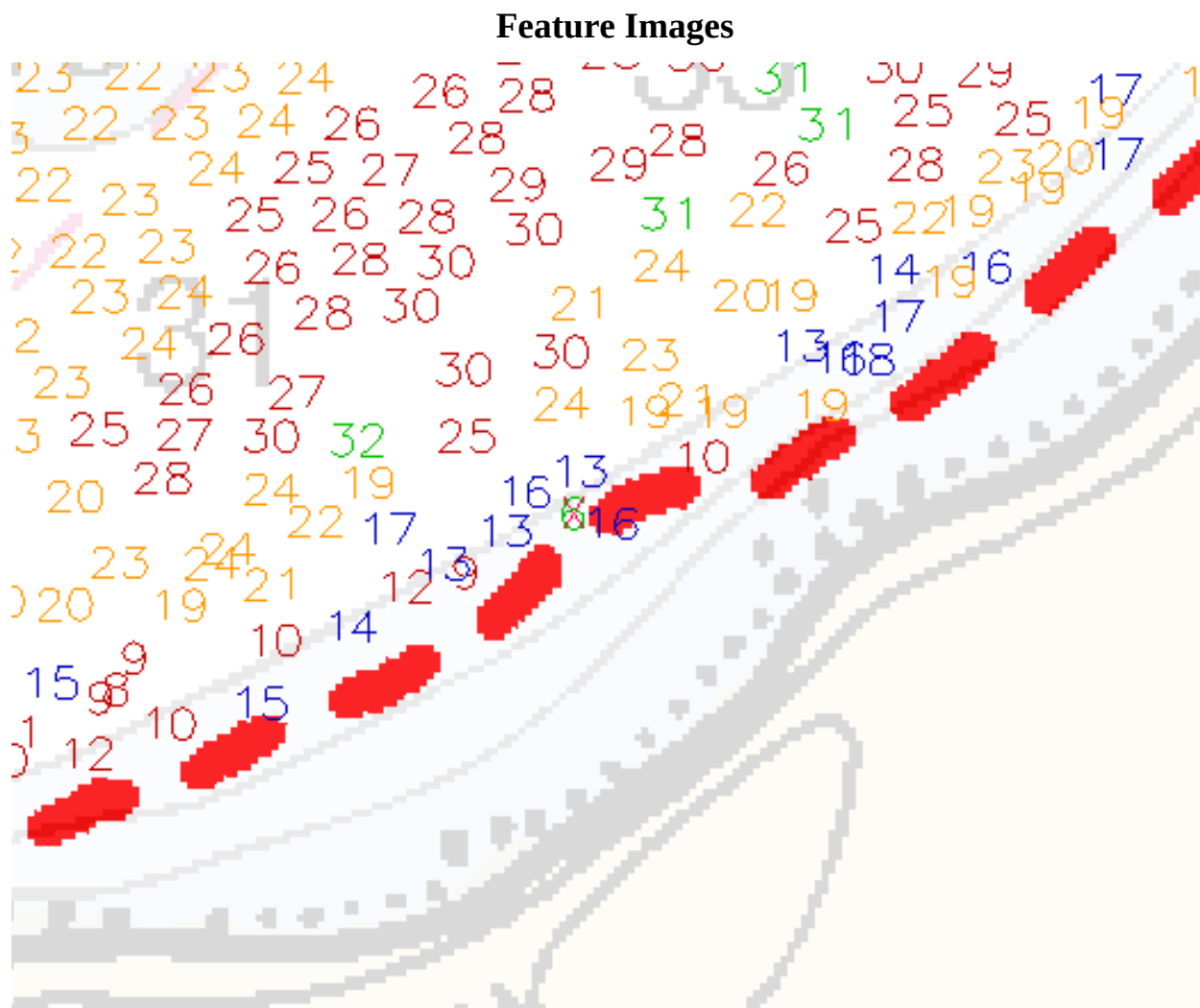


Figure 1.12.1

[Image file X:/H11251/PSS/Images/17147_007A_SC.tif does not exist.]

1.13) Profile/Beam - 190/35 from h11251 / tj_3102_reson8101 / 2008-299 / 075_1542

DANGER TO NAVIGATION

Survey Summary

Survey Position: 41° 07' 10.0" N, 072° 22' 38.2" W
Least Depth: 2.26 m (= 7.42 ft = 1.236 fm = 1 fm 1.42 ft)
TPU ($\pm 1.96\sigma$): THU (TPEh) ± 0.980 m ; TVU (TPEv) ± 0.389 m
Timestamp: 2008-299.15:48:03.479 (10/25/2008)
Survey Line: h11251 / tj_3102_reson8101 / 2008-299 / 075_1542
Profile/Beam: 190/35
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted Dangerous Submerged Rock. The sounding was acquired by Reson 8101 multibeam and corrected to MLLW using observed water levels. Final Verified Water Levels and Final zoning were applied and resolved the sounding to 7.42ft (2.26m).

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_3102_reson8101/2008-299/075_1542	190/35	0.00	000.0	Primary
h11251/tj_3102_klein5000_sss100/2008-287/100_1530	0001	3.52	061.8	Secondary (grouped)
h11251/tj_3102_reson8101/2008-299/075_1542	262/7	22.52	005.1	Secondary (grouped)
h11251/tj_3101_reson8125/2008-288/396_1428	14431/219	23.92	176.8	Secondary (grouped)
h11251/tj_3101_reson8125/2008-288/397_1413	1702/222	40.83	176.9	Secondary (grouped)
h11251/tj_3101_reson8125/2008-288/396_1428	14826/236	41.97	067.9	Secondary (grouped)
h11251/tj_3102_reson8101/2008-287/100_1648	25408/1	43.14	260.3	Secondary (grouped)
h11251/tj_3102_reson8101/2008-287/100_1648	25780/3	56.13	023.2	Secondary (grouped)
h11251/tj_3102_reson8101/2008-299/122_1546	212/72	75.51	245.0	Secondary (grouped)
h11251/tj_3102_reson8101/2008-287/100_1739	6289/1	75.90	219.7	Secondary (grouped)
h11251/tj_3102_klein5000_sss100/2008-287/100_1530	0026	83.67	221.0	Secondary (grouped)
h11251/tj_3101_reson8125/2008-288/396_1428	14025/229	86.05	205.6	Secondary (grouped)
h11251/tj_3101_reson8125/2008-288/396_1428	15257/184	91.52	045.8	Secondary (grouped)
h11251/tj_3102_reson8101/2008-299/183_1548	716/1	95.98	235.9	Secondary (grouped)

h11251/tj_3101_reson8125/2008-288/398_1348	14571/6	97.54	062.0	Secondary (grouped)
h11251/tj_3102_reson8101/2008-287/100_1739	6500/5	142.53	233.3	Secondary (grouped)

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

7ft (12358_1, 12354_1)

1 ¼fm (12300_1, 13006_1, 13003_1)

2.3m (5161_1)

S-57 Data

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

Attributes: QUASOU - 6:least depth known
TECSOU - 3:found by multi-beam
VALSOU - 2.261 m
VERDAT - 12:Mean lower low water
WATLEV - 3:always under water/submerged

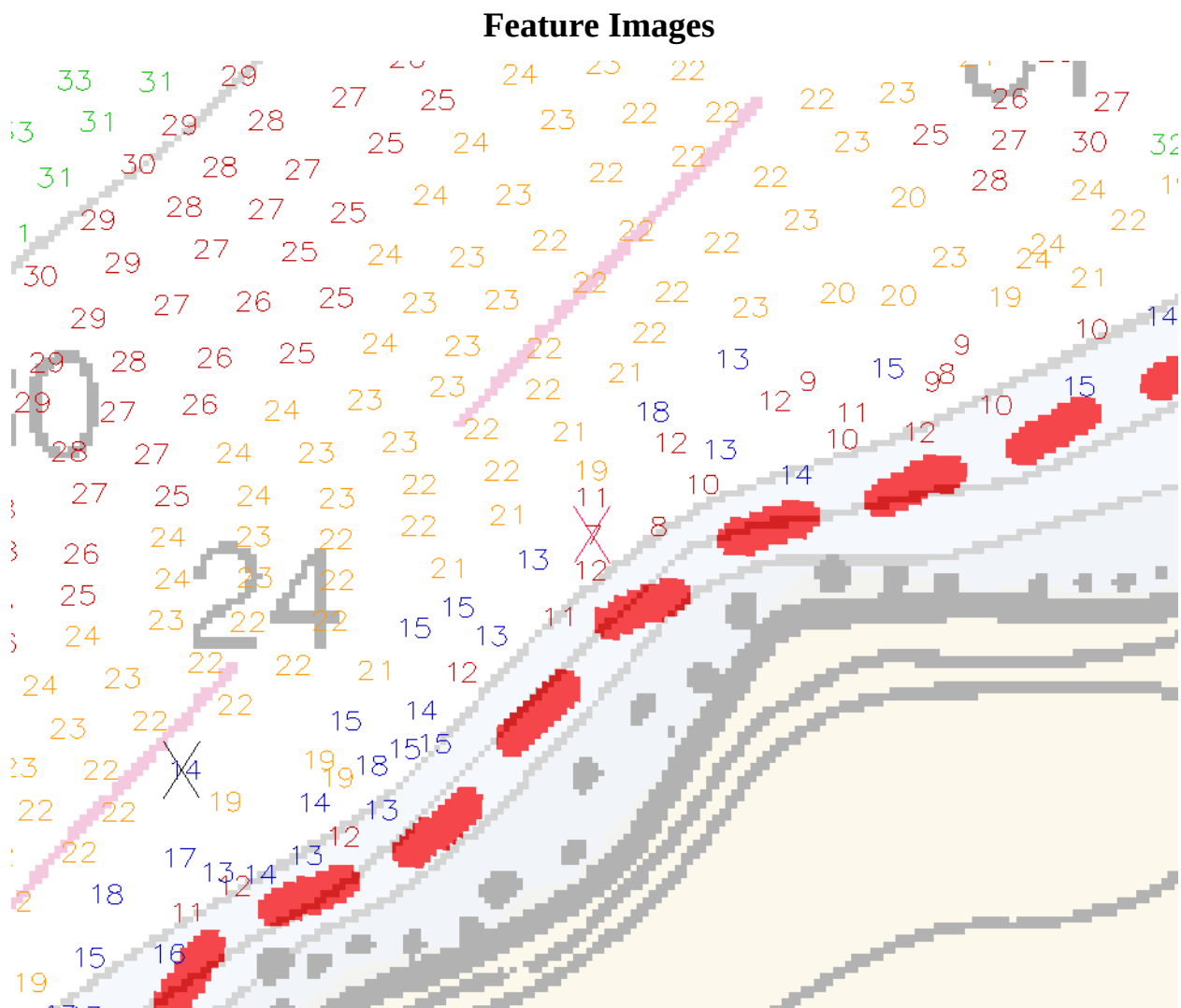


Figure 1.13.1

[Image file X:/H11251/PSS/Images/190_035A_SC.tif does not exist.]

1.14) Profile/Beam - 2455/1 from h11251 / tj_3102_reson8101 / 2008-280 / 537_2015

DANGER TO NAVIGATION

Survey Summary

Survey Position: 41° 08' 33.5" N, 072° 21' 36.7" W
Least Depth: 11.19 m (= 36.70 ft = 6.117 fm = 6 fm 0.70 ft)
TPU ($\pm 1.96\sigma$): THU (TPEh) ± 1.066 m ; TVU (TPEv) ± 0.803 m
Timestamp: 2008-280.20:22:59.071 (10/06/2008)
Survey Line: h11251 / tj_3102_reson8101 / 2008-280 / 537_2015
Profile/Beam: 2455/1
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted Dangerous Submerged Rock. The sounding was acquired by Reson 8125 multibeam and corrected to MLLW using observed water levels. Final Verified Water Levels and Final zoning were applied and resolved the sounding to 36.70ft (11.19m).

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_3102_reson8101/2008-280/537_2015	2455/1	0.00	000.0	Primary
h11251/tj_3102_reson8101/2008-297/125_1918	311/38	8.19	316.6	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/125_1918	288/18	12.66	050.8	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/125_1918	319/9	16.45	146.0	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/125_1918	271/9	27.10	075.2	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/125_1918	389/7	47.96	193.4	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/125_1918	267/96	51.55	328.5	Secondary (grouped)
h11251/tj_3101_reson8125/2008-295/205_1310	7844/123	52.17	287.1	Secondary (grouped)
h11251/tj_s222_reson7125_port/2008-268/004_1515	11937/195	66.52	154.4	Secondary (grouped)
h11251/tj_3102_reson8101/2008-279/539_2051	3955/7	69.66	069.9	Secondary (grouped)
h11251/tj_3102_reson8101/2008-280/538_1953	403/8	78.56	322.6	Secondary (grouped)
h11251/tj_3101_reson8125/2008-295/131_1252	1982/200	83.94	329.1	Secondary (grouped)
h11251/tj_3101_reson8125/2008-295/131_1252	1979/230	94.31	327.6	Secondary (grouped)
h11251/tj_3101_reson8125/2008-295/131_1252	1900/127	97.28	352.6	Secondary (grouped)

h11251/tj_3102_reson8101/2008-279/539_2051	3927/1	112.16	068.6	Secondary (grouped)
h11251/tj_3102_reson8101/2008-280/537_2015	2559/5	112.27	229.6	Secondary (grouped)
h11251/tj_3101_reson8125/2008-287/536_1604	387/79	112.32	287.0	Secondary (grouped)
h11251/tj_3102_reson8101/2008-280/538_1953	501/11	112.55	003.4	Secondary (grouped)
h11251/tj_3101_reson8125/2008-295/205_1310	8198/204	115.11	035.3	Secondary (grouped)
h11251/tj_3101_reson8125/2008-287/536_1604	612/122	115.97	336.3	Secondary (grouped)
h11251/tj_3101_reson8125/2008-287/534_2123	3733/5	131.02	313.1	Secondary (grouped)
h11251/tj_3101_reson8125/2008-295/205_1310	7597/68	134.01	252.9	Secondary (grouped)
h11251/tj_3101_reson8125/2008-287/534_2123	4027/1	158.18	270.1	Secondary (grouped)

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

36ft (12358_1, 12354_1)

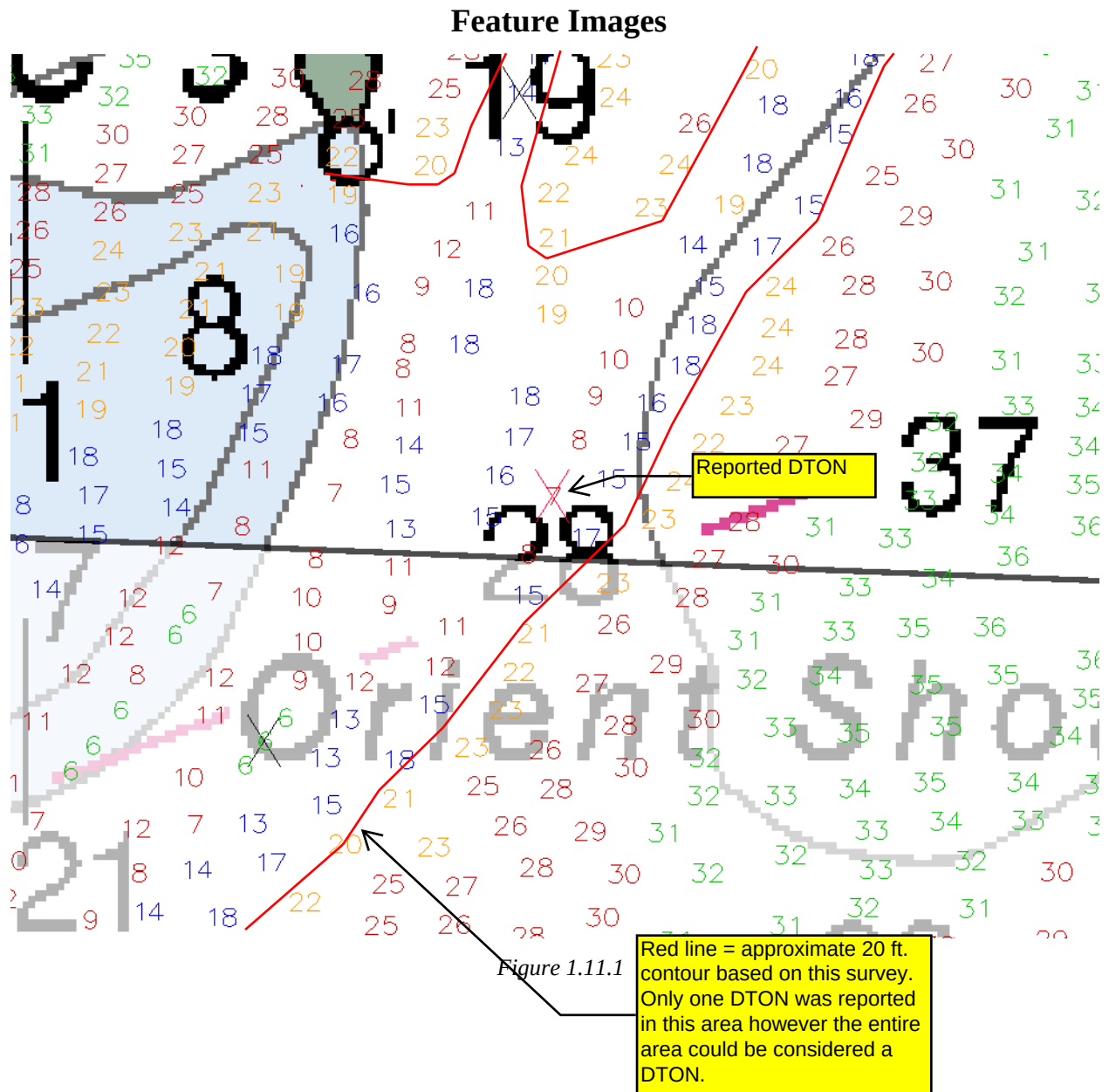
6fm (12300_1, 13006_1, 13003_1)

11.2m (5161_1)

S-57 Data

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

Attributes: QUASOU - 6:least depth known
 TECSOU - 1:found by echo-sounder
 VALSOU - 11.186 m
 VERDAT - 12:Mean lower low water
 WATLEV - 3:always under water/submerged



1.15) Profile/Beam - 1012/79 from h11251 / tj_3102_reson8101 / 2008-295 / 089_2016

DANGER TO NAVIGATION

Survey Summary

Survey Position: 41° 08' 38.4" N, 072° 20' 04.8" W
Least Depth: 3.17 m (= 10.41 ft = 1.736 fm = 1 fm 4.41 ft)
TPU ($\pm 1.96\sigma$): THU (TPEh) ± 0.981 m ; TVU (TPEv) ± 0.389 m
Timestamp: 2008-295.20:18:01.950 (10/21/2008)
Survey Line: h11251 / tj_3102_reson8101 / 2008-295 / 089_2016
Profile/Beam: 1012/79
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted Dangerous Submerged Rock. The sounding was acquired by Reson 8101 multibeam and corrected to MLLW using observed water levels. Final Verified Water Levels and Final zoning were applied and resolved the sounding to 10.41ft(3.17m).

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_3102_reson8101/2008-295/089_2016	1012/79	0.00	000.0	Primary
h11251/tj_3102_reson8101/2008-295/087_2008	741/10	52.99	207.7	Secondary (grouped)
h11251/tj_3101_reson8125/2008-282/h11251_3101_dp	1/1	88.33	207.6	Secondary (grouped)

Hydrographer Recommendations

Uncharted dangerous Sounding. The sounding was acquired by Reson 8125 multibeam and corrected to MLLW using observed water levels. Final Verified Water Levels and Final zoning were applied and resolved the sounding to 10.12ft (3.09m).

Cartographically-Rounded Depth (Affected Charts):

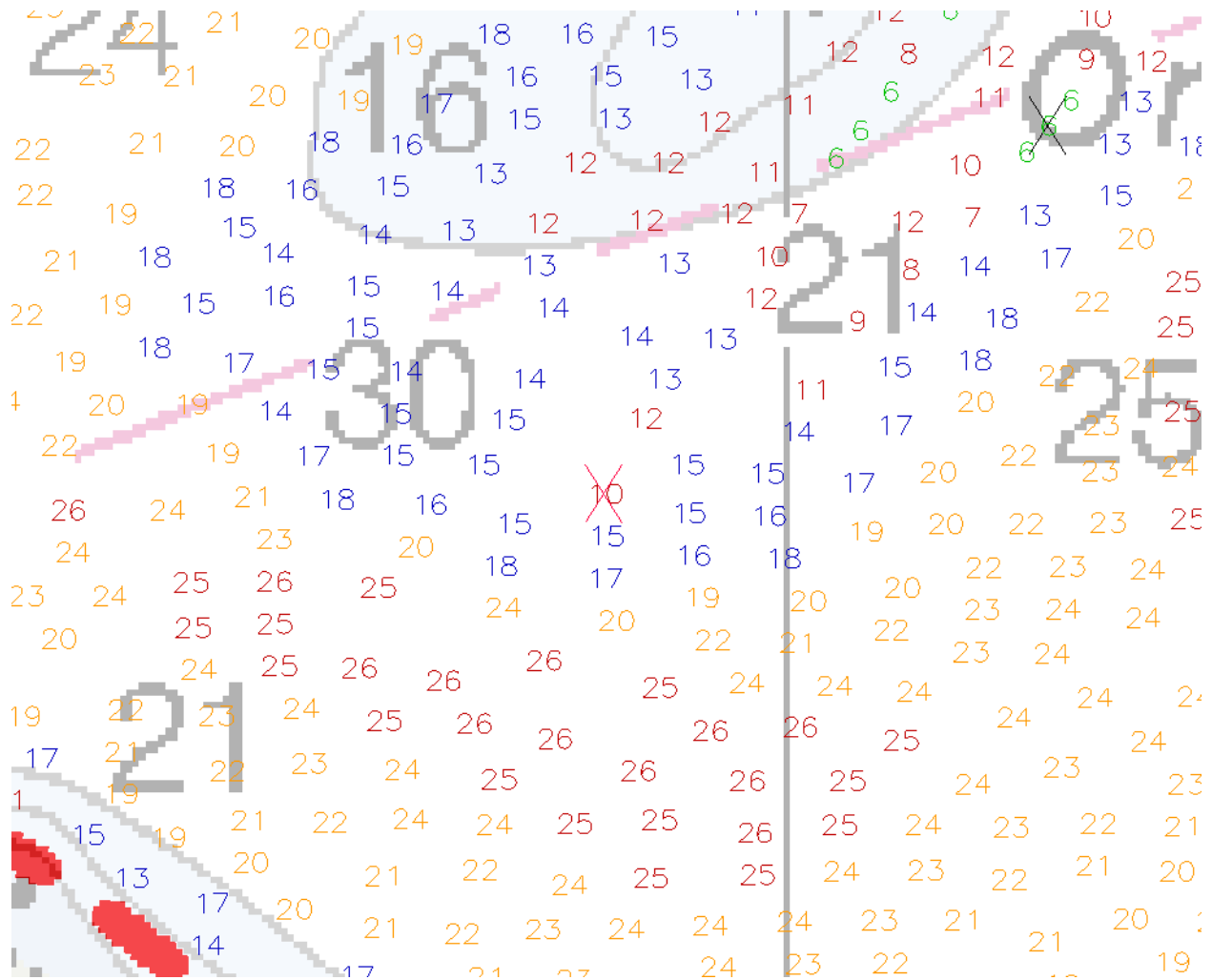
10ft (12358_1, 12354_1)
 1 $\frac{3}{4}$ fm (12300_1, 13006_1, 13003_1)
 3.2m (5161_1)

S-57 Data

Geo object 1: Sand waves (SNDWAV)

Geo object 2: Sounding (SOUNDG)

Attributes: EXPSOU - 2:shoaler than range of depth of the surrounding depth area
QUASOU - 6:least depth known
TECSOU - 3:found by multi-beam
VERDAT - 12:Mean lower low water

Feature Images*Figure 1.15.1*

[Image file X:/H11251/PSS/Images/1012_079A_SC.tif does not exist.]

1.16) Profile/Beam - 491/96 from h11251 / tj_3102_reson8101 / 2008-295 / 169_1745

DANGER TO NAVIGATION

Survey Summary

Survey Position: 41° 09' 07.2" N, 072° 19' 45.4" W
Least Depth: 9.65 m (= 31.66 ft = 5.277 fm = 5 fm 1.66 ft)
TPU ($\pm 1.96\sigma$): THU (TPEh) ± 0.989 m ; TVU (TPEv) ± 0.415 m
Timestamp: 2008-295.17:46:55.979 (10/21/2008)
Survey Line: h11251 / tj_3102_reson8101 / 2008-295 / 169_1745
Profile/Beam: 491/96
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted Dangerous Submerged Rock. The sounding was acquired by Reson 8101 multibeam and corrected to MLLW using observed water levels. Final Verified Water Levels and final zoning were applied and resolved the sounding to 31.66ft(9.65m).

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_3102_reson8101/2008-295/169_1745	491/96	0.00	000.0	Primary
h11251/tj_3102_reson8101/2008-295/169_1745	217/10	148.90	261.0	Secondary (grouped)
h11251/tj_3102_reson8101/2008-295/170_1753	3004/14	262.61	241.1	Secondary (grouped)
h11251/tj_3101_reson8125/2008-281/599_2109	1171/1	272.11	235.4	Secondary (grouped)

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

31ft (12358_1, 12354_1)

5 ¼fm (12300_1, 13006_1, 13003_1)

9.7m (5161_1)

S-57 Data

Geo object 1: Sand waves (SNDWAV)

Geo object 2: Sounding (SOUNDG)

Attributes: EXPSOU - 2:shoaler than range of depth of the surrounding depth area
QUASOU - 6:least depth known
TECSOU - 3:found by multi-beam
VERDAT - 12:Mean lower low water

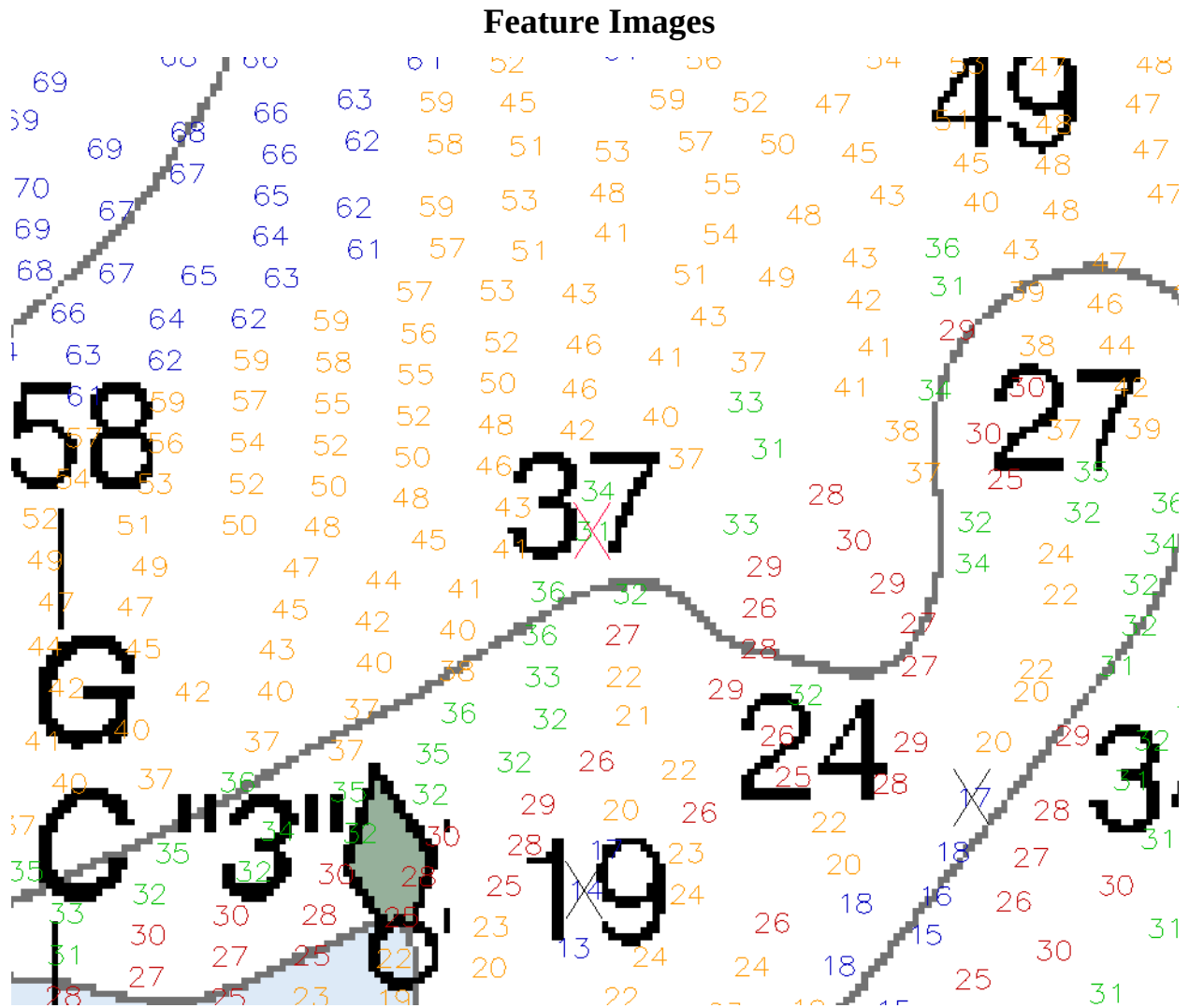


Figure 1.16.1

[Image file X:/H11251/PSS/Images/491_096A_SC.tif does not exist.]

Appendix II

Survey Features Report

- 1. Charted Features**
- 2. Uncharted Features**
- 3. AWOIS Items**

H11251 Charted Features Report

Registry Number: H11251
State: New York
Locality: Eastern Long Island Sound
Sub-locality: Truman Beach to Inlet point
Project Number: OPR-B370-TJ-08
Survey Dates: 10/05/2008 - 10/23/2008

Charts Affected

Number	Edition	Date	Scale (RNC)	RNC Correction(s)*
12358	20th	04/01/2008	1:40,000 (12358_1)	NGA NTM: None (06/07/2008) USCG LNM: None (06/03/2008) CHS NTM: None (04/25/2008)
12354	42nd	12/01/2006	1:80,000 (12354_1)	USCG LNM: 04/29/2008 (06/03/2008) CHS NTM: None (04/25/2008) NGA NTM: 12/04/1999 (06/07/2008)
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	Charted 14ft	Rock	3.59 m	41° 06' 28.3" N	072° 23' 16.0" W	---
1.2	Charted 53ft	Rock	12.71 m	41° 07' 56.2" N	072° 22' 19.0" W	---
1.3	Charted 65ft	Rock	16.57 m	41° 09' 23.8" N	072° 19' 46.7" W	---
1.4	Un-Charted 16ft	Rock	4.84 m	41° 08' 39.1" N	072° 20' 56.9" W	---
1.5	Charted 18ft	Shoal	6.77 m	41° 07' 25.9" N	072° 22' 29.3" W	---

1 - DR_Charted

1.1) Charted 14ft

Survey Summary

Survey Position: 41° 06' 28.3" N, 072° 23' 16.0" W
Least Depth: 3.59 m (= 11.77 ft = 1.962 fm = 1 fm 5.77 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 0.983 m ; **TVU (TPEv)** ± 0.396 m
Timestamp: 2008-287.17:41:59.155 (10/13/2008)
Survey Line: h11251 / tj_3102_reson8101 / 2008-287 / 100_1739
Profile/Beam: 1355/4
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Charted 14 ft sounding disproved by MB and SSS, instead an uncharted rock with a 12ft least depth found. Sounding corrected to MLLW using verified water levels and final zoning was applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_3102_reson8101/2008-287/100_1739	1355/4	0.00	000.0	Primary
h11251/tj_3102_klein5000_sss100/2008-287/100_1529	0009	2.58	085.4	Secondary (grouped)
h11251/tj_3102_klein5000_sss100/2008-281/120_1703	0002	8.76	106.7	Secondary (grouped)
ChartGPs - ENC US4NY1GM	Danger 1	33.48	149.5	Secondary (grouped)
h11251/tj_3101_reson8125/2008-297/112_1834	1004/6	34.74	094.9	Secondary (grouped)
h11251/tj_3102_reson8101/2008-299/018_1451	5863/100	46.70	134.4	Secondary (grouped)
h11251/tj_3101_reson8125/2008-295/010_1933	6790/159	51.16	057.2	Secondary (grouped)
h11251/tj_3101_reson8125/2008-297/112_1834	1091/123	51.19	076.4	Secondary (grouped)
h11251/tj_3102_reson8101/2008-287/100_1648	31321/5	61.46	135.0	Secondary (grouped)
h11251/tj_3101_reson8125/2008-297/116_1832	325/131	63.32	104.0	Secondary (grouped)
h11251/tj_3102_reson8101/2008-299/018_1451	5574/18	71.01	216.3	Secondary (grouped)
h11251/tj_3102_klein5000_sss100/2008-281/120_1703	0003	71.02	216.3	Secondary (grouped)
h11251/tj_3101_reson8125/2008-295/055_1924	811/172	71.81	067.1	Secondary (grouped)
h11251/tj_3101_reson8125/2008-295/010_1933	6949/202	74.15	050.1	Secondary (grouped)
h11251/tj_3102_klein5000_sss100/2008-287/100_1529	0010	77.17	142.4	Secondary (grouped)
h11251/tj_3101_reson8125/2008-295/012_1913	5631/94	81.91	145.1	Secondary (grouped)
h11251/tj_3102_reson8101/2008-287/100_1648	31982/11	84.41	349.0	Secondary (grouped)
h11251/tj_3102_reson8101/2008-287/100_1648	32088/101	98.91	013.9	Secondary (grouped)

h11251/tj_3102_reson8101/2008-287/100_1739	2091/96	99.82	208.3	Secondary (grouped)
h11251/tj_3101_reson8125/2008-295/012_1913	5433/2	104.54	167.8	Secondary (grouped)
h11251/tj_3101_reson8125/2008-295/009_1943	1105/240	108.46	203.2	Secondary (grouped)
h11251/tj_3101_reson8125/2008-297/112_1834	1419/230	115.02	046.4	Secondary (grouped)
h11251/tj_3101_reson8125/2008-297/112_1834	1420/228	115.10	046.2	Secondary (grouped)
h11251/tj_3101_reson8125/2008-295/010_1933	7263/6	116.63	031.7	Secondary (grouped)
h11251/tj_3101_reson8125/2008-297/116_1832	1104/40	118.84	192.2	Secondary (grouped)
h11251/tj_3102_reson8101/2008-287/100_1739	2151/11	121.56	200.0	Secondary (grouped)
h11251/tj_3102_reson8101/2008-299/018_1451	6680/92	121.67	007.7	Secondary (grouped)
h11251/tj_3101_reson8125/2008-295/012_1913	6273/180	124.30	061.7	Secondary (grouped)
h11251/tj_3101_reson8125/2008-295/055_1924	492/240	125.92	044.5	Secondary (grouped)
h11251/tj_3101_reson8125/2008-295/010_1933	7502/77	157.12	032.2	Secondary (grouped)
h11251/tj_3102_klein5000_sss100/2008-287/100_1529	0008	163.39	026.2	Secondary (grouped)
h11251/tj_3102_reson8101/2008-299/115_1505	746/94	167.44	022.3	Secondary (grouped)
h11251/tj_3102_reson8101/2008-287/100_1739	839/3	169.51	022.1	Secondary (grouped)
h11251/tj_3102_reson8101/2008-299/115_1505	928/100	172.30	029.8	Secondary (grouped)
h11251/tj_3101_reson8125/2008-297/111_1829	656/217	175.88	044.0	Secondary (grouped)
h11251/tj_3102_reson8101/2008-287/100_1648	32439/18	201.85	012.8	Secondary (grouped)
h11251/tj_3102_reson8101/2008-287/100_1739	733/99	206.07	015.8	Secondary (grouped)
h11251/tj_3102_reson8101/2008-299/115_1505	1135/4	212.41	021.8	Secondary (grouped)

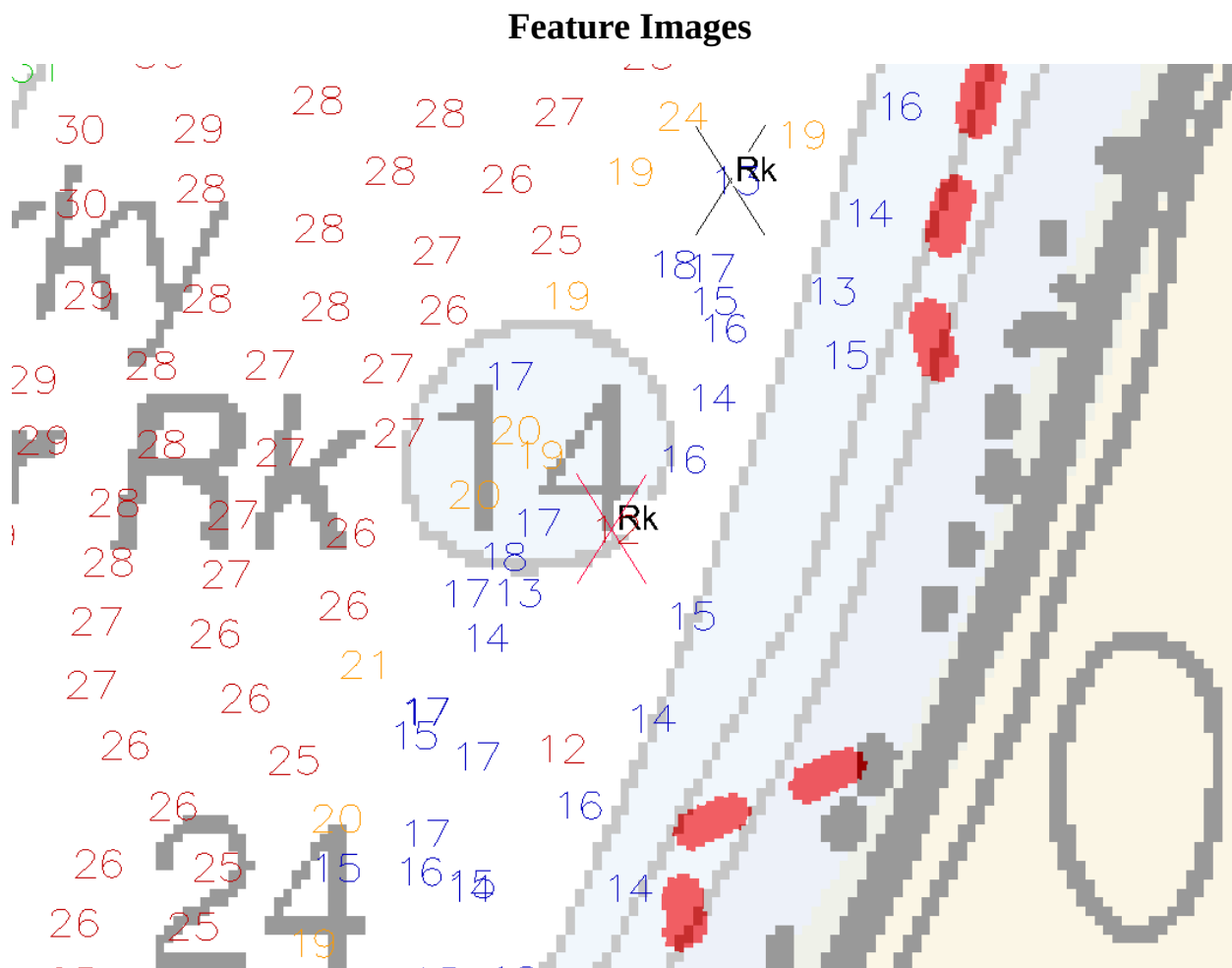
Hydrographer Recommendations

[None]

S-57 Data

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

Attributes: QUASOU - 6:least depth known
 SORDAT - 20081013
 SORIND - US,US
 TECSOU - 3:found by multi-beam
 VALSOU - 3.589 m
 VERDAT - 12:Mean lower low water
 WATLEV - 3:always under water/submerged

*Figure 1.1.1*

1.2) Charted 53ft

Survey Summary

Survey Position: 41° 07' 56.2" N, 072° 22' 19.0" W
Least Depth: 12.71 m (= 41.70 ft = 6.950 fm = 6 fm 5.70 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 1.013 m ; **TVU (TPEv)** ± 0.528 m
Timestamp: 2008-279.20:23:05.534 (10/05/2008)
Survey Line: h11251 / tj_3102_reson8101 / 2008-279 / 542_2015
Profile/Beam: 2042/3
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Charted 53 ft sounding disproved by MB, instead an uncharted rock with a 41 ft least depth found. Sounding corrected to MLLW using verified water levels and final zoning was applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_3102_reson8101/2008-279/542_2015	2042/3	0.00	000.0	Primary
h11251/tj_3101_reson8125/2008-295/132_1741	1435/217	38.68	275.4	Secondary (grouped)
h11251/tj_3102_reson8101/2008-279/541_2028	828/1	56.58	127.3	Secondary (grouped)
h11251/tj_3102_reson8101/2008-279/541_2028	860/1	58.67	151.4	Secondary (grouped)
h11251/tj_3102_reson8101/2008-279/541_2028	739/12	59.14	051.4	Secondary (grouped)
h11251/tj_3101_reson8125/2008-295/134_1726	1212/229	62.68	081.1	Secondary (grouped)
h11251/tj_3102_reson8101/2008-279/542_2015	1900/10	67.20	205.3	Secondary (grouped)
h11251/tj_3102_reson8101/2008-279/541_2028	906/1	77.64	173.3	Secondary (grouped)
h11251/tj_3101_reson8125/2008-295/135_1714	1627/212	92.78	109.1	Secondary (grouped)
ChartGPs - ENC US4NY1GM	Depth 39	96.06	074.3	Secondary (grouped)
h11251/tj_3102_reson8101/2008-279/542_2015	2183/99	109.64	098.2	Secondary (grouped)
h11251/tj_3102_reson8101/2008-279/542_2015	2199/100	120.30	092.6	Secondary (grouped)
h11251/tj_3102_reson8101/2008-282/544_1938	985/11	129.68	087.1	Secondary (grouped)

Hydrographer Recommendations

[None]

S-57 Data

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

Attributes: QUASOU - 6:least depth known
SORDAT - 20081005
SORIND - US, US
TECSOU - 3:found by multi-beam
VALSOU - 12.711 m
VERDAT - 12:Mean lower low water
WATLEV - 3:always under water/submerged

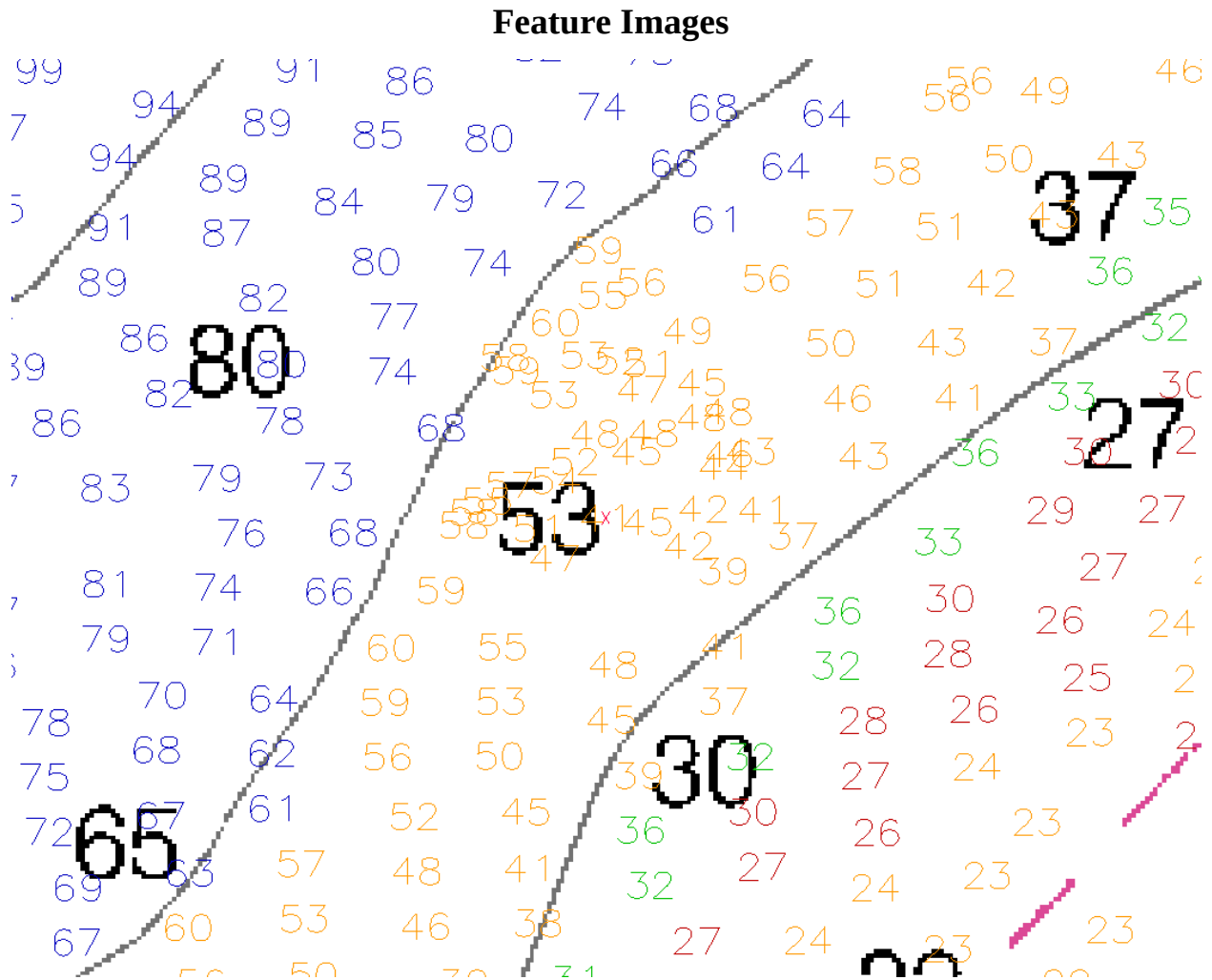


Figure 1.2.1

1.3) Charted 65ft

Survey Summary

Survey Position: 41° 09' 23.8" N, 072° 19' 46.7" W
Least Depth: 16.57 m (= 54.35 ft = 9.058 fm = 9 fm 0.35 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 0.987 m ; **TVU (TPEv)** ± 0.405 m
Timestamp: 2008-279.15:32:12.608 (10/05/2008)
Survey Line: h11251 / tj_3102_reson8101 / 2008-279 / 615_1531
Profile/Beam: 130/22
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Charted 65 ft sounding disproved by MB, instead an uncharted rock with a 54 ft least depth found. Sounding corrected to MLLW using verified water levels and final zoning was applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_3102_reson8101/2008-279/615_1531	130/22	0.00	000.0	Primary
h11251/tj_3101_reson8125/2008-280/627_2019	941/14	41.88	148.0	Secondary (grouped)
h11251/tj_3101_reson8125/2008-280/627_2019	894/53	60.07	191.9	Secondary (grouped)
ChartGPs - ENC US4NY1GM	Depth 68	81.34	243.9	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/058_1741	496/1	102.65	279.5	Secondary (grouped)
h11251/tj_3101_reson8125/2008-280/624_2042	2078/19	168.85	030.7	Secondary (grouped)
h11251/tj_s222_reson7125_port/2008-268/013_1352	4450/60	172.29	131.0	Secondary (grouped)
h11251/tj_3101_reson8125/2008-280/622_2056	1207/232	225.38	287.7	Secondary (grouped)

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Underwater rock / awash rock (UWTROC)
Attributes: SORDAT - 20081005
 SORIND - US,US
 VALSOU - 16.566 m

WATLEV - 3:always under water/submerged

Feature Images

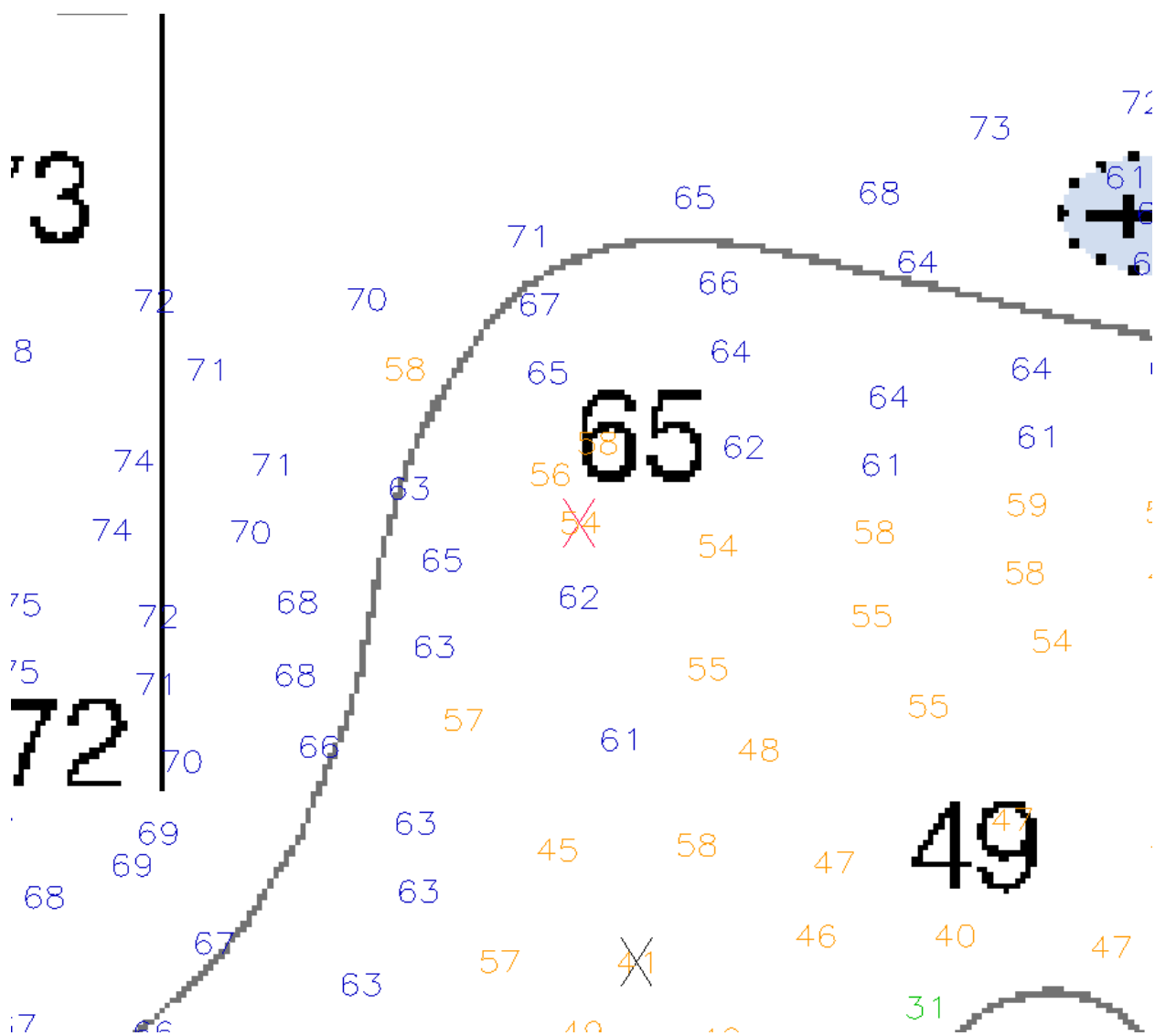


Figure 1.3.1

1.4) Un-Charted 16ft

Survey Summary

Survey Position: 41° 08' 39.1" N, 072° 20' 56.9" W
Least Depth: 4.84 m (= 15.86 ft = 2.644 fm = 2 fm 3.86 ft)
TPU ($\pm 1.96\sigma$): THU (TPEh) ± 0.982 m ; TVU (TPEv) ± 0.391 m
Timestamp: 2008-297.19:57:15.941 (10/23/2008)
Survey Line: h11251 / tj_3102_reson8101 / 2008-297 / 062_1956
Profile/Beam: 340/10
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

There is a uncharted rock with a 15.86 ft least depth found 205 meters away and a bearing of 49.0° to the disproved charted 18ft (AWOIS 12416). Soundings corrected to MLLW using verified water levels and final zoning was applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_3102_reson8101/2008-297/062_1956	340/10	0.00	000.0	Primary
h11251/tj_3102_reson8101/2008-297/060_1959	2082/2	67.79	016.2	Secondary (grouped)
h11251/tj_3101_reson8125/2008-282/459_1956	806/145	93.29	035.6	Secondary (grouped)
ChartGPs - ENC US4NY1GM	Depth 61	176.29	248.1	Secondary (grouped)

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Underwater rock / awash rock (UWTROC)
Attributes: QUASOU - 6:least depth known
 SORDAT - 20081023
 SORIND - US,US
 TECSOU - 3:found by multi-beam
 VALSOU - 4.835 m
 VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

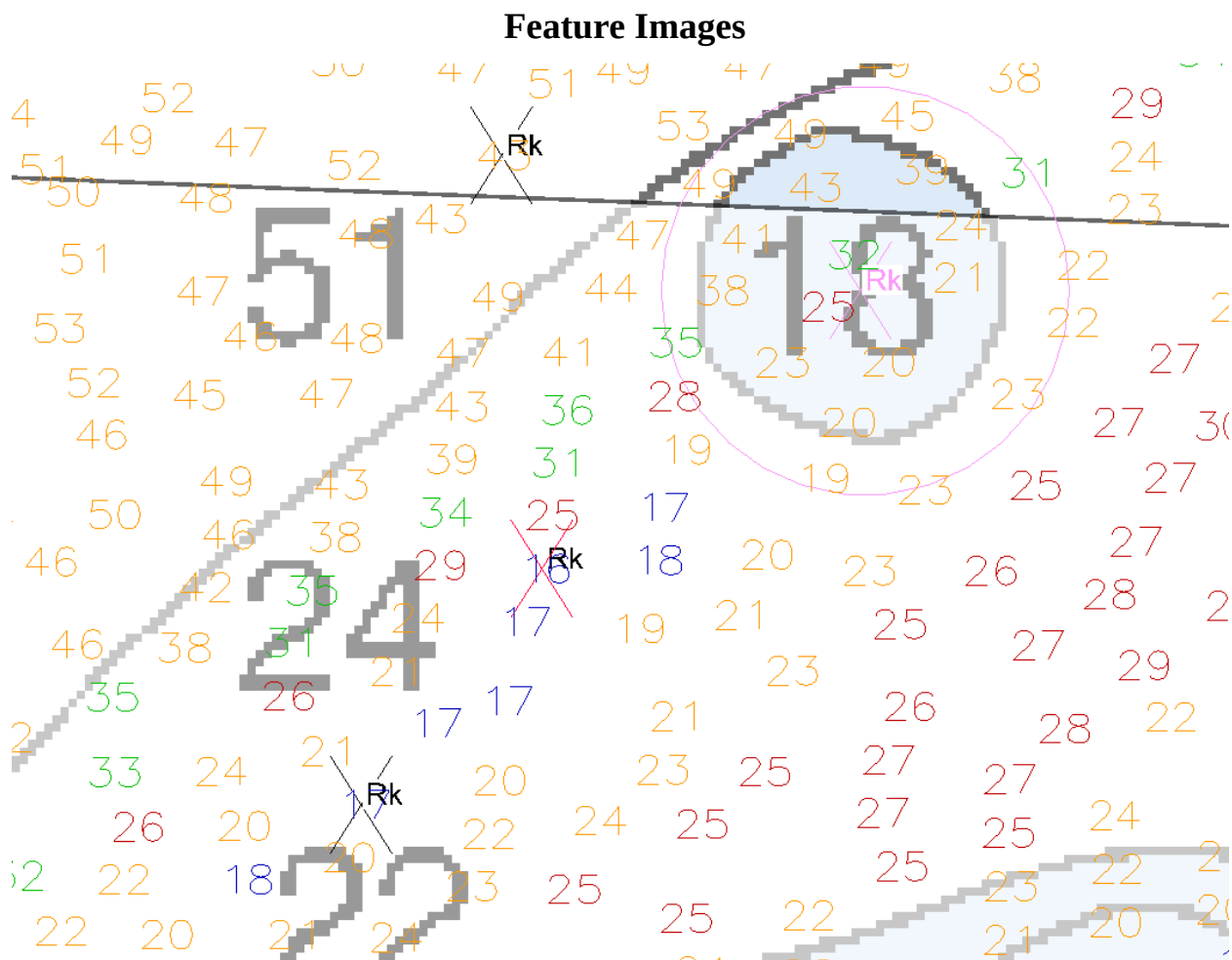


Figure 1.4.1

1.5) Charted 18ft

Survey Summary

Survey Position: 41° 07' 25.9" N, 072° 22' 29.3" W
Least Depth: 6.77 m (= 22.20 ft = 3.701 fm = 3 fm 4.20 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 0.981 m ; **TVU (TPEv)** ± 0.401 m
Timestamp: 2008-295.18:44:08.004 (10/21/2008)
Survey Line: h11251 / tj_3101_reson8125 / 2008-295 / 023_1840
Profile/Beam: 2522/149
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Charted 18 ft, disproved with MB. Corrected soundings to MLLW using verified water levels and final zoning was applied.

Feature Correlation

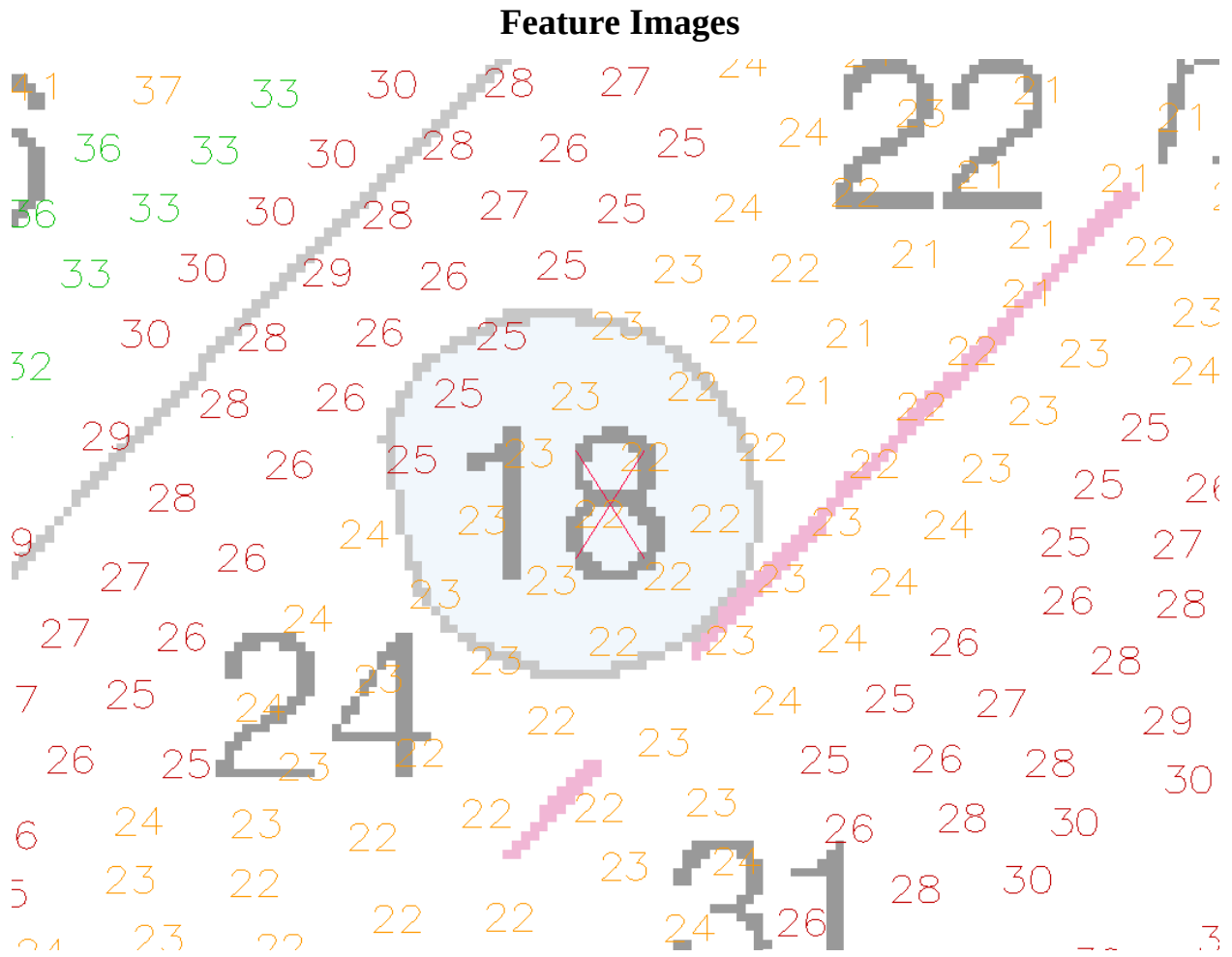
Address	Feature	Range	Azimuth	Status
h11251/tj_3101_reson8125/2008-295/023_1840	2522/149	0.00	000.0	Primary
ChartGPs - ENC US4NY1GM	Depth 37	38.05	316.9	Secondary (grouped)

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Sounding (SOUNDG)
Attributes: EXPSOU - 3:deeper than range of depth of the surrounding depth area
 QUASOU - 6:least depth known
 SORDAT - 20081021
 SORIND - US,US
 TECSOU - 3:found by multi-beam
 VERDAT - 12:Mean lower low water

*Figure 1.5.1*

H11251 Un-Charted Features Report

Registry Number: H11251
State: New York
Locality: Eastern Long Island Sound
Sub-locality: Truman Beach to Inlet point
Project Number: OPR-B370-TJ-08
Survey Dates: 09/24/2008 - 10/27/2008

Charts Affected

Number	Edition	Date	Scale (RNC)	RNC Correction(s)*
12358	20th	04/01/2008	1:40,000 (12358_1)	NGA NTM: None (06/07/2008) USCG LNM: None (06/03/2008) CHS NTM: None (04/25/2008)
12354	42nd	12/01/2006	1:80,000 (12354_1)	USCG LNM: 04/29/2008 (06/03/2008) CHS NTM: None (04/25/2008) NGA NTM: 12/04/1999 (06/07/2008)
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	Foul Area	Rock	[None]	41° 06' 10.9" N	072° 23' 26.6" W	---
1.2	Foul Area	Rock	[None]	41° 08' 25.9" N	072° 19' 19.7" W	---
1.3	Foul Area	Rock	[None]	41° 07' 20.8" N	072° 22' 07.2" W	---
1.4	Foul Area	Rock	[None]	41° 07' 12.4" N	072° 22' 25.3" W	---
1.5	14ft	Rock	4.26 m	41° 08' 39.3" N	072° 20' 29.6" W	---
1.6	13ft	Rock	3.91 m	41° 06' 21.6" N	072° 23' 21.6" W	---
1.7	17ft	Rock	5.35 m	41° 08' 25.6" N	072° 21' 23.5" W	---
1.8	45ft	Rock	13.86 m	41° 08' 43.2" N	072° 21' 42.4" W	---
1.9	47ft	Rock	14.45 m	41° 09' 02.8" N	072° 20' 59.2" W	---

1.10	36ft	Shoal	11.23 m	41° 09' 14.4" N	072° 19' 15.6" W	---
1.11	12ft	Rock	3.66 m	41° 08' 26.7" N	072° 21' 18.9" W	---
1.12	14ft	Rock	4.37 m	41° 07' 05.2" N	072° 22' 49.3" W	---
1.13	21ft	Rock	6.46 m	41° 07' 20.6" N	072° 22' 17.2" W	---
1.14	13ft	Rock	4.17 m	41° 06' 33.3" N	072° 23' 13.8" W	---
1.15	43ft	Rock	13.26 m	41° 08' 45.6" N	072° 20' 57.8" W	---
1.16	7ft	Rock	2.29 m	41° 07' 27.1" N	072° 21' 59.3" W	---
1.17	13ft	Rock	3.99 m	41° 08' 26.4" N	072° 20' 07.0" W	---
1.18	12ft	Rock	3.80 m	41° 08' 29.5" N	072° 19' 21.5" W	---
1.19	Foul Area	Rock	2.53 m	41° 08' 26.9" N	072° 20' 12.3" W	---
1.20	11ft	Rock	3.41 m	41° 08' 21.4" N	072° 21' 21.7" W	---
1.21	8ft	Rock	2.72 m	41° 07' 15.5" N	072° 22' 20.0" W	---
1.22	Foul Area	Rock	2.88 m	41° 08' 32.4" N	072° 20' 20.3" W	---
1.23	Foul Area	Rock	3.91 m	41° 08' 19.2" N	072° 21' 21.2" W	---
1.24	8ft	Rock	2.60 m	41° 06' 54.6" N	072° 23' 00.8" W	---
1.25	48ft	Rock	14.83 m	41° 08' 27.9" N	072° 21' 51.3" W	---
1.26	60ft	Rock	18.51 m	41° 07' 20.2" N	072° 24' 13.2" W	---
1.27	54ft	Rock	16.55 m	41° 08' 37.6" N	072° 21' 55.7" W	---
1.28	47ft	Rock	14.30 m	41° 09' 22.6" N	072° 19' 28.1" W	---
1.29	Foul Area	Rock	6.40 m	41° 08' 31.9" N	072° 20' 53.2" W	---
1.30	Foul Area	Rock	3.47 m	41° 07' 47.9" N	072° 21' 38.2" W	---
1.31	16ft	Rock	4.98 m	41° 08' 29.9" N	072° 19' 41.0" W	---
1.32	14ft	Rock	4.44 m	41° 08' 59.9" N	072° 19' 45.6" W	---
1.33	17ft	Rock	5.35 m	41° 09' 01.8" N	072° 19' 35.1" W	---
1.34	46ft	Rock	14.21 m	41° 08' 57.2" N	072° 20' 57.4" W	---
1.35	Foul Area	Rock	2.99 m	41° 06' 39.6" N	072° 23' 04.7" W	---
1.36	Foul Area	Rock	3.38 m	41° 07' 15.7" N	072° 22' 19.2" W	---
1.37	54ft	Rock	16.57 m	41° 08' 45.0" N	072° 21' 44.1" W	---

1 - DR_UnCharted

1.1) Foul Area

Survey Summary

Survey Position: 41° 06' 10.9" N, 072° 23' 26.6" W
Least Depth: [None]
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 2008-288.10:32:28 (10/14/2008)
Survey Line: h11251 / tj_3102_klein5000_sss100 / 2008-287 / 100_1529
Contact/Point: 0004/1
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Rocky area acquired with SSS buffer line. Unable to acquire complete MB coverage, unsafe to MB survey. Chart as Foul Area.

Feature Correlation

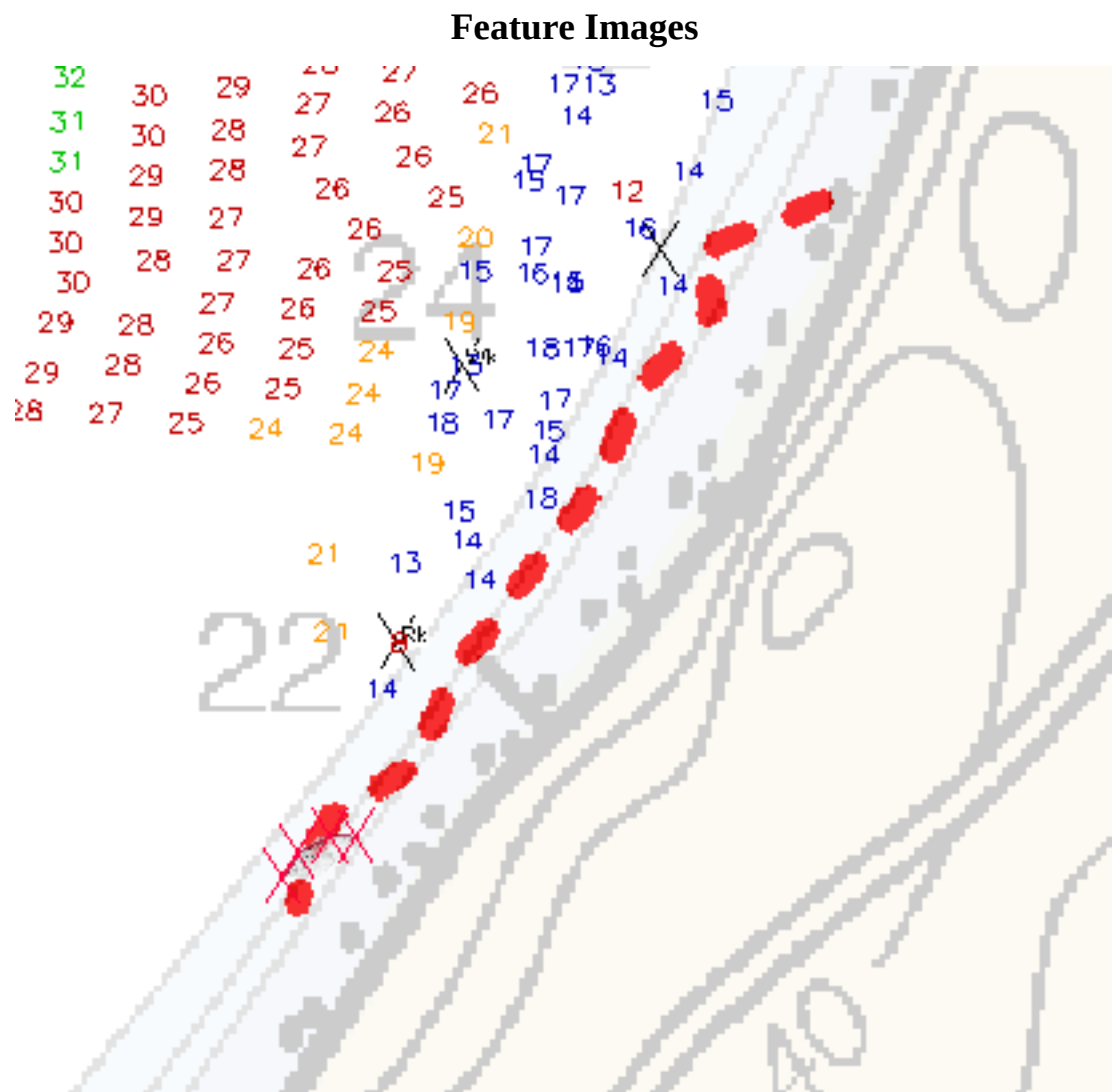
Address	Feature	Range	Azimuth	Status
h11251/tj_3102_klein5000_sss100/2008-287/100_1529	0004	0.00	000.0	Primary

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Underwater rock / awash rock (UWTROC)
Attributes: QUASOU - 2:depth unknown
 SORDAT - 20081013
 SORIND - US,US
 TECSOU - 2:found by side scan sonar
 VERDAT - 12:Mean lower low water
 WATLEV - 3:always under water/submerged

*Figure 1.1.1*

1.2) Foul Area

Survey Summary

Survey Position: 41° 08' 25.9" N, 072° 19' 19.7" W
Least Depth: [None]
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 2008-289.01:23:09 (10/15/2008)
Survey Line: h11251 / tj_3102_klein5000_sss100 / 2008-287 / 100_1532
Contact/Point: 0007/1
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Rocky area acquired with SSS buffer line. Unable to acquire complete MB coverage, unsafe to MB survey. Chart as Foul Area.

Feature Correlation

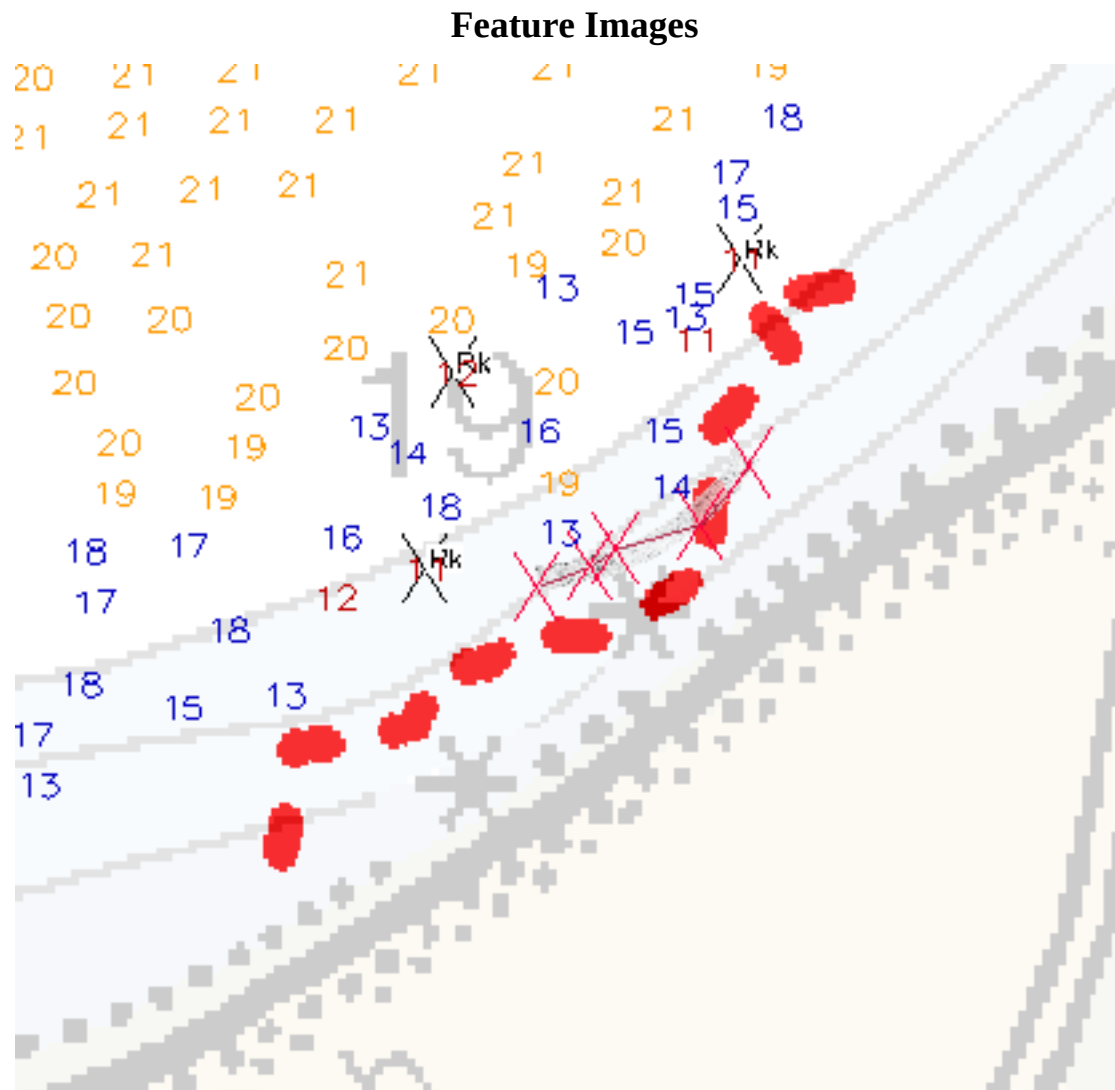
Address	Feature	Range	Azimuth	Status
h11251/tj_3102_klein5000_sss100/2008-287/100_1532	0007	0.00	000.0	Primary
H11252_Junction_West_Dangers.tgt	9	41.87	160.2	Secondary
H11252_Junction_West_Dangers.tgt	8	49.49	173.8	Secondary
H11252_Junction_West_Dangers.tgt	2	59.04	168.0	Secondary (grouped)

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Underwater rock / awash rock (UWTROC)
Attributes: QUASOU - 2:depth unknown
 SORDAT - 20081013
 SORIND - US,US
 TECSOU - 2:found by side scan sonar
 WATLEV - 3:always under water/submerged

*Figure 1.2.1*

1.3) Foul Area

Survey Summary

Survey Position: 41° 07' 20.8" N, 072° 22' 07.2" W
Least Depth: [None]
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 2008-288.10:00:09 (10/14/2008)
Survey Line: h11251 / tj_3102_klein5000_sss100 / 2008-287 / 100_1530
Contact/Point: 0013/1
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Rocky area acquired with SSS buffer line. Unable to acquire complete MB coverage, unsafe to MB survey. Chart as Foul Area.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_3102_klein5000_sss100/2008-287/100_1530	0013	0.00	000.0	Primary

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Underwater rock / awash rock (UWTROC)
Attributes: QUASOU - 2:depth unknown
 SORDAT - 20081013
 SORIND - US,US
 TECSOU - 2:found by side scan sonar
 WATLEV - 3:always under water/submerged

Feature Images

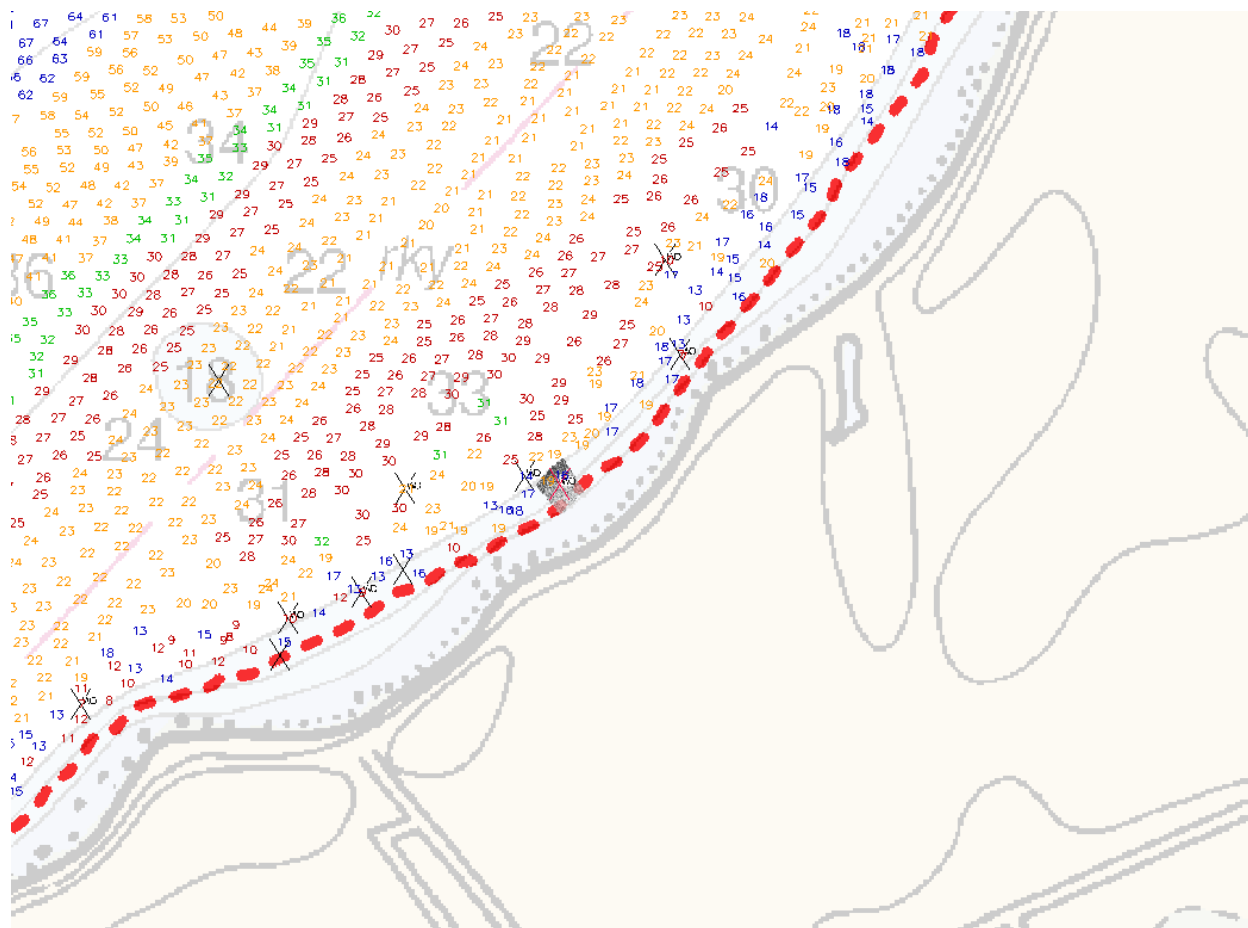


Figure 1.3.1

1.4) Foul Area

Survey Summary

Survey Position: 41° 07' 12.4" N, 072° 22' 25.3" W
Least Depth: [None]
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 2008-288.09:52:16 (10/14/2008)
Survey Line: h11251 / tj_3102_klein5000_sss100 / 2008-287 / 100_1530
Contact/Point: 0008/1
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Rocky area acquired with SSS buffer line. Unable to acquire complete MB coverage, unsafe to MB survey. Chart as Foul Area.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_3102_klein5000_sss100/2008-287/100_1530	0008	0.00	000.0	Primary

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Underwater rock / awash rock (UWTROC)
Attributes: QUASOU - 2:depth unknown
 SORDAT - 20081013
 SORIND - US,US
 TECSOU - 2:found by side scan sonar
 WATLEV - 3:always under water/submerged

Feature Images

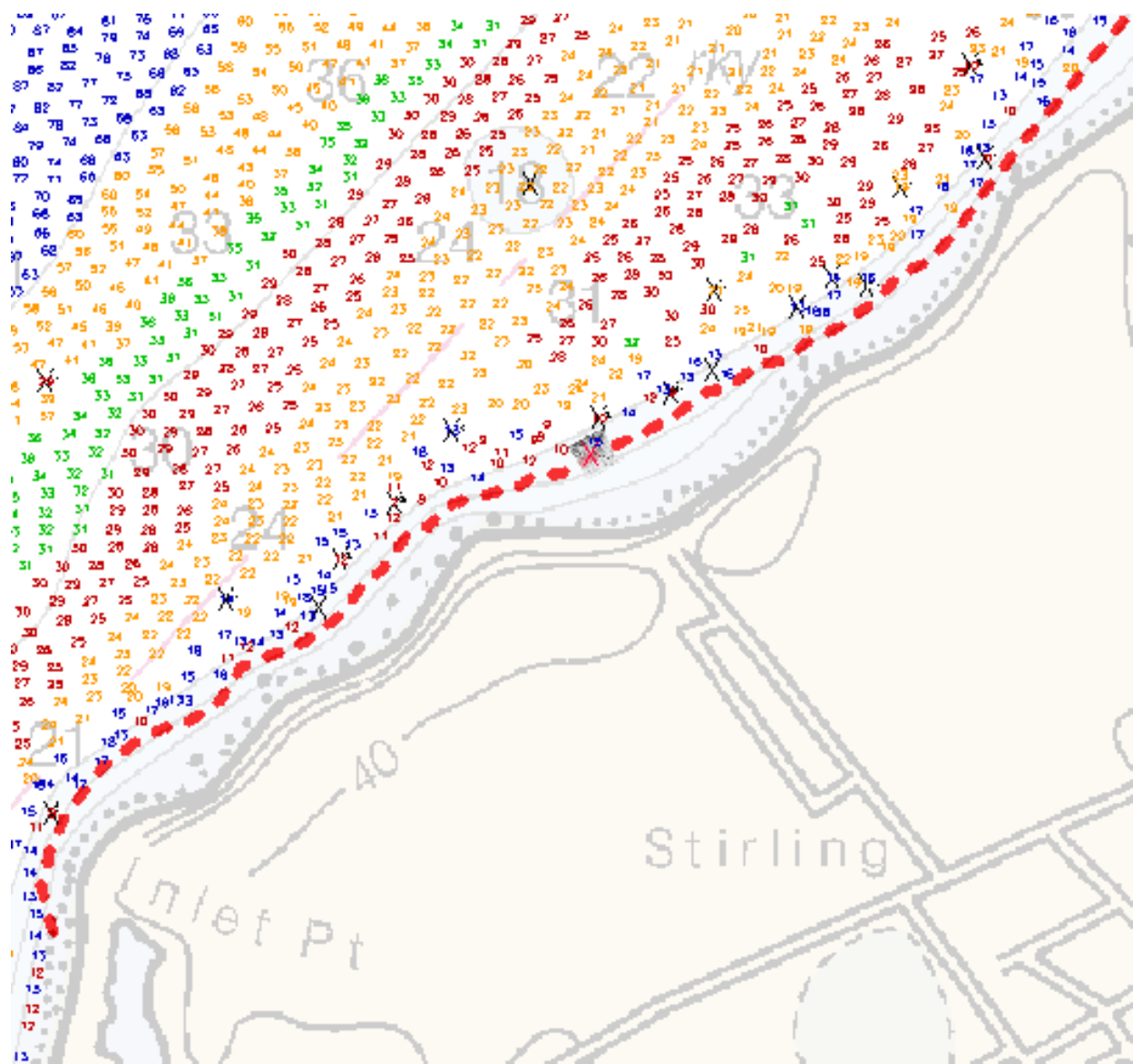


Figure 1.4.1

1.5) 14ft**Survey Summary**

Survey Position: 41° 08' 39.3" N, 072° 20' 29.6" W
Least Depth: 4.26 m (= 13.99 ft = 2.331 fm = 2 fm 1.99 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 0.980 m ; **TVU (TPEv)** ± 0.390 m
Timestamp: 2008-297.13:58:52.348 (10/23/2008)
Survey Line: h11251 / tj_3102_reson8101 / 2008-297 / 024_1358
Profile/Beam: 150/32
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted rock with a least depth sounding of 13.99ft (4.26m). Least depth acquired by Reson 8125 and corrected to MLLW using final water levels and final zoning was applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_3102_reson8101/2008-297/024_1358	150/32	0.00	000.0	Primary
h11251/tj_3102_reson8101/2008-297/026_1406	190/43	55.11	314.8	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/156_1400	196/1	56.76	245.7	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/024_1358	315/5	60.66	073.3	Secondary (grouped)
h11251/tj_3101_reson8125/2008-282/463_1843	3242/108	60.99	098.8	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/033_1357	150/3	61.19	159.7	Secondary (grouped)
h11251/tj_3101_reson8125/2008-282/459_1956	4399/87	64.29	347.0	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/025_1402	79/20	66.74	274.4	Secondary (grouped)
h11251/tj_3101_reson8125/2008-282/460_1921	5641/126	68.82	044.9	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/031_1355	367/1	70.98	120.8	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/027_1404	53/1	71.67	283.5	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/033_1357	73/9	77.77	139.3	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/023_1514	462/36	78.81	346.9	Secondary (grouped)
h11251/tj_3101_reson8125/2008-282/465_1734	3810/37	82.14	228.1	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/026_1406	93/38	85.67	300.7	Secondary (grouped)
h11251/tj_3101_reson8125/2008-282/461_1907	2632/114	96.92	072.1	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/031_1355	442/13	99.49	118.9	Secondary (grouped)
h11251/tj_3101_reson8125/2008-282/464_1722	8067/107	100.47	103.0	Secondary (grouped)

h11251/tj_3102_reson8101/2008-297/029_1349	18/3	101.12	236.4	Secondary (grouped)
h11251/tj_3101_reson8125/2008-282/461_1907	3319/138	106.82	284.8	Secondary (grouped)
h11251/tj_3102_reson8101/2008-287/466_2023	4897/2	109.48	247.6	Secondary (grouped)
h11251/tj_3101_reson8125/2008-282/461_1907	3367/3	118.17	277.1	Secondary (grouped)
h11251/tj_3102_reson8101/2008-287/467_2033	2554/95	127.99	237.9	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/028_1352	295/38	128.50	236.7	Secondary (grouped)
h11251/tj_3101_reson8125/2008-282/458_2009	5645/217	128.65	051.0	Secondary (grouped)
h11251/tj_3101_reson8125/2008-282/461_1907	3481/228	153.26	282.4	Secondary (grouped)
h11251/tj_3101_reson8125/2008-282/463_1843	4139/37	156.97	261.8	Secondary (grouped)

Hydrographer Recommendations

[None]

S-57 Data

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

Attributes: QUASOU - 6:least depth known
 SORDAT - 20081023
 SORIND - US,US
 STATUS - 1:permanent
 TECSOU - 3:found by multi-beam
 VALSOU - 4.263 m
 VERDAT - 12:Mean lower low water
 WATLEV - 3:always under water/submerged

Feature Images

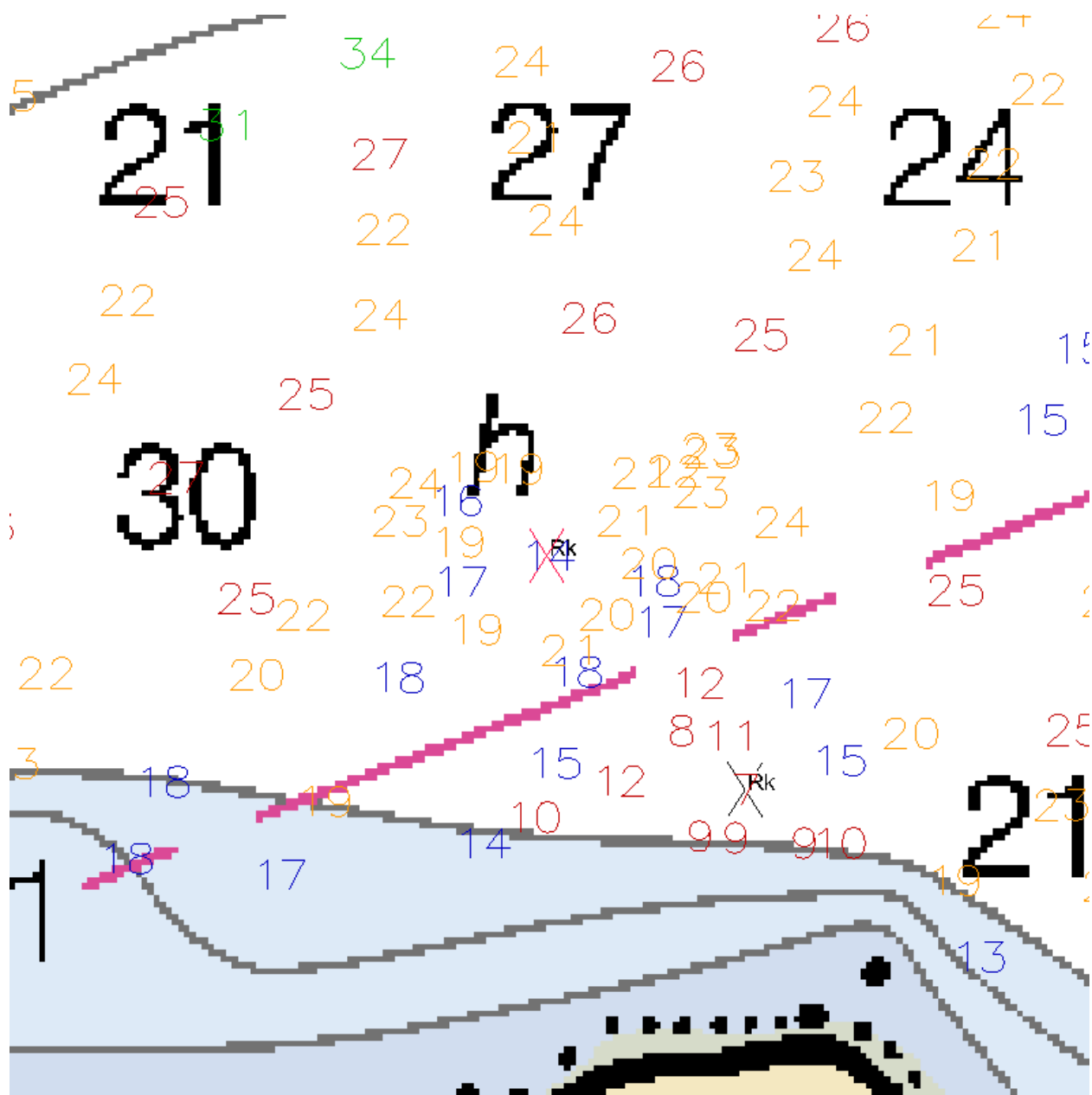


Figure 1.5.1

1.6) 13ft**Survey Summary**

Survey Position: 41° 06' 21.6" N, 072° 23' 21.6" W
Least Depth: 3.91 m (= 12.83 ft = 2.138 fm = 2 fm 0.83 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 0.981 m ; **TVU (TPEv)** ± 0.401 m
Timestamp: 2008-301.12:59:24.327 (10/27/2008)
Survey Line: h11251 / tj_3101_reson8125 / 2008-301 / 003_1255
Profile/Beam: 2467/30
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted rock with a least depth sounding of 12.83ft (3.91m). Least depth acquired by Reson 8125 and corrected to MLLW using final water levels and final zoning was applied.

Feature Correlation

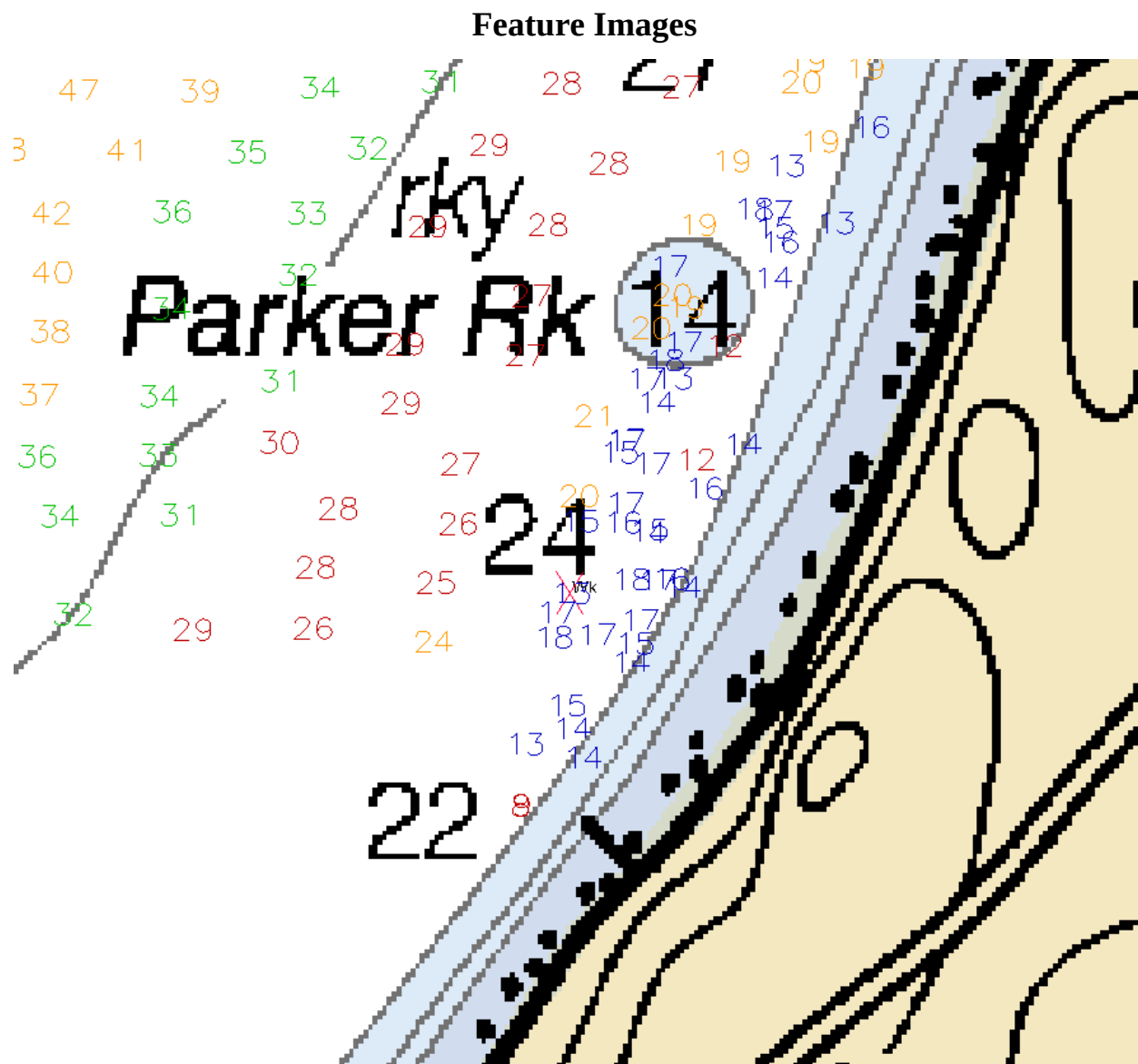
Address	Feature	Range	Azimuth	Status
h11251/tj_3101_reson8125/2008-301/003_1255	2467/30	0.00	000.0	Primary

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Underwater rock / awash rock (UWTROC)
Attributes: QUASOU - 6:least depth known
 SORDAT - 20081027
 SORIND - US,US
 STATUS - 1:permanent
 TECSOU - 3:found by multi-beam
 VALSOU - 3.910 m
 VERDAT - 12:Mean lower low water
 WATLEV - 3:always under water/submerged

*Figure 1.6.1*

1.7) 17ft**Survey Summary**

Survey Position: 41° 08' 25.6" N, 072° 21' 23.5" W
Least Depth: 5.35 m (= 17.54 ft = 2.924 fm = 2 fm 5.54 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 0.980 m ; **TVU (TPEv)** ± 0.401 m
Timestamp: 2008-288.13:50:02.843 (10/14/2008)
Survey Line: h11251 / tj_3101_reson8125 / 2008-288 / 398_1348
Profile/Beam: 851/137
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted rock with a least depth sounding of 17.54 ft (5.35m). Least depth acquired by Reson 8125 and corrected to MLLW using final water levels and final zoning was applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_3101_reson8125/2008-288/398_1348	851/137	0.00	000.0	Primary
h11251/tj_3102_klein5000_sss100/2008-281/041_1805	0001	2.14	196.4	Secondary (grouped)
h11251/tj_3102_klein5000_sss100/2008-281/115_1746	0002	2.27	123.7	Secondary (grouped)
h11251/tj_3102_klein5000_sss100/2008-281/114_2059	0002	4.41	306.6	Secondary (grouped)
h11251/tj_3102_klein5000_sss100/2008-287/100_1531	0009	13.20	320.7	Secondary (grouped)
h11251/tj_3101_reson8125/2008-288/406_1338	674/178	28.80	113.9	Secondary (grouped)
h11251/tj_3101_reson8125/2008-295/049_2010	9393/6	38.62	304.8	Secondary (grouped)
h11251/tj_3102_reson8101/2008-299/018_1352	7667/101	55.44	294.2	Secondary (grouped)
h11251/tj_3101_reson8125/2008-288/398_1348	1093/95	61.20	034.6	Secondary (grouped)
h11251/tj_3101_reson8125/2008-295/049_2010	9312/189	63.79	326.6	Secondary (grouped)
h11251/tj_3101_reson8125/2008-288/527_1334	2923/111	65.31	087.0	Secondary (grouped)
h11251/tj_3101_reson8125/2008-297/015_1518	1531/202	79.31	336.4	Secondary (grouped)

Hydrographer Recommendations

[None]

S-57 Data

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

Attributes: QUASOU - 6:least depth known
SORDAT - 20081014
SORIND - US,US
STATUS - 1:permanent
TECSOU - 2,3:found by side scan sonar,found by multi-beam
VALSOU - 5.347 m
VERDAT - 12:Mean lower low water
WATLEV - 3:always under water/submerged

Feature Images

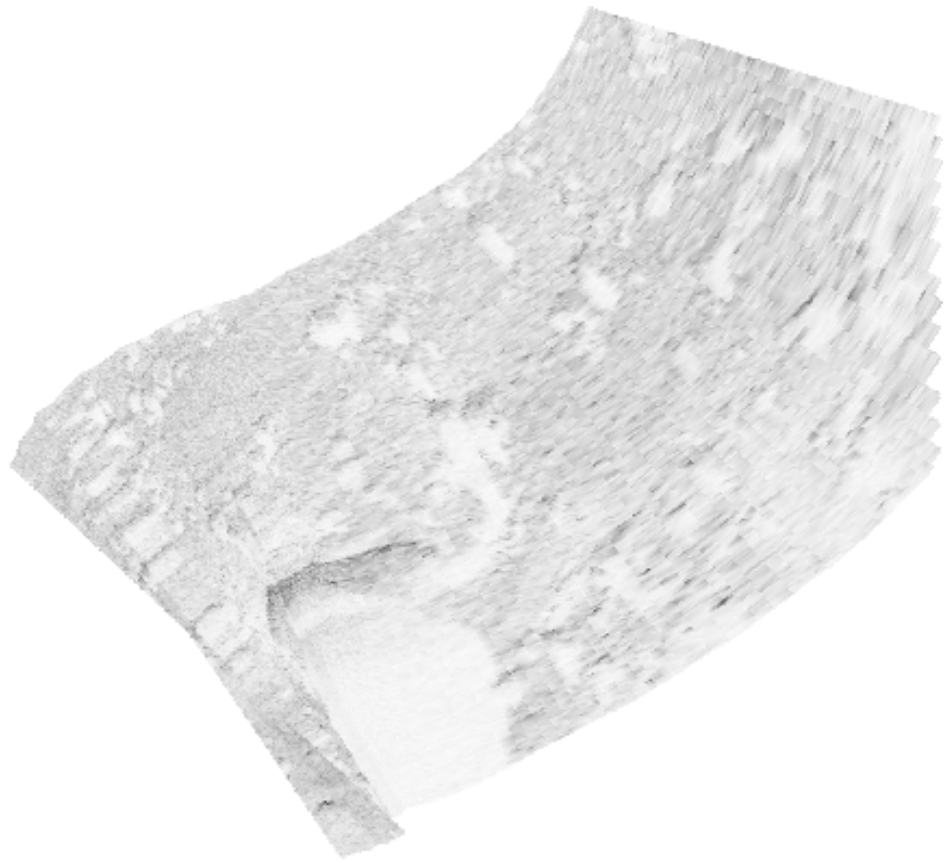


Figure 1.7.1

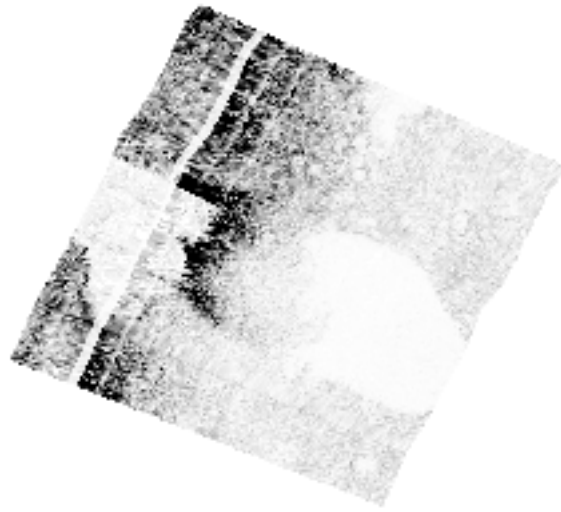


Figure 1.7.2

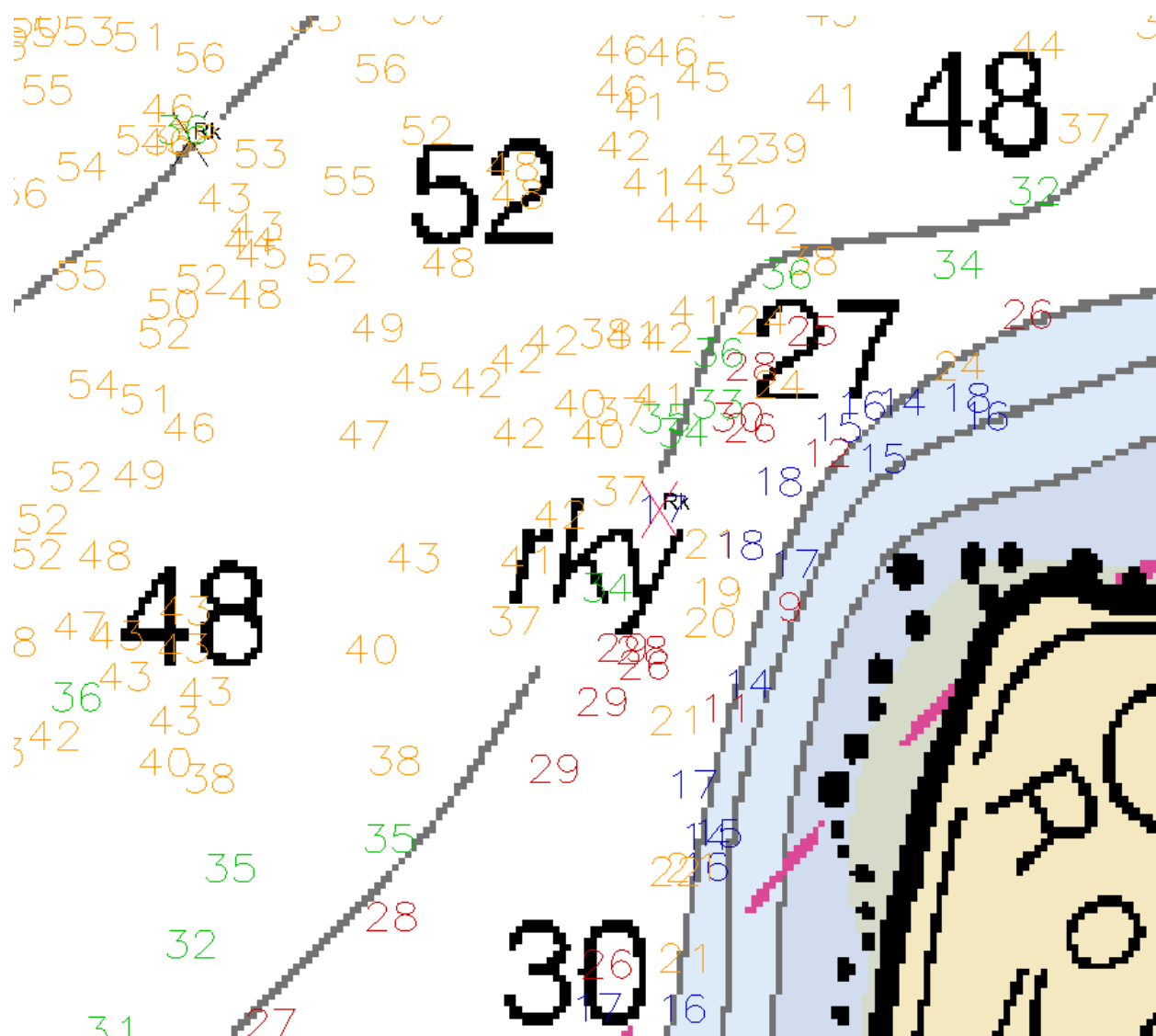


Figure 1.7.3

1.8) 45ft**Survey Summary**

Survey Position: 41° 08' 43.2" N, 072° 21' 42.4" W
Least Depth: 13.86 m (= 45.46 ft = 7.577 fm = 7 fm 3.46 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 0.984 m ; **TVU (TPEv)** ± 0.407 m
Timestamp: 2008-300.14:48:39.852 (10/26/2008)
Survey Line: h11251 / tj_3101_reson8125 / 2008-300 / 058_1448
Profile/Beam: 85/145
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted rock with a least depth sounding of 45.46ft (13.86m). Least depth acquired by Reson 8125 and corrected to MLLW using final water levels and final zoning was applied.

Feature Correlation

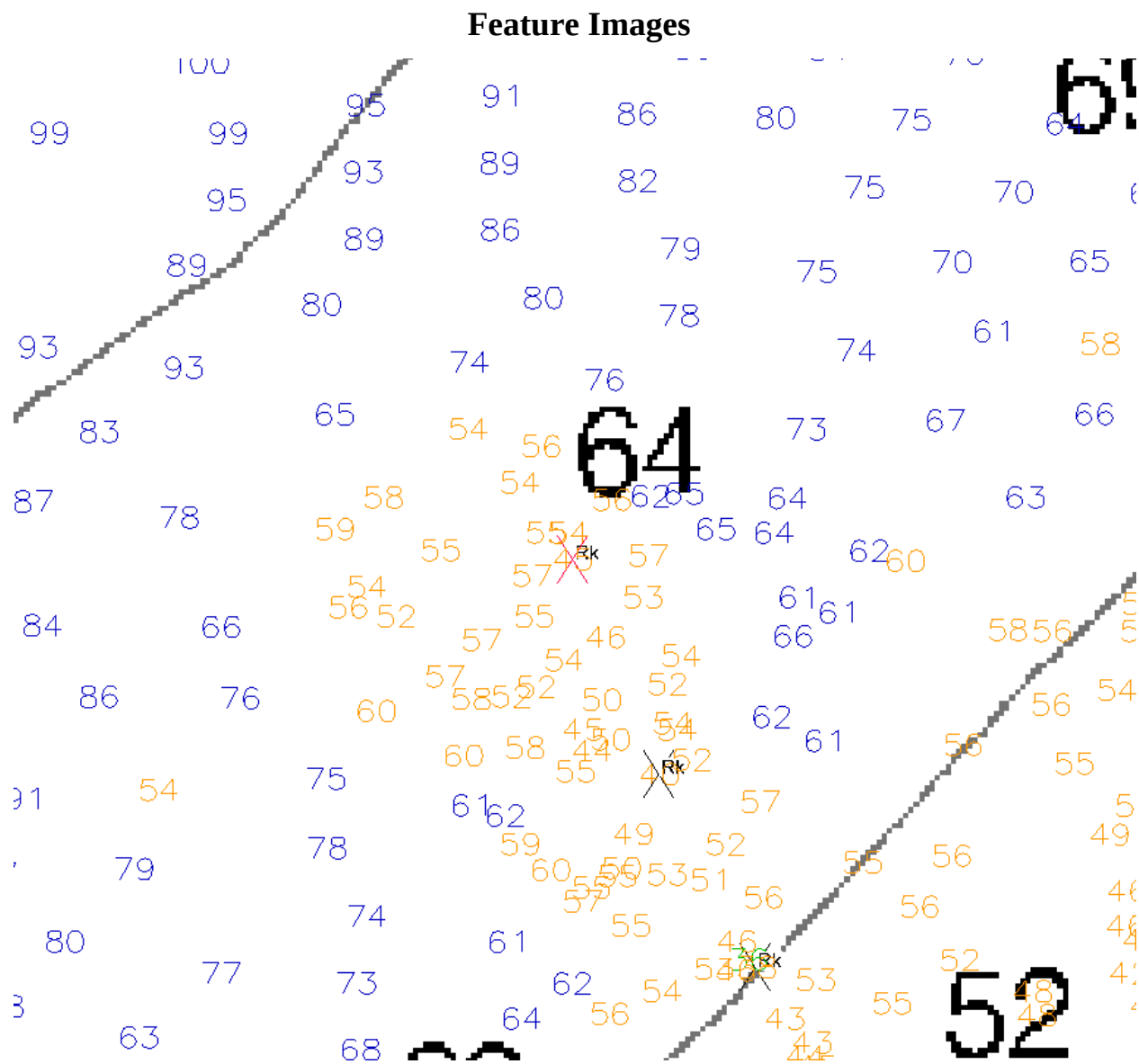
Address	Feature	Range	Azimuth	Status
h11251/tj_3101_reson8125/2008-300/058_1448	85/145	0.00	000.0	Primary
h11251/tj_s222_reson7125_port/2008-297/036_1342	557/24	70.36	145.4	Secondary (grouped)

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Underwater rock / awash rock (UWTROC)
Attributes: QUASOU - 1:depth known
 SORDAT - 20081026
 SORIND - US,US
 STATUS - 1:permanent
 TECSOU - 3:found by multi-beam
 VALSOU - 13.857 m
 VERDAT - 12:Mean lower low water
 WATLEV - 3:always under water/submerged



1.9) 47ft**Survey Summary**

Survey Position: 41° 09' 02.8" N, 072° 20' 59.2" W
Least Depth: 14.45 m (= 47.41 ft = 7.902 fm = 7 fm 5.41 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 1.019 m ; **TVU (TPEv)** ± 0.402 m
Timestamp: 2008-268.18:28:15.582 (09/24/2008)
Survey Line: h11251 / tj_s222_reson7125_port / 2008-268 / 006_1801
Profile/Beam: 2918/253
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted rock with a least depth sounding of 47.41ft (14.45m). Least depth acquired by Reson 7125 and corrected to MLLW using final water levels and final zoning was applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_s222_reson7125_port/2008-268/006_1801	2918/253	0.00	000.0	Primary

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Underwater rock / awash rock (UWTROC)
Attributes: QUASOU - 6:least depth known
 SORDAT - 20080924
 SORIND - US,US
 STATUS - 1:permanent
 TECSOU - 3:found by multi-beam
 VALSOU - 14.452 m
 VERDAT - 12:Mean lower low water
 WATLEV - 3:always under water/submerged

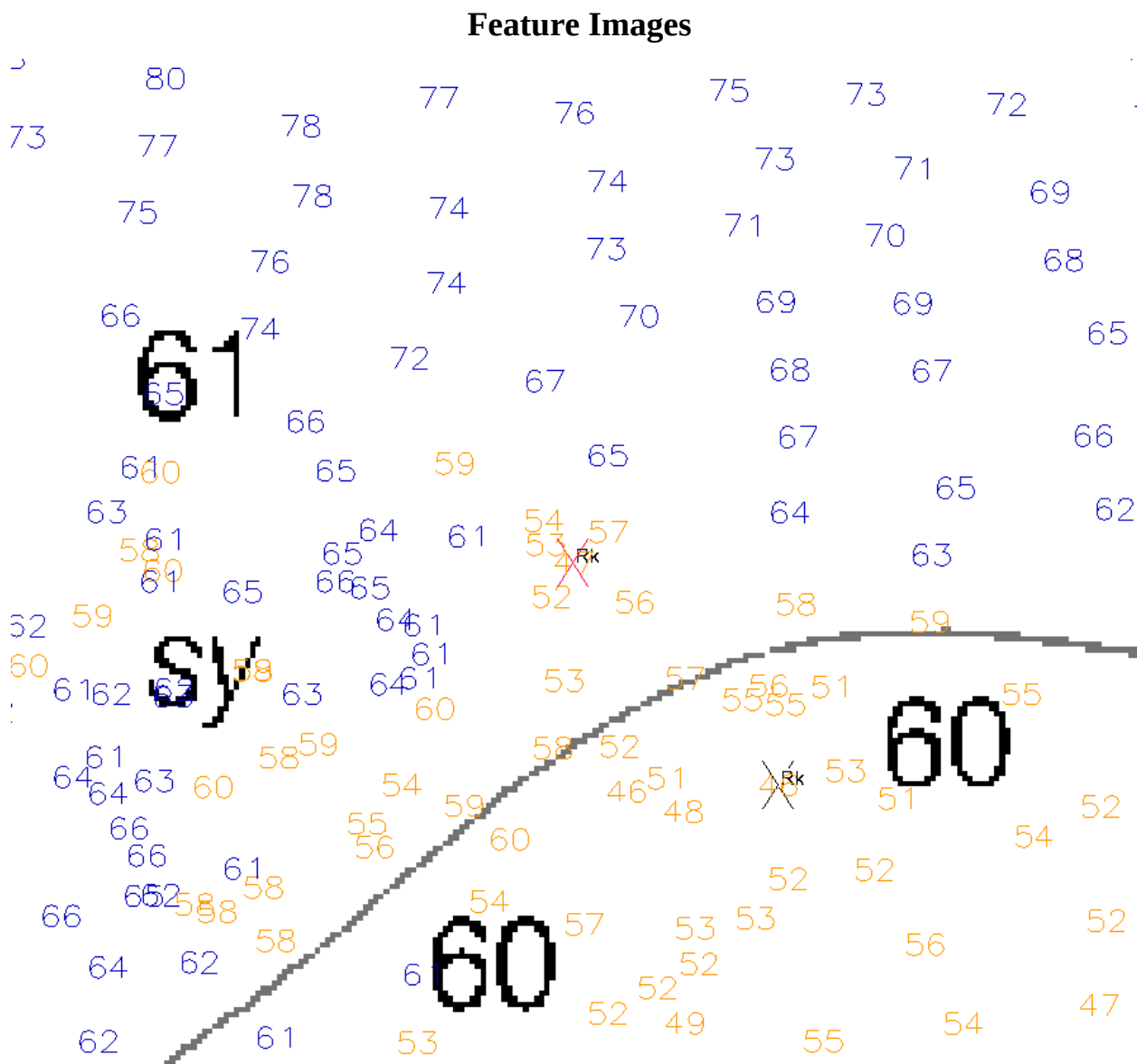


Figure 1.9.1

1.10) 36ft**Survey Summary**

Survey Position: 41° 09' 14.4" N, 072° 19' 15.6" W
Least Depth: 11.23 m (= 36.83 ft = 6.138 fm = 6 fm 0.83 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 0.982 m ; **TVU (TPEv)** ± 0.404 m
Timestamp: 2008-282.14:39:52.050 (10/08/2008)
Survey Line: h11251 / tj_3101_reson8125 / 2008-282 / 593_1439
Profile/Beam: 77/148
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted rock with a least depth sounding of 36.83ft (11.23m). Least depth acquired by Reson 8125 and corrected to MLLW using final water levels and final zoning was applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_3101_reson8125/2008-282/593_1439	77/148	0.00	000.0	Primary
h11251/tj_3101_reson8125/2008-282/593_1439	87/240	16.14	161.2	Secondary (grouped)

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Sounding (SOUNDG)
Attributes: EXPSOU - 2:shoaler than range of depth of the surrounding depth area
 QUASOU - 6:least depth known
 SORDAT - 20081008
 SORIND - US,US
 TECSOU - 2,3:found by side scan sonar,found by multi-beam
 VERDAT - 12:Mean lower low water

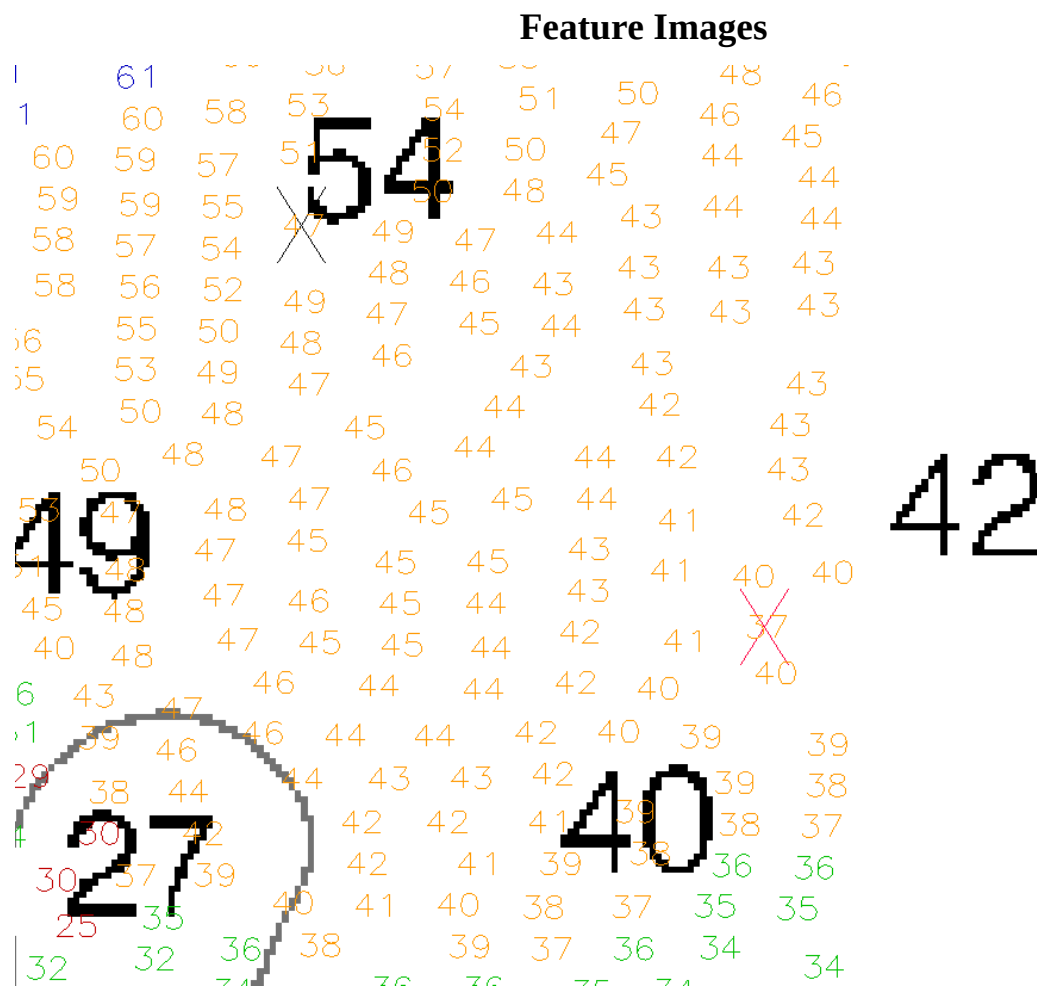


Figure 1.10.1

1.11) 12ft**Survey Summary**

Survey Position: 41° 08' 26.7" N, 072° 21' 18.9" W
Least Depth: 3.66 m (= 12.01 ft = 2.001 fm = 2 fm 0.01 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 0.981 m ; **TVU (TPEv)** ± 0.402 m
Timestamp: 2008-295.20:22:14.267 (10/21/2008)
Survey Line: h11251 / tj_3101_reson8125 / 2008-295 / 049_2010
Profile/Beam: 9667/222
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted rock with a least depth sounding of 12.01ft (3.66m). Least depth acquired by Reson 8125 and corrected to MLLW using final water levels and final zoning was applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_3101_reson8125/2008-295/049_2010	9667/222	0.00	000.0	Primary
h11251/tj_3102_klein5000_sss100/2008-287/100_1531	0011	8.30	007.9	Secondary (grouped)
h11251/tj_3102_reson8101/2008-299/018_1352	7026/99	17.25	200.8	Secondary (grouped)
h11251/tj_3102_reson8101/2008-299/018_1352	6979/2	35.51	275.9	Secondary (grouped)
h11251/tj_3101_reson8125/2008-295/049_2010	9795/230	38.05	216.3	Secondary (grouped)
h11251/tj_3102_reson8101/2008-282/579_1841	3108/8	51.23	108.2	Secondary (grouped)
h11251/tj_3102_klein5000_sss100/2008-287/100_1531	0012	52.13	273.4	Secondary (grouped)
h11251/tj_3101_reson8125/2008-288/398_1348	444/8	53.44	145.8	Secondary (grouped)
h11251/tj_3102_reson8101/2008-299/018_1352	6731/13	58.44	236.2	Secondary (grouped)
h11251/tj_3101_reson8125/2008-288/398_1348	552/61	61.33	111.9	Secondary (grouped)
h11251/tj_3101_reson8125/2008-288/406_1338	438/30	76.50	114.3	Secondary (grouped)
h11251/tj_3102_reson8101/2008-287/100_1648	13267/1	96.43	248.4	Secondary (grouped)
h11251/tj_3102_reson8101/2008-279/613_1638	89/8	105.41	256.9	Secondary (grouped)

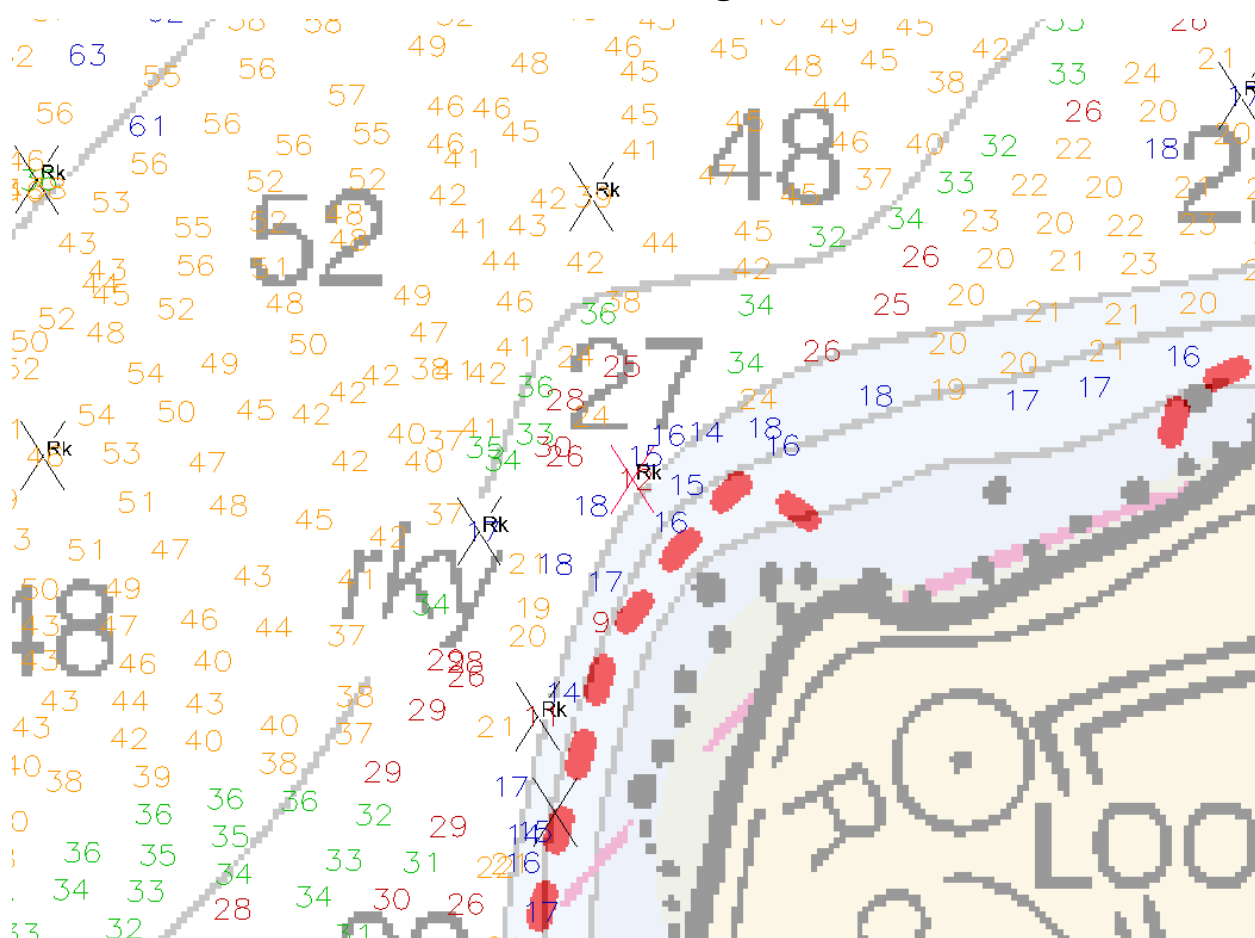
Hydrographer Recommendations

[None]

S-57 Data

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

Attributes: QUASOU - 6:least depth known
SORDAT - 20081021
SORIND - US,US
TECSOU - 3:found by multi-beam
VALSOU - 3.660 m
VERDAT - 12:Mean lower low water
WATLEV - 3:always under water/submerged

Feature Images*Figure 1.11.1*

1.12) 14ft**Survey Summary**

Survey Position: 41° 07' 05.2" N, 072° 22' 49.3" W
Least Depth: 4.37 m (= 14.32 ft = 2.387 fm = 2 fm 2.32 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 0.980 m ; **TVU (TPEv)** ± 0.400 m
Timestamp: 2008-295.18:48:42.261 (10/21/2008)
Survey Line: h11251 / tj_3101_reson8125 / 2008-295 / 141_1848
Profile/Beam: 178/182
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted rock with a least depth sounding of 14.32ft (4.37m). Least depth acquired by Reson 8125 and corrected to MLLW using final water levels and final zoning was applied.

Feature Correlation

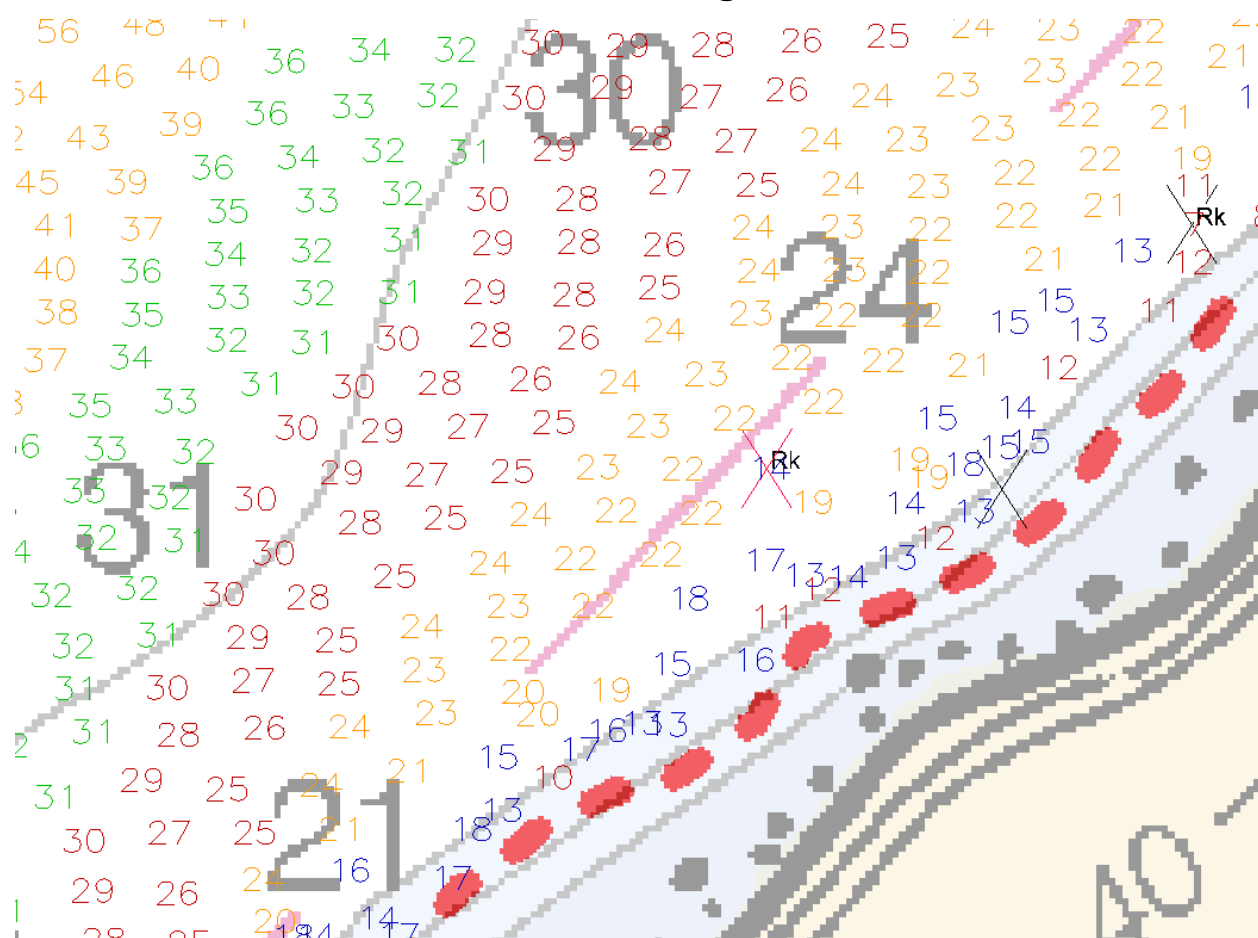
Address	Feature	Range	Azimuth	Status
h11251/tj_3101_reson8125/2008-295/141_1848	178/182	0.00	000.0	Primary

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Underwater rock / awash rock (UWTROC)
Attributes: QUASOU - 6:least depth known
 SORDAT - 20081021
 SORIND - US,US
 TECSOU - 3:found by multi-beam
 VALSOU - 4.366 m
 VERDAT - 12:Mean lower low water
 WATLEV - 3:always under water/submerged

Feature Images*Figure 1.12.1*

1.13) 21ft**Survey Summary**

Survey Position: 41° 07' 20.6" N, 072° 22' 17.2" W
Least Depth: 6.46 m (= 21.19 ft = 3.532 fm = 3 fm 3.19 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 0.981 m ; **TVU (TPEv)** ± 0.402 m
Timestamp: 2008-297.14:00:16.607 (10/23/2008)
Survey Line: h11251 / tj_3101_reson8125 / 2008-297 / 008_1359
Profile/Beam: 1043/203
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted rock with a least depth sounding of 21.19ft (6.46m). Least depth acquired by Reson 8125 and corrected to MLLW using final water levels and final zoning was applied.

Feature Correlation

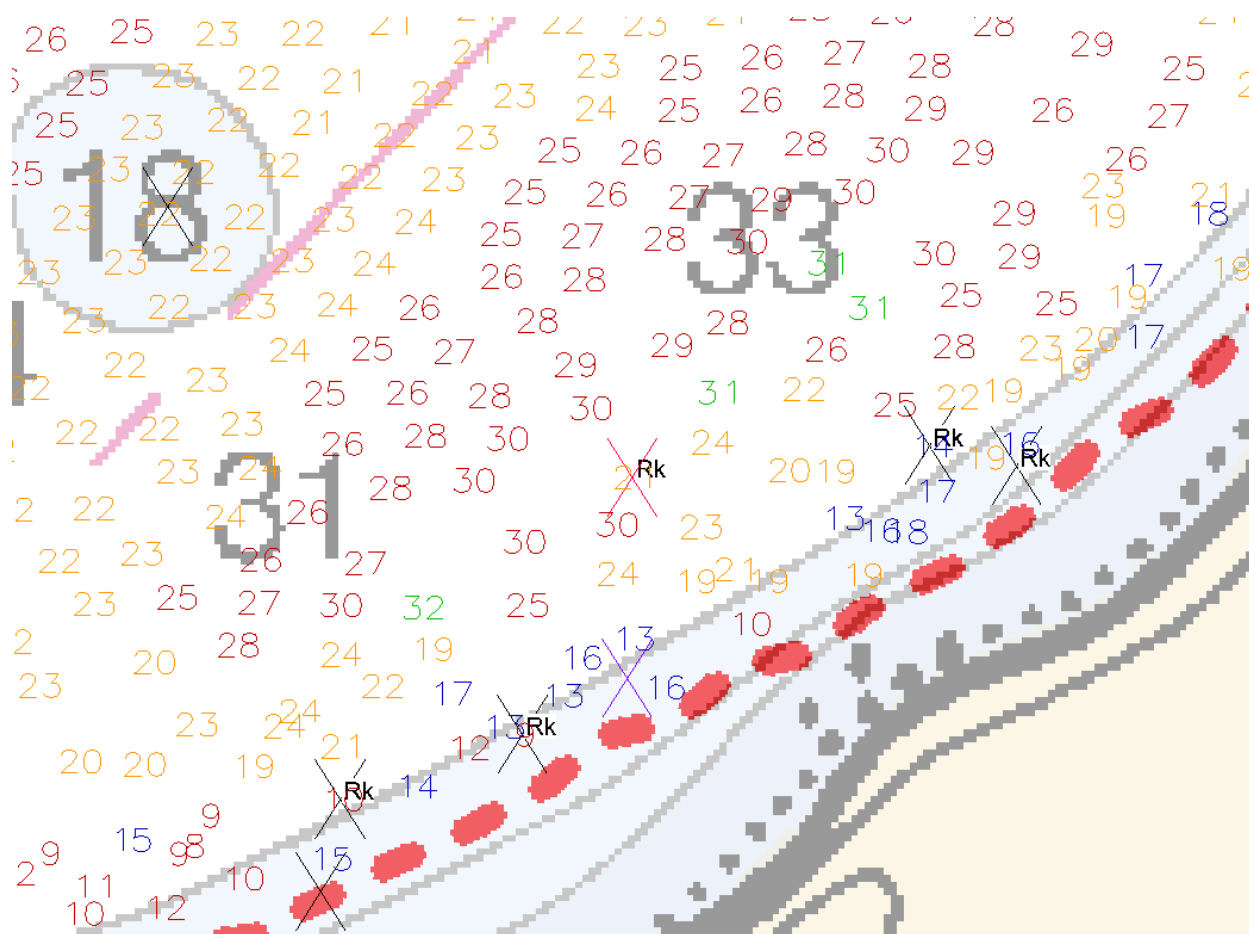
Address	Feature	Range	Azimuth	Status
h11251/tj_3101_reson8125/2008-297/008_1359	1043/203	0.00	000.0	Primary

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Underwater rock / awash rock (UWTROC)
Attributes: QUASOU - 6:least depth known
 SORDAT - 20081023
 SORIND - US,US
 TECSOU - 3:found by multi-beam
 VALSOU - 6.460 m
 VERDAT - 12:Mean lower low water
 WATLEV - 3:always under water/submerged

Feature Images*Figure 1.13.1*

1.14) 13ft**Survey Summary**

Survey Position: 41° 06' 33.3" N, 072° 23' 13.8" W
Least Depth: 4.17 m (= 13.67 ft = 2.279 fm = 2 fm 1.67 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 0.981 m ; **TVU (TPEv)** ± 0.402 m
Timestamp: 2008-297.18:33:26.255 (10/23/2008)
Survey Line: h11251 / tj_3101_reson8125 / 2008-297 / 116_1832
Profile/Beam: 1326/239
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted rock with a least depth sounding of 13.67ft (4.17m). Least depth acquired by Reson 8125 and corrected to MLLW using final water levels and final zoning was applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_3101_reson8125/2008-297/116_1832	1326/239	0.00	000.0	Primary
h11251/tj_3102_klein5000_sss100/2008-287/100_1529	0011	4.05	340.6	Secondary (grouped)
h11251/tj_3102_reson8101/2008-287/100_1739	2318/91	35.36	235.2	Secondary (grouped)
h11251/tj_3101_reson8125/2008-295/055_1924	1880/50	46.57	094.3	Secondary (grouped)
h11251/tj_3102_reson8101/2008-287/100_1739	2447/5	71.57	191.0	Secondary (grouped)
h11251/tj_3102_reson8101/2008-287/100_1739	2498/2	89.73	191.4	Secondary (grouped)
h11251/tj_3102_reson8101/2008-287/100_1648	30326/27	106.65	219.2	Secondary (grouped)
h11251/tj_3102_reson8101/2008-287/100_1648	30209/10	144.93	213.4	Secondary (grouped)

Hydrographer Recommendations

[None]

S-57 Data

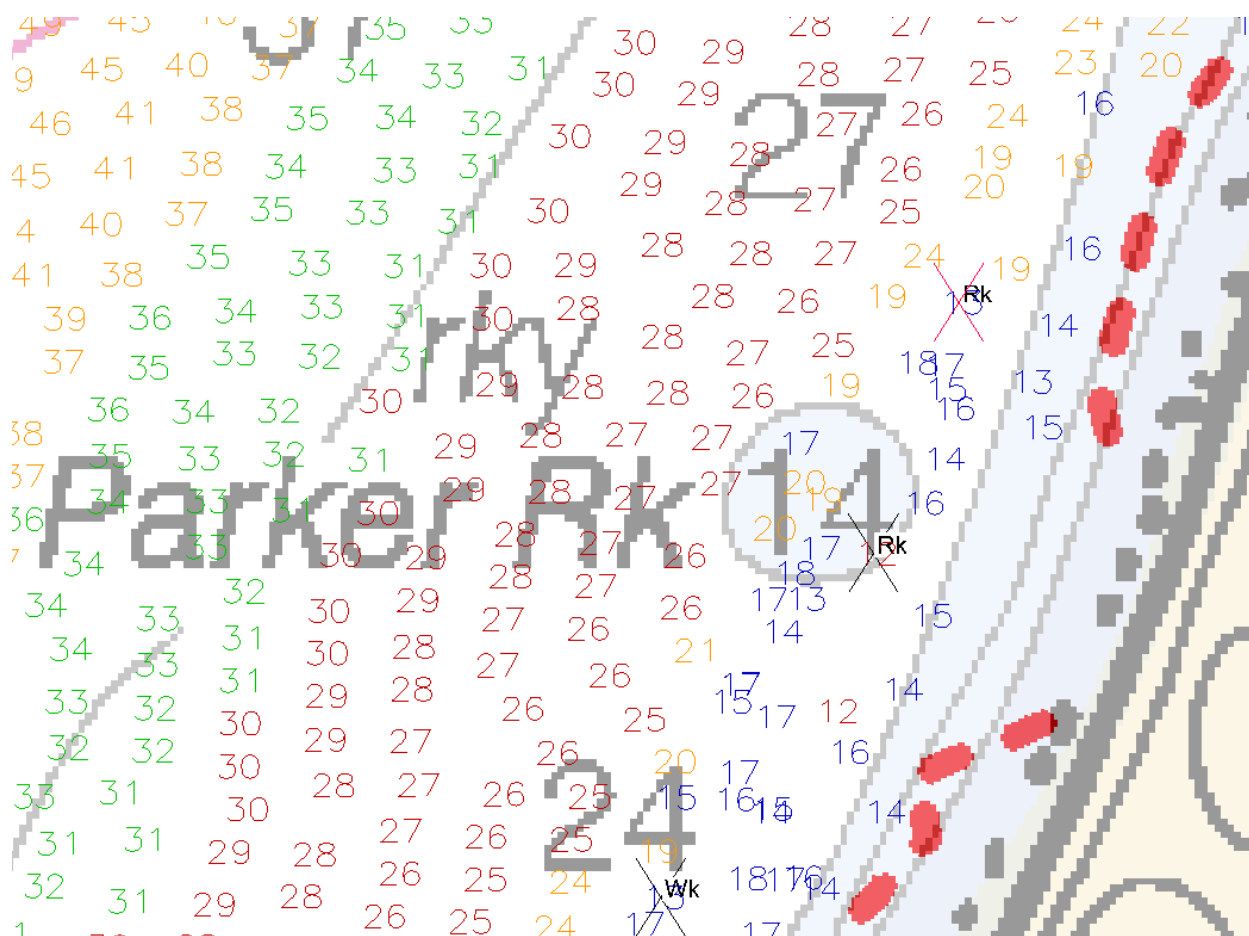
Geo object 1: Underwater rock / awash rock (UWTROC)
Attributes: QUASOU - 6:least depth known
 SORDAT - 20081023
 SORIND - US,US

TECSOU - 3:found by multi-beam

VALSOU - 4.167 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Feature Images*Figure 1.14.1*

1.15) 43ft**Survey Summary**

Survey Position: 41° 08' 45.6" N, 072° 20' 57.8" W
Least Depth: 13.26 m (= 43.49 ft = 7.248 fm = 7 fm 1.49 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 0.996 m ; **TVU (TPEv)** ± 0.430 m
Timestamp: 2008-282.18:37:41.536 (10/08/2008)
Survey Line: h11251 / tj_3102_reson8101 / 2008-282 / 580_1833
Profile/Beam: 1745/95
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted rock with a least depth sounding of 43.49ft (13.26m). Least depth acquired by Reson 8101 and corrected to MLLW using final water levels and final zoning was applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_3102_reson8101/2008-282/580_1833	1745/95	0.00	000.0	Primary
h11251/tj_3101_reson8125/2008-281/599_2109	5412/214	42.73	213.9	Secondary (grouped)
h11251/tj_3102_reson8101/2008-288/470_1329	5563/100	44.11	045.2	Secondary (grouped)
h11251/tj_3102_reson8101/2008-282/581_1821	1436/12	47.02	154.5	Secondary (grouped)
h11251/tj_3102_reson8101/2008-288/474_1353	4949/98	71.73	234.1	Secondary (grouped)
h11251/tj_3102_reson8101/2008-282/580_1833	1570/76	78.07	060.7	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/068_1810	1535/69	93.74	119.5	Secondary (grouped)
h11251/tj_3102_reson8101/2008-282/582_1810	1827/97	112.37	181.5	Secondary (grouped)
h11251/tj_3102_reson8101/2008-288/474_1353	4827/99	128.00	249.9	Secondary (grouped)
h11251/tj_3102_reson8101/2008-282/582_1810	1462/83	129.68	092.9	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/068_1810	1526/6	137.21	120.9	Secondary (grouped)
h11251/tj_3102_reson8101/2008-282/582_1810	1625/15	138.97	130.3	Secondary (grouped)
h11251/tj_3102_reson8101/2008-287/467_2033	192/7	152.61	054.7	Secondary (grouped)
h11251/tj_3102_reson8101/2008-287/467_2033	146/2	162.12	065.8	Secondary (grouped)
h11251/tj_3102_reson8101/2008-282/579_1841	1130/9	162.82	238.7	Secondary (grouped)
h11251/tj_3101_reson8125/2008-300/039_1458	1847/145	167.19	099.6	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/068_1810	1285/4	185.68	092.4	Secondary (grouped)
h11251/tj_3102_reson8101/2008-282/580_1833	1310/77	190.35	052.0	Secondary (grouped)

h11251/tj_3102_reson8101/2008-297/071_1833	902/1	193.06	195.3	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/068_1810	1199/5	212.65	085.2	Secondary (grouped)
h11251/tj_3102_reson8101/2008-282/582_1810	1286/7	225.57	088.3	Secondary (grouped)
h11251/tj_3102_reson8101/2008-282/581_1821	2022/7	239.99	055.3	Secondary (grouped)
h11251/tj_3102_reson8101/2008-295/059_1701	4717/95	242.32	245.6	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/068_1810	961/27	286.47	066.2	Secondary (grouped)
h11251/tj_3102_reson8101/2008-280/585_2036	560/100	324.22	078.8	Secondary (grouped)

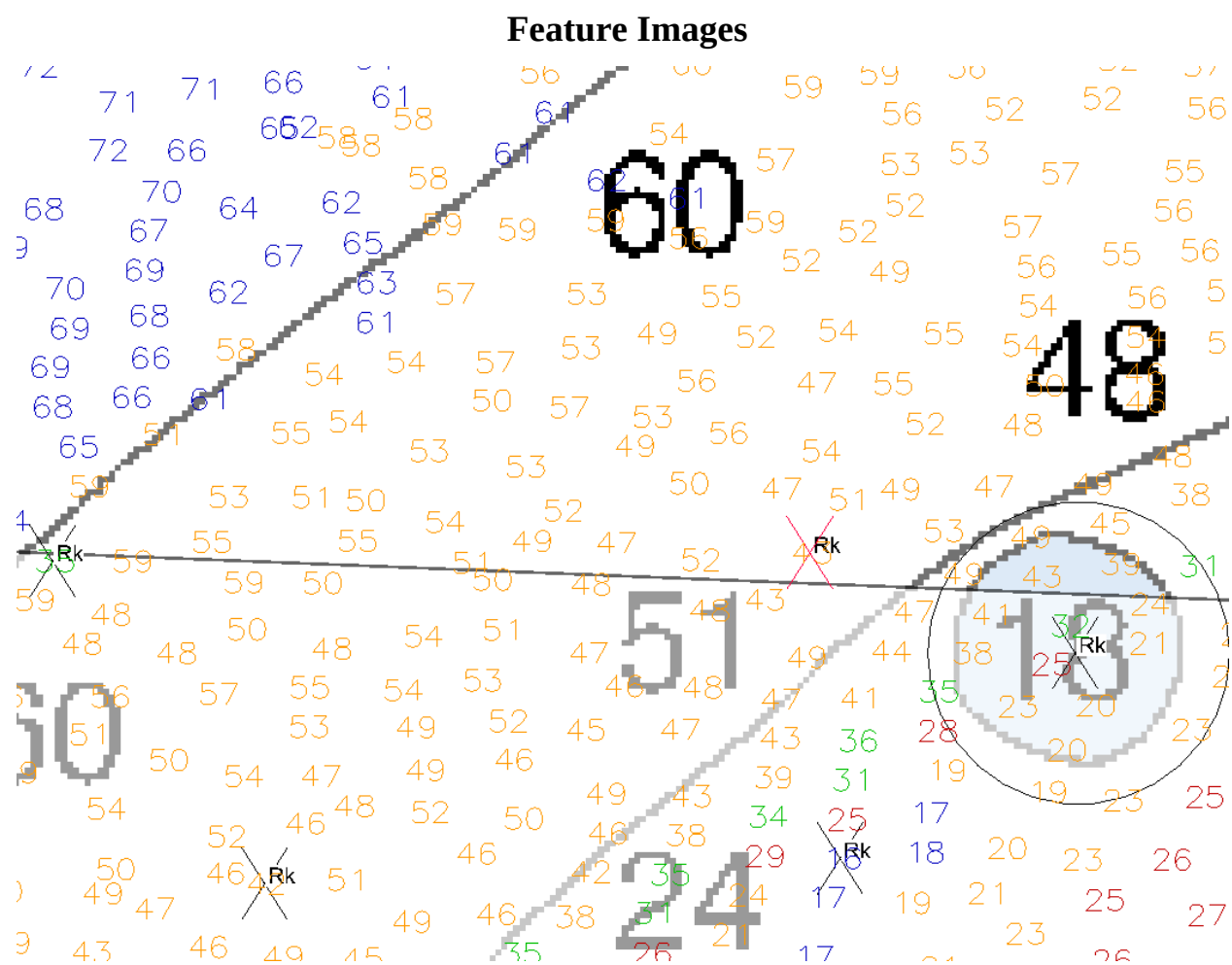
Hydrographer Recommendations

[None]

S-57 Data

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

Attributes: QUASOU - 6:least depth known
 SORDAT - 20081008
 SORIND - US,US
 TECSOU - 3:found by multi-beam
 VALSOU - 13.256 m
 VERDAT - 12:Mean lower low water
 WATLEV - 3:always under water/submerged



1.16) 7ft**Survey Summary**

Survey Position: 41° 07' 27.1" N, 072° 21' 59.3" W
Least Depth: 2.29 m (= 7.51 ft = 1.252 fm = 1 fm 1.51 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 0.986 m ; **TVU (TPEv)** ± 0.425 m
Timestamp: 2008-287.17:21:24.635 (10/13/2008)
Survey Line: h11251 / tj_3102_reson8101 / 2008-287 / 100_1648
Profile/Beam: 22306/1
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted rock with a least depth sounding of 7.51ft (2.55m). Least depth acquired by Reson 8101 and corrected to MLLW using final water levels and final zoning was applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_3102_reson8101/2008-287/100_1648	22306/1	0.00	000.0	Primary
h11251/tj_3102_klein5000_sss100/2008-287/100_1530	0015	1.13	000.8	Secondary
h11251/tj_3102_reson8101/2008-287/100_1648	22303/1	4.77	298.1	Secondary (grouped)
h11251/tj_3102_reson8101/2008-299/018_1352	15126/52	17.26	161.3	Secondary (grouped)
h11251/tj_3102_reson8101/2008-287/100_1648	22370/17	26.84	070.0	Secondary (grouped)
h11251/tj_3102_reson8101/2008-299/018_1352	15187/100	33.16	111.9	Secondary (grouped)
h11251/tj_3102_reson8101/2008-299/018_1352	15011/4	43.85	219.9	Secondary (grouped)
h11251/tj_3101_reson8125/2008-297/001_1241	3785/108	72.44	064.8	Secondary (grouped)

Hydrographer Recommendations

[None]

S-57 Data

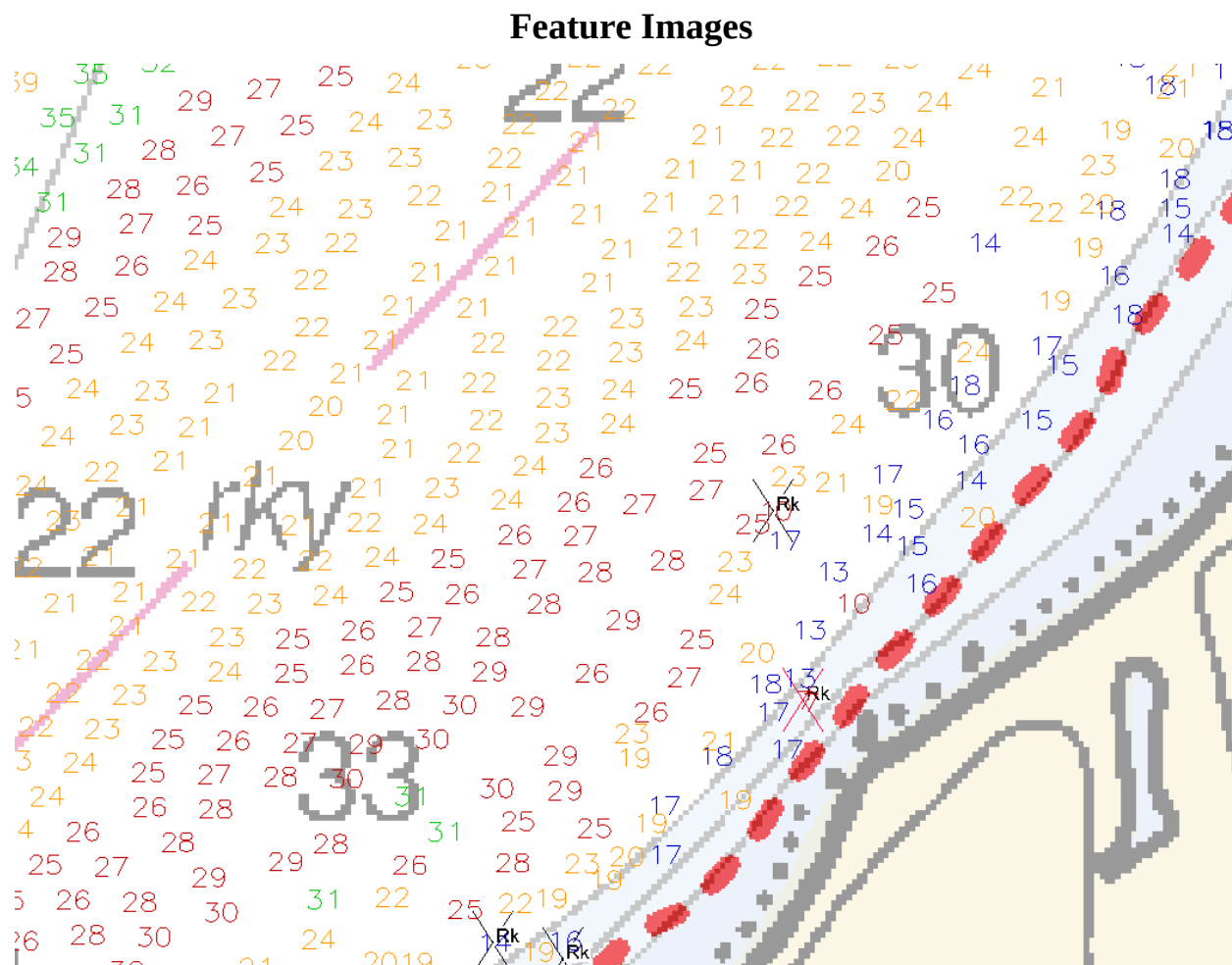
Geo object 1: Underwater rock / awash rock (UWTROC)
Attributes: QUASOU - 6:least depth known
 SORDAT - 20081013
 SORIND - US,US

TECSOU - 3:found by multi-beam

VALSOU - 2.290 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

*Figure 1.16.1*

1.17) 13ft**Survey Summary**

Survey Position: 41° 08' 26.4" N, 072° 20' 07.0" W
Least Depth: 3.99 m (= 13.08 ft = 2.180 fm = 2 fm 1.08 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 0.983 m ; **TVU (TPEv)** ± 0.403 m
Timestamp: 2008-287.20:00:32.889 (10/13/2008)
Survey Line: h11251 / tj_3102_reson8101 / 2008-287 / 430_2000
Profile/Beam: 166/2
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted rock with a least depth sounding of 13.08ft (3.99m). Least depth acquired by Reson 8101 and corrected to MLLW using final water levels and final zoning was applied.

Feature Correlation

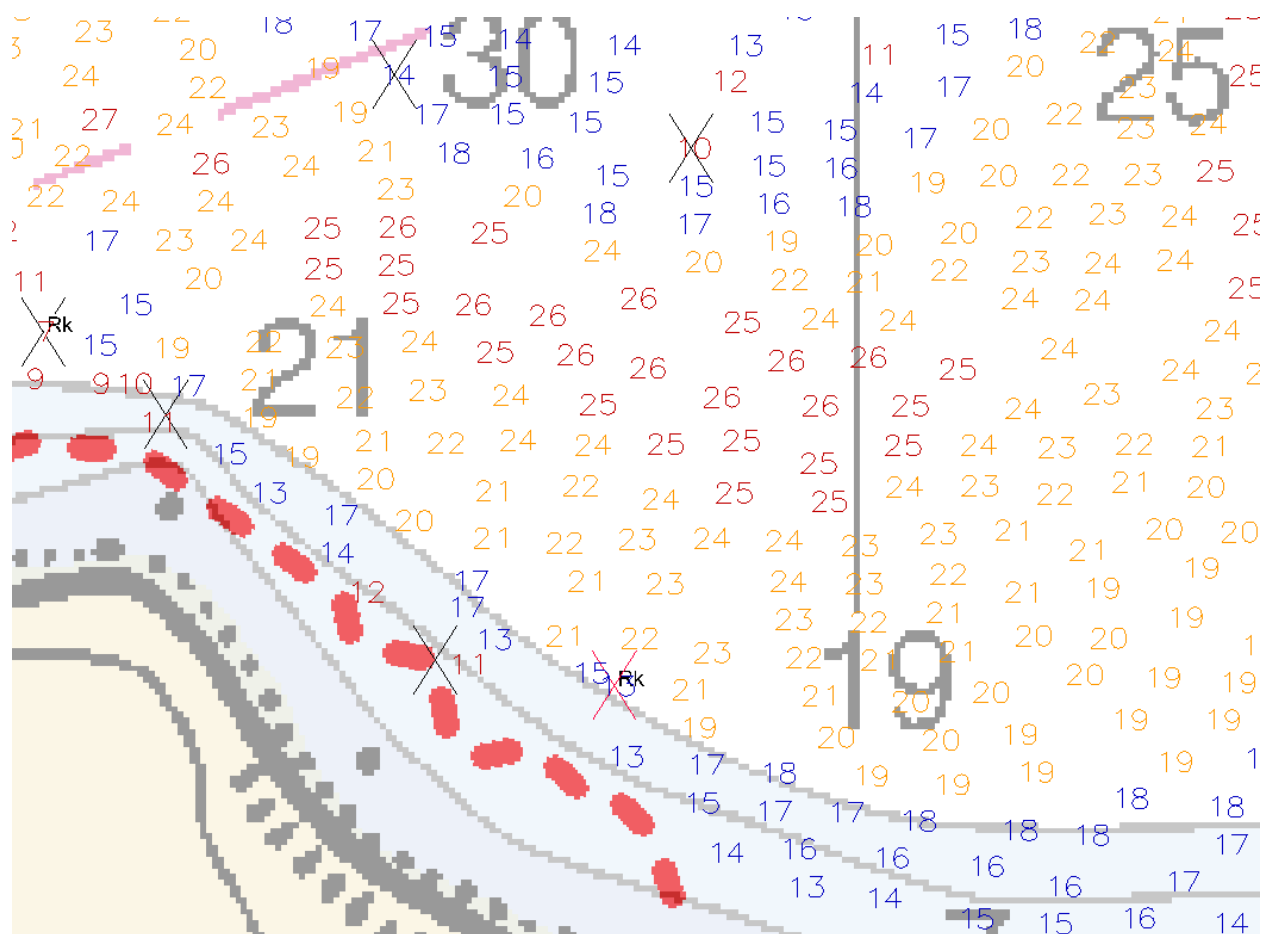
Address	Feature	Range	Azimuth	Status
h11251/tj_3102_reson8101/2008-287/430_2000	166/2	0.00	000.0	Primary
h11251/tj_3102_klein5000_sss100/2008-287/100_1532	0001	0.79	109.0	Secondary (grouped)

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Underwater rock / awash rock (UWTROC)
Attributes: QUASOU - 6:least depth known
 SORDAT - 20081013
 SORIND - US,US
 TECSOU - 3:found by multi-beam
 VALSOU - 3.987 m
 VERDAT - 12:Mean lower low water
 WATLEV - 3:always under water/submerged

Feature Images*Figure 1.17.1*

1.18) 12ft**Survey Summary**

Survey Position: 41° 08' 29.5" N, 072° 19' 21.5" W
Least Depth: 3.80 m (= 12.46 ft = 2.077 fm = 2 fm 0.46 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 0.983 m ; **TVU (TPEv)** ± 0.393 m
Timestamp: 2008-297.12:57:12.405 (10/23/2008)
Survey Line: h11251 / tj_3102_reson8101 / 2008-297 / 154_1257
Profile/Beam: 39/95
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted rock with a least depth sounding of 12.46ft (3.80m). Least depth acquired by Reson 8101 and corrected to MLLW using final water levels and final zoning were applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_3102_reson8101/2008-297/154_1257	39/95	0.00	000.0	Primary
h11251/tj_3102_klein5000_sss100/2008-287/100_1532	0004	13.35	008.5	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/153_1255	199/99	47.84	031.8	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/153_1255	433/65	51.24	304.2	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/154_1257	203/1	52.60	058.7	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/041_1303	62/14	66.35	212.2	Secondary (grouped)
h11251/tj_3102_reson8101/2008-287/436_1929	3725/1	67.03	229.0	Secondary (grouped)
h11251/tj_3102_reson8101/2008-299/018_1310	2023/101	102.50	035.1	Secondary (grouped)

Hydrographer Recommendations

[None]

S-57 Data

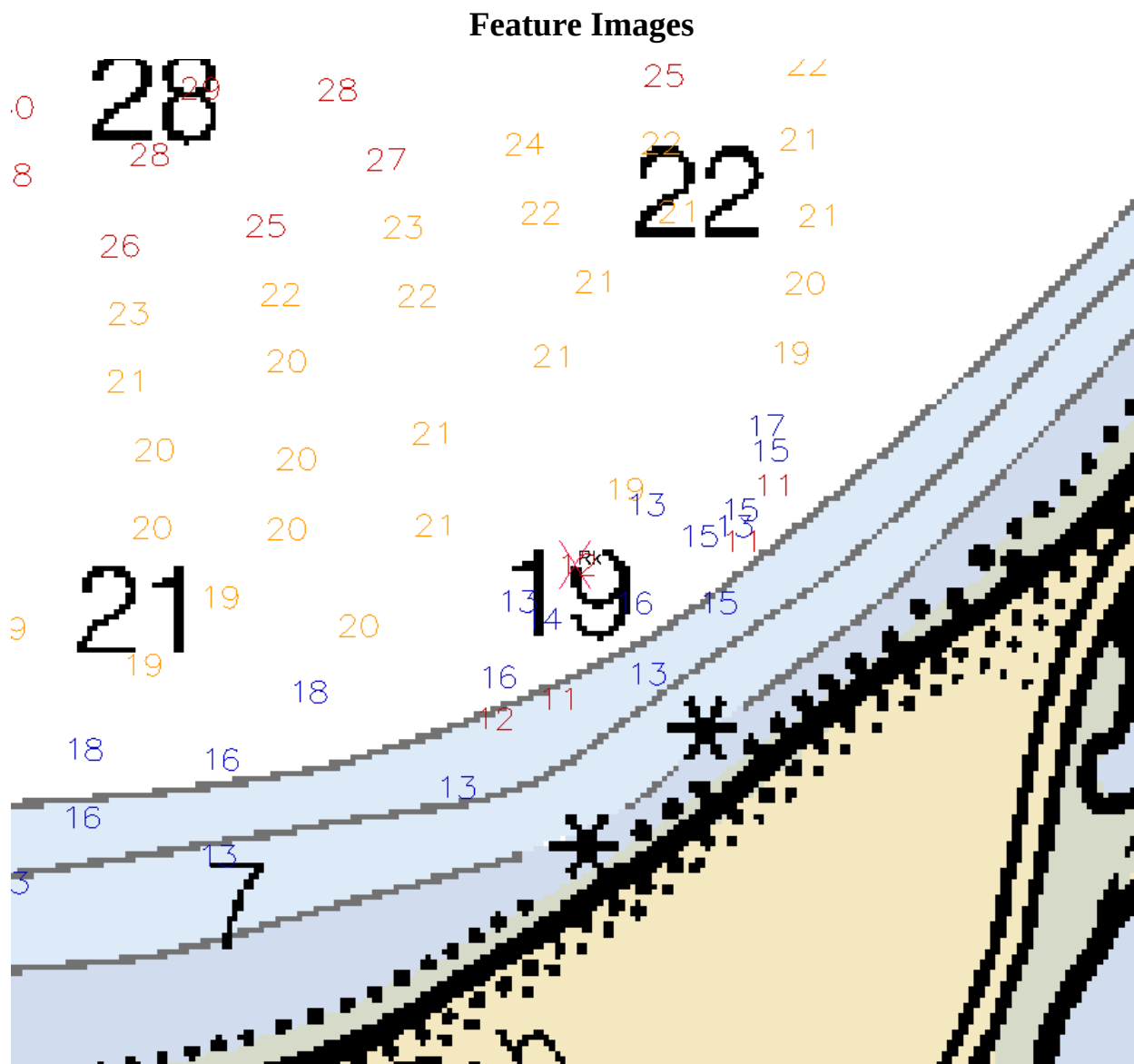
Geo object 1: Underwater rock / awash rock (UWTROC)
Attributes: QUASOU - 6:least depth known
 SORDAT - 20081023
 SORIND - US,US

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

VALSOU - 3.798 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

*Figure 1.18.1*

1.19) Foul Area

Survey Summary

Survey Position: 41° 08' 26.9" N, 072° 20' 12.3" W
Least Depth: 2.53 m (= 8.30 ft = 1.383 fm = 1 fm 2.30 ft)
TPU ($\pm 1.96\sigma$): THU (TPEh) ± 0.983 m ; TVU (TPEv) ± 0.404 m
Timestamp: 2008-299.13:28:45.929 (10/25/2008)
Survey Line: h11251 / tj_3102_reson8101 / 2008-299 / 018_1310
Profile/Beam: 8139/1
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Rocky area acquired with SSS buffer line. Unable to acquire complete MB coverage, unsafe to MB survey. Chart as Foul Area.

Feature Correlation

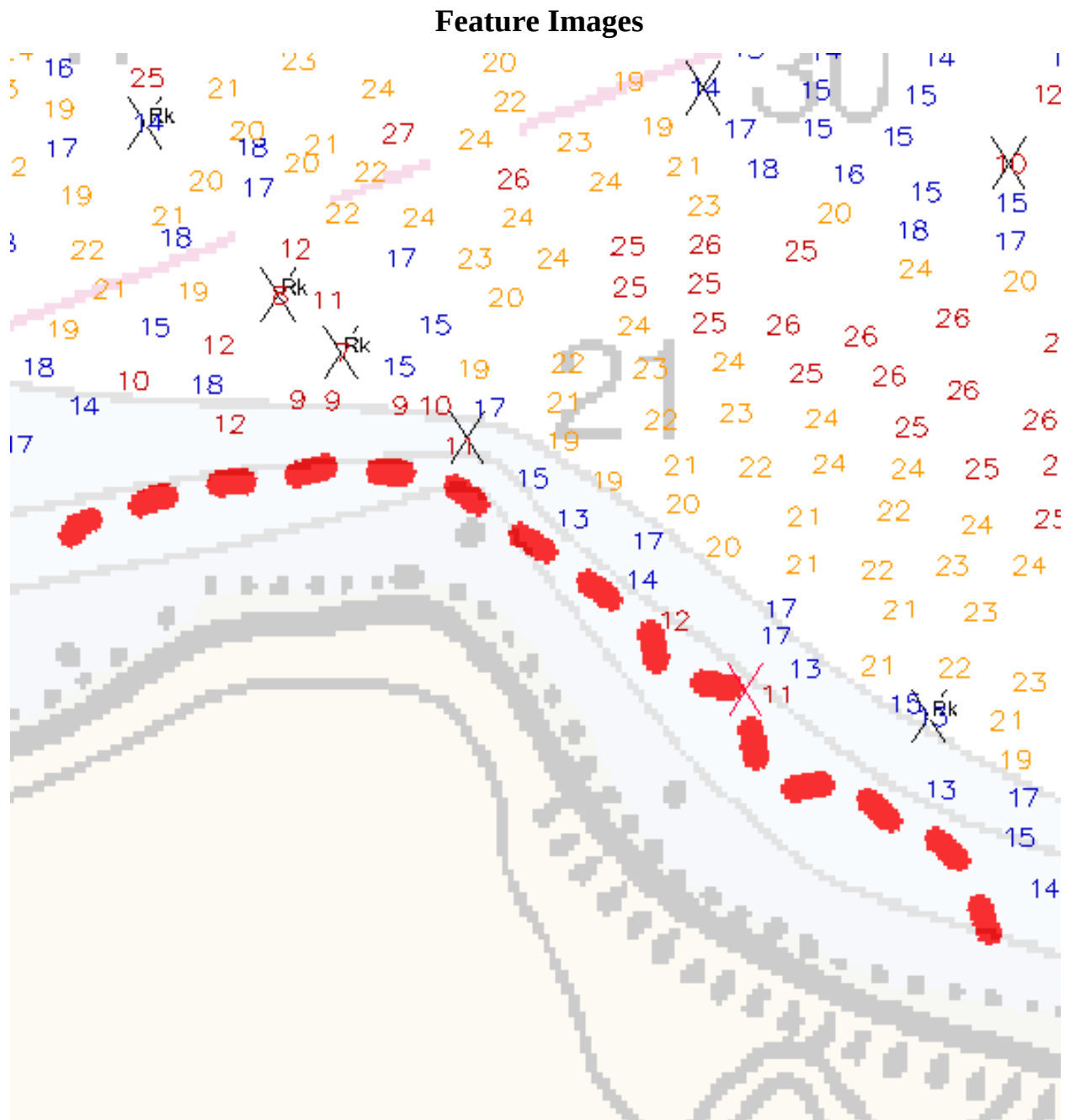
Address	Feature	Range	Azimuth	Status
h11251/tj_3102_reson8101/2008-299/018_1310	8139/1	0.00	000.0	Primary

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Underwater rock / awash rock (UWTROC)
Attributes: QUASOU - 2:depth unknown
 SORDAT - 20081025
 SORIND - US,US
 STATUS - 1:permanent
 TECSOU - 3:found by multi-beam
 VALSOU - 2.530 m
 VERDAT - 12:Mean lower low water
 WATLEV - 3:always under water/submerged

*Figure 1.19.1*

1.20) 11ft**Survey Summary**

Survey Position: 41° 08' 21.4" N, 072° 21' 21.7" W
Least Depth: 3.41 m (= 11.20 ft = 1.867 fm = 1 fm 5.20 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 0.986 m ; **TVU (TPEv)** ± 0.420 m
Timestamp: 2008-299.14:07:16.654 (10/25/2008)
Survey Line: h11251 / tj_3102_reson8101 / 2008-299 / 018_1352
Profile/Beam: 8237/1
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted rock with a least depth sounding of 11.20ft (3.41m). Least depth acquired by Reson 8101 and corrected to MLLW using final water levels and final zoning was applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_3102_reson8101/2008-299/018_1352	8237/1	0.00	000.0	Primary
h11251/tj_3102_klein5000_sss100/2008-281/114_2059	0003	1.93	039.9	Secondary (grouped)
h11251/tj_3102_klein5000_sss100/2008-287/100_1531	0008	3.66	024.7	Secondary (grouped)
h11251/tj_3101_reson8125/2008-297/013_1453	385/153	21.96	223.1	Secondary (grouped)
h11251/tj_3101_reson8125/2008-297/014_1506	12113/85	31.98	077.4	Secondary (grouped)
h11251/tj_3101_reson8125/2008-297/012_1442	10321/15	53.13	023.8	Secondary (grouped)
h11251/tj_3101_reson8125/2008-295/049_2010	9105/120	58.82	118.6	Secondary (grouped)
h11251/tj_3101_reson8125/2008-295/049_2010	9130/61	64.61	125.7	Secondary (grouped)
h11251/tj_3101_reson8125/2008-288/396_1428	1443/139	77.25	120.8	Secondary (grouped)
h11251/tj_3101_reson8125/2008-288/396_1428	1578/39	79.17	093.5	Secondary (grouped)

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Underwater rock / awash rock (UWTROC)
Attributes: QUASOU - 6:least depth known

SORDAT - 20081025

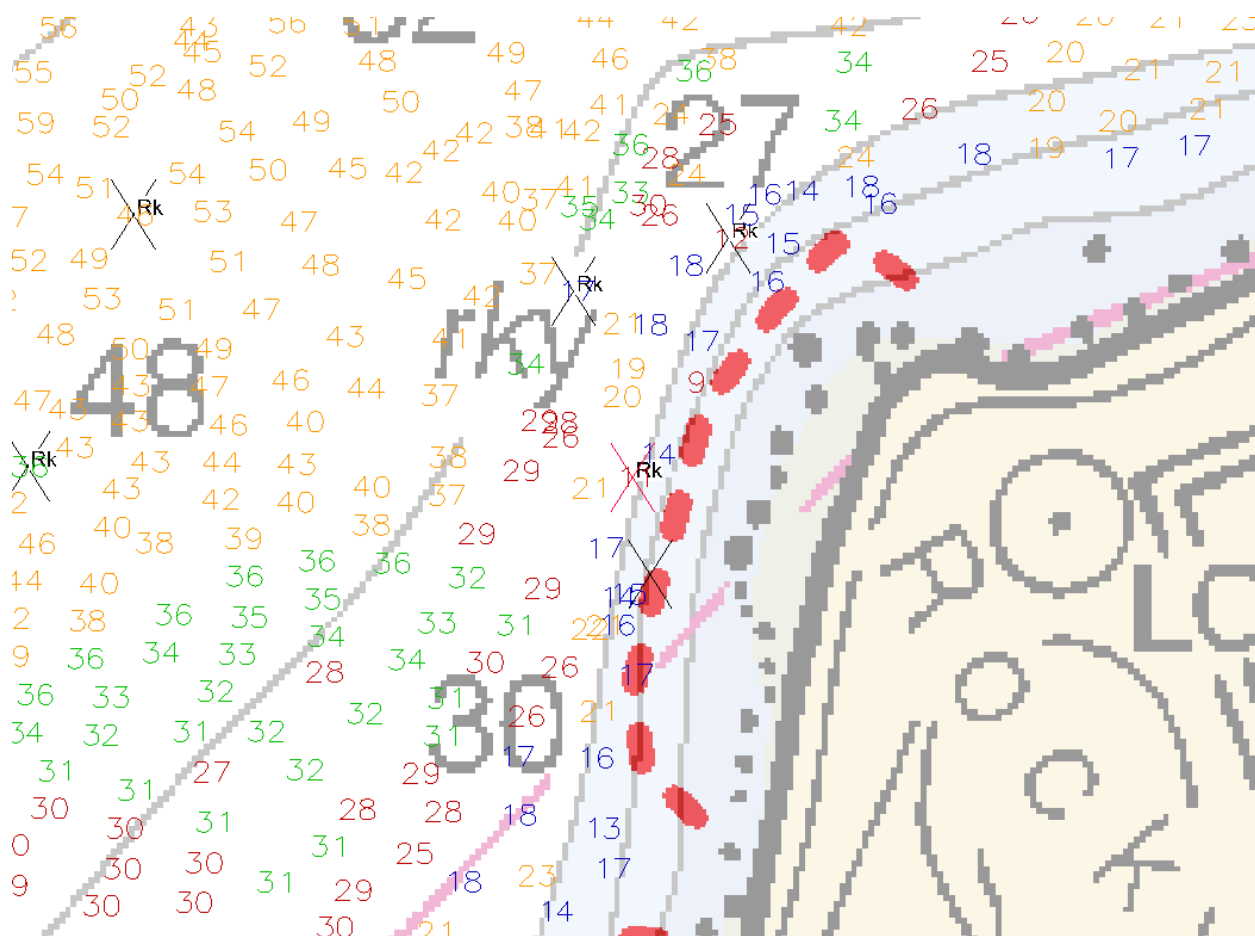
SORIND - US,US

TECSOU - 3:found by multi-beam

VALSOU - 3.414 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Feature Images*Figure 1.20.1*

1.21) 8ft**Survey Summary**

Survey Position: 41° 07' 15.5" N, 072° 22' 20.0" W
Least Depth: 2.72 m (= 8.91 ft = 1.485 fm = 1 fm 2.91 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 0.981 m ; **TVU (TPEv)** ± 0.389 m
Timestamp: 2008-299.14:27:05.207 (10/25/2008)
Survey Line: h11251 / tj_3102_reson8101 / 2008-299 / 018_1352
Profile/Beam: 17423/9
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted rock with a least depth sounding of 8.91ft (2.72m). Least depth acquired by Reson 8101 and corrected to MLLW using final water levels and final zoning was applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_3102_reson8101/2008-299/018_1352	17423/9	0.00	000.0	Primary
h11251/tj_3102_reson8101/2008-287/100_1648	24087/6	14.42	108.3	Secondary (grouped)
h11251/tj_3102_klein5000_sss100/2008-287/100_1530	0032	19.82	254.5	Secondary
h11251/tj_3102_klein5000_sss100/2008-281/114_2059	0001	20.91	259.2	Secondary
h11251/tj_3102_reson8101/2008-299/018_1352	17356/1	21.19	254.3	Secondary (grouped)
h11251/tj_3101_reson8125/2008-297/006_1326	227/155	32.76	223.9	Secondary (grouped)
h11251/tj_3102_reson8101/2008-299/018_1352	17539/76	35.36	077.0	Secondary (grouped)
h11251/tj_3101_reson8125/2008-297/006_1326	648/206	58.00	216.1	Secondary (grouped)
h11251/tj_3102_klein5000_sss100/2008-287/100_1530	0010	70.69	240.0	Secondary (grouped)
h11251/tj_3101_reson8125/2008-297/008_1359	734/175	78.48	181.1	Secondary (grouped)
h11251/tj_3102_klein5000_sss100/2008-287/100_1530	0011	84.84	226.3	Secondary (grouped)
h11251/tj_3102_reson8101/2008-299/018_1352	17092/99	87.56	228.3	Secondary (grouped)

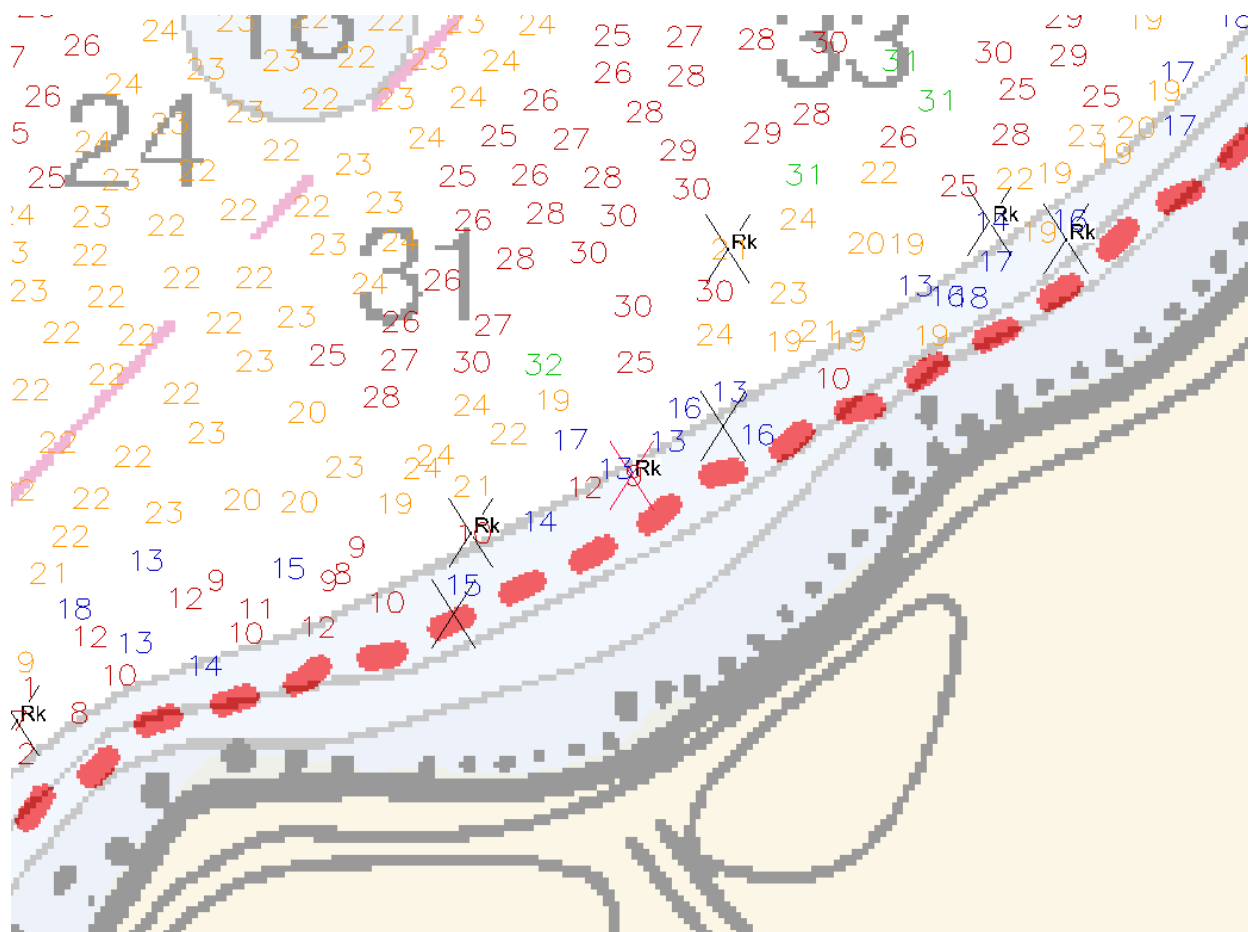
Hydrographer Recommendations

[None]

S-57 Data

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

Attributes: QUASOU - 6:least depth known
SORDAT - 20081025
SORIND - US,US
TECSOU - 3:found by multi-beam
VALSOU - 2.716 m
VERDAT - 12:Mean lower low water
WATLEV - 3:always under water/submerged

Feature Images*Figure 1.21.1*

1.22) Foul Area

Survey Summary

Survey Position: 41° 08' 32.4" N, 072° 20' 20.3" W
Least Depth: 2.88 m (= 9.44 ft = 1.574 fm = 1 fm 3.44 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 0.982 m ; **TVU (TPEv)** ± 0.393 m
Timestamp: 2008-299.13:54:34.869 (10/25/2008)
Survey Line: h11251 / tj_3102_reson8101 / 2008-299 / 018_1352
Profile/Beam: 671/5
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Rocky area acquired with SSS buffer line. Unable to acquire complete MB coverage, unsafe to MB survey. Chart as Foul Area.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_3102_reson8101/2008-299/018_1352	671/5	0.00	000.0	Primary
h11251/tj_3102_klein5000_sss100/2008-287/100_1532	0006	29.57	070.7	Secondary (grouped)
h11251/tj_3102_reson8101/2008-299/018_1352	1706/3	161.05	093.4	Secondary (grouped)
h11251/tj_3102_reson8101/2008-299/018_1310	7127/2	394.82	306.7	Secondary (grouped)

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Underwater rock / awash rock (UWTROC)
Attributes: QUASOU - 2:depth unknown
 SORDAT - 20081025
 SORIND - US,US
 TECSOU - 3:found by multi-beam
 VALSOU - 2.878 m
 VERDAT - 12:Mean lower low water
 WATLEV - 3:always under water/submerged

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1.23) Foul Area

Survey Summary

Survey Position: 41° 08' 19.2" N, 072° 21' 21.2" W
Least Depth: 3.91 m (= 12.84 ft = 2.140 fm = 2 fm 0.84 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 0.986 m ; **TVU (TPEv)** ± 0.426 m
Timestamp: 2008-299.14:07:55.397 (10/25/2008)
Survey Line: h11251 / tj_3102_reson8101 / 2008-299 / 018_1352
Profile/Beam: 8514/1
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Rocky area acquired with SSS buffer line. Unable to acquire complete MB coverage, unsafe to MB survey. Chart as Foul Area.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_3102_reson8101/2008-299/018_1352	8514/1	0.00	000.0	Primary
h11251/tj_3102_klein5000_sss100/2008-287/100_1531	0007	32.94	336.7	Secondary (grouped)
h11251/tj_3102_klein5000_sss100/2008-287/100_1531	0010	180.07	202.4	Secondary (grouped)

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Underwater rock / awash rock (UWTROC)
Attributes: QUASOU - 2:depth unknown
 SORDAT - 20081025
 SORIND - US,US
 TECSOU - 3:found by multi-beam
 VALSOU - 3.913 m
 VERDAT - 12:Mean lower low water
 WATLEV - 3:always under water/submerged

Feature Images

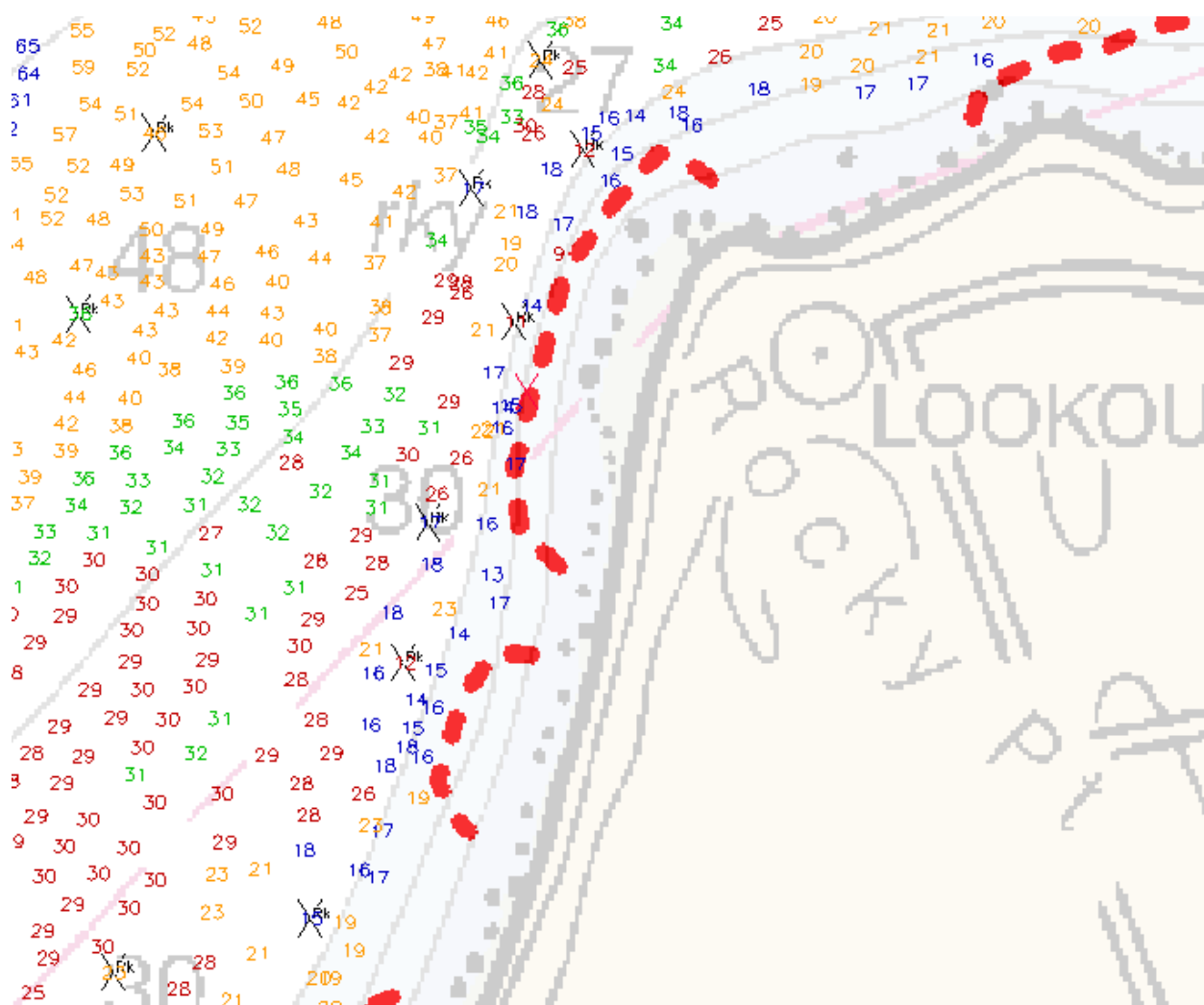


Figure 1.23.1

1.24) 8ft**Survey Summary**

Survey Position: 41° 06' 54.6" N, 072° 23' 00.8" W
Least Depth: 2.60 m (= 8.52 ft = 1.420 fm = 1 fm 2.52 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 0.983 m ; **TVU (TPEv)** ± 0.403 m
Timestamp: 2008-299.14:57:02.592 (10/25/2008)
Survey Line: h11251 / tj_3102_reson8101 / 2008-299 / 018_1451
Profile/Beam: 1624/1
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted rock with a least depth sounding of 8.52ft (2.60m). Least depth acquired by Reson 8101 and corrected to MLLW using final water levels and final zoning was applied.

Feature Correlation

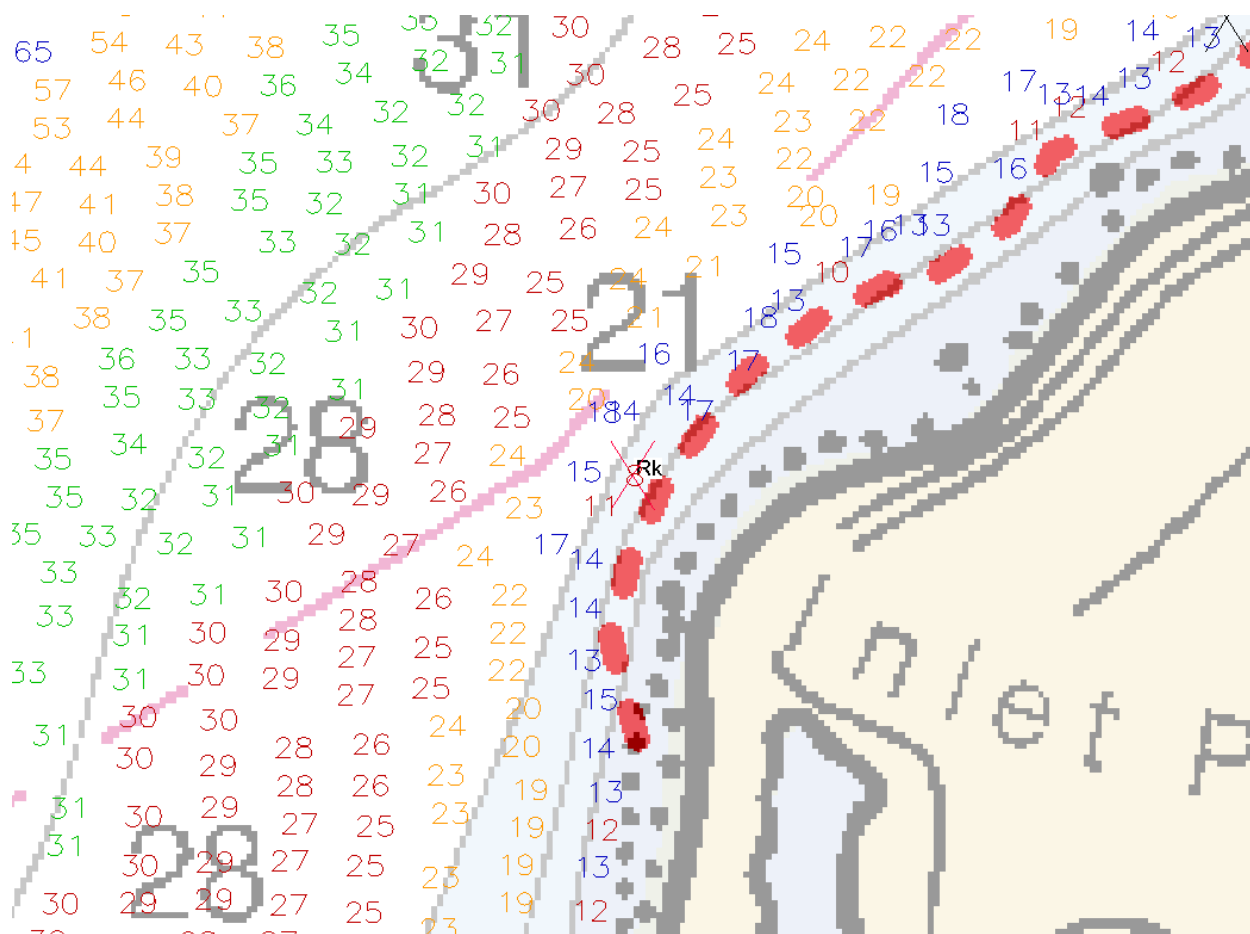
Address	Feature	Range	Azimuth	Status
h11251/tj_3102_reson8101/2008-299/018_1451	1624/1	0.00	000.0	Primary
h11251/tj_3102_klein5000_sss100/2008-287/100_1529	0012	12.43	011.3	Secondary (grouped)
h11251/tj_3102_reson8101/2008-299/018_1451	1813/3	33.13	048.9	Secondary (grouped)
h11251/tj_3101_reson8125/2008-295/010_1933	2706/27	36.65	093.8	Secondary (grouped)
h11251/tj_3102_reson8101/2008-299/018_1451	1953/1	41.76	023.0	Secondary (grouped)
h11251/tj_3101_reson8125/2008-295/009_1943	4498/28	45.00	169.1	Secondary (grouped)
h11251/tj_3102_klein5000_sss100/2008-281/118_1551	0001	48.62	169.5	Secondary (grouped)
h11251/tj_3101_reson8125/2008-295/010_1933	2529/116	48.95	153.0	Secondary (grouped)
h11251/tj_3102_reson8101/2008-287/100_1739	4189/8	62.57	148.0	Secondary (grouped)
h11251/tj_3102_reson8101/2008-287/100_1648	28304/2	67.65	030.3	Secondary (grouped)
h11251/tj_3101_reson8125/2008-295/010_1933	2927/45	75.87	050.7	Secondary (grouped)
h11251/tj_3102_reson8101/2008-299/018_1451	2120/2	76.51	019.9	Secondary (grouped)
h11251/tj_3102_klein5000_sss100/2008-287/100_1529	0013	104.95	222.4	Secondary (grouped)
h11251/tj_3102_klein5000_sss100/2008-287/100_1529	0017	132.21	016.3	Secondary (grouped)
h11251/tj_3102_reson8101/2008-299/167_1523	376/1	132.40	016.5	Secondary (grouped)

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Underwater rock / awash rock (UWTROC)
Attributes: QUASOU - 6:least depth known
SORDAT - 20081025
SORIND - US,US
TECSOU - 3:found by multi-beam
VALSOU - 2.597 m
VERDAT - 12:Mean lower low water
WATLEV - 3:always under water/submerged

Feature Images*Figure 1.24.1*

1.25) 48ft**Survey Summary**

Survey Position: 41° 08' 27.9" N, 072° 21' 51.3" W
Least Depth: 14.83 m (= 48.65 ft = 8.109 fm = 8 fm 0.65 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 1.020 m ; **TVU (TPEv)** ± 0.401 m
Timestamp: 2008-268.15:32:30.666 (09/24/2008)
Survey Line: h11251 / tj_s222_reson7125_port / 2008-268 / 004_1515
Profile/Beam: 11047/1
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted rock with a least depth sounding of 48.65ft (14.83m). Least depth acquired by Reson 7125 and corrected to MLLW using final water levels and final zoning was applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_s222_reson7125_port/2008-268/004_1515	11047/1	0.00	000.0	Primary
h11251/tj_3101_reson8125/2008-297/145_1700	155/132	25.55	119.6	Secondary (grouped)
h11251/tj_s222_reson7125_port/2008-268/004_1515	11149/118	48.40	252.2	Secondary (grouped)
h11251/tj_3101_reson8125/2008-297/145_1700	265/193	62.42	082.7	Secondary (grouped)
h11251/tj_s222_reson7125_port/2008-268/003_1435	13567/167	66.26	330.7	Secondary (grouped)
h11251/tj_s222_reson7125_port/2008-268/005_1637	9376/253	69.69	219.9	Secondary (grouped)
h11251/tj_s222_reson7125_port/2008-268/003_1435	13588/113	73.58	333.8	Secondary (grouped)
h11251/tj_s222_reson7125_port/2008-268/006_1800	12596/81	85.13	133.6	Secondary (grouped)
h11251/tj_s222_reson7125_port/2008-268/003_1435	13216/235	94.44	261.9	Secondary (grouped)
h11251/tj_3101_reson8125/2008-295/205_1310	8892/235	109.68	329.4	Secondary (grouped)

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Underwater rock / awash rock (UWTROC)
Attributes: QUASOU - 6:least depth known

SORDAT - 200800924

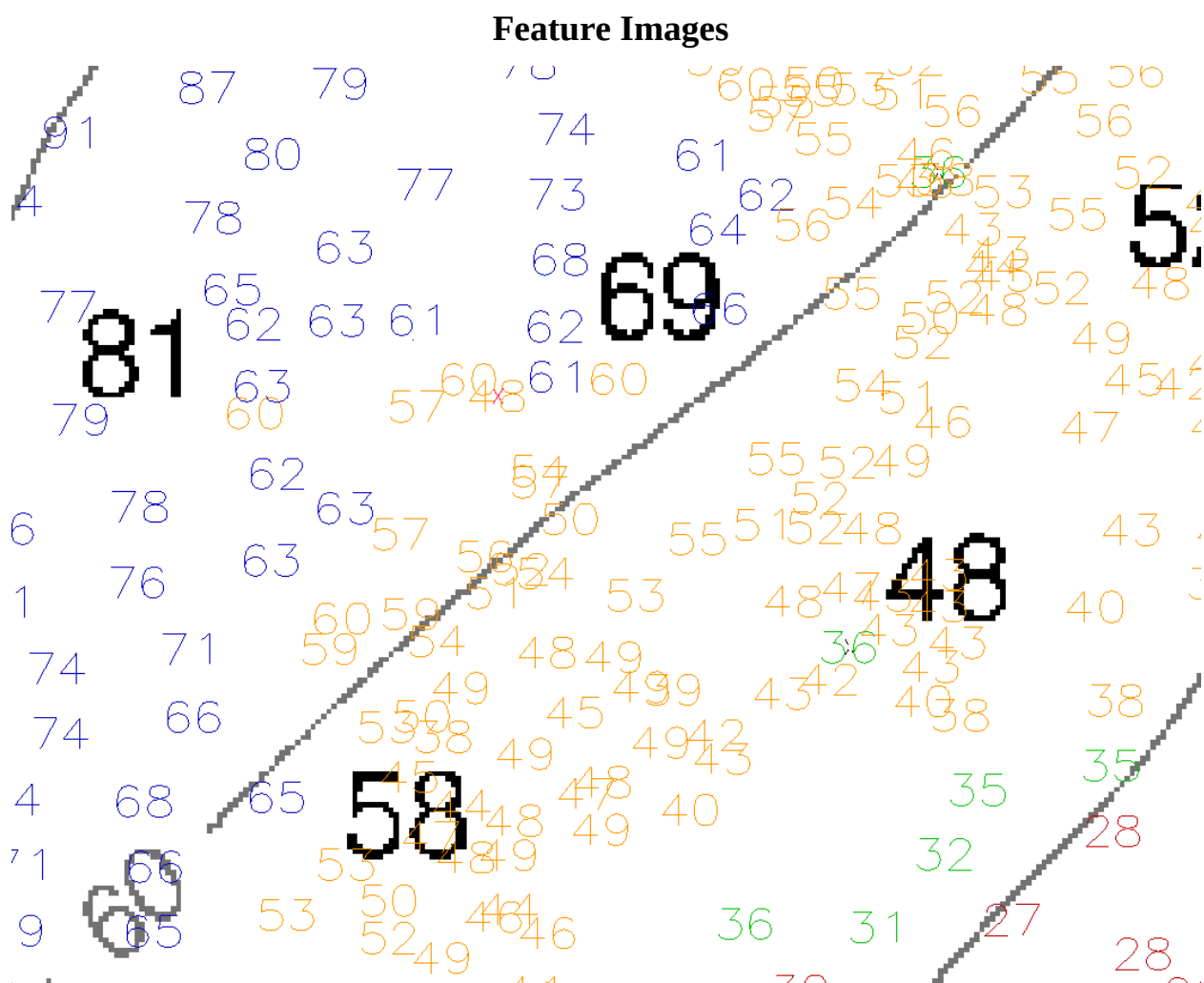
SORIND - US,US

TECSOU - 3:found by multi-beam

VALSOU - 14.829 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

*Figure 1.25.1*

1.26) 60ft**Survey Summary**

Survey Position: 41° 07' 20.2" N, 072° 24' 13.2" W
Least Depth: 18.51 m (= 60.73 ft = 10.121 fm = 10 fm 0.73 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 1.016 m ; **TVU (TPEv)** ± 0.411 m
Timestamp: 2008-300.14:12:24.440 (10/26/2008)
Survey Line: h11251 / tj_s222_reson7125_port / 2008-300 / 059_1412
Profile/Beam: 295/234
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted rock with a least depth sounding of 60.73ft (18.51m). Least depth acquired by Reson 7125 and corrected to MLLW using final water levels and final zoning was applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_s222_reson7125_port/2008-300/059_1412	295/234	0.00	000.0	Primary

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Underwater rock / awash rock (UWTROC)
Attributes: SORDAT - 20081026
 SORIND - US,US
 VALSOU - 18.510 m
 WATLEV - 3:always under water/submerged

Feature Images

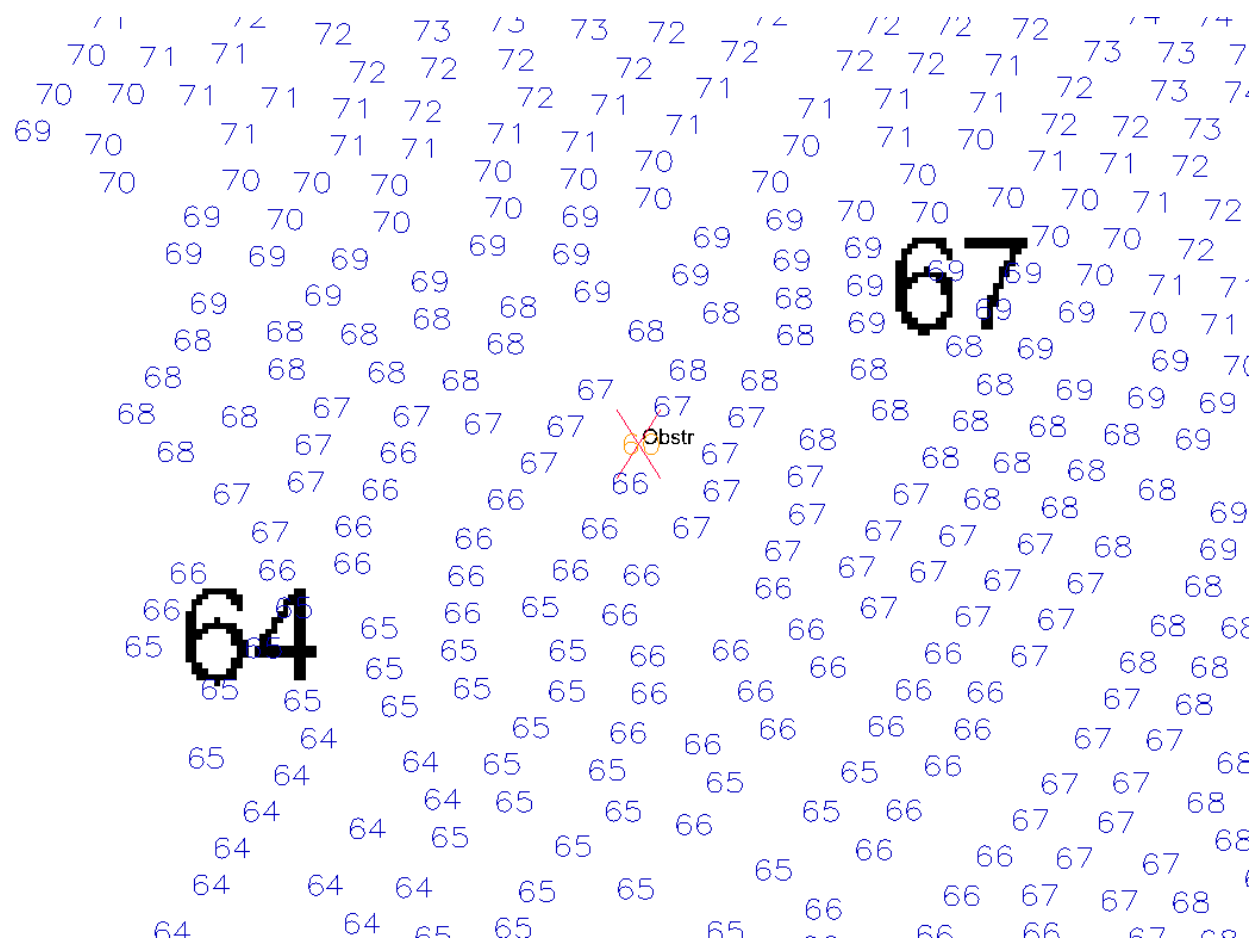


Figure 1.26.1

1.27) 54ft**Survey Summary**

Survey Position: 41° 08' 37.6" N, 072° 21' 55.7" W
Least Depth: 16.55 m (= 54.30 ft = 9.050 fm = 9 fm 0.30 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 1.020 m ; **TVU (TPEv)** ± 0.403 m
Timestamp: 2008-297.13:44:41.268 (10/23/2008)
Survey Line: h11251 / tj_s222_reson7125_port / 2008-297 / 036_1342
Profile/Beam: 1612/256
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted rock with a least depth sounding of 54.30ft (16.55m). Least depth acquired by Reson 7125 and corrected to MLLW using final water levels and final zoning was applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_s222_reson7125_port/2008-297/036_1342	1612/256	0.00	000.0	Primary

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Underwater rock / awash rock (UWTROC)
Attributes: SORDAT - 20081023
 SORIND - US,US
 VALSOU - 16.550 m
 WATLEV - 3:always under water/submerged

Feature Images

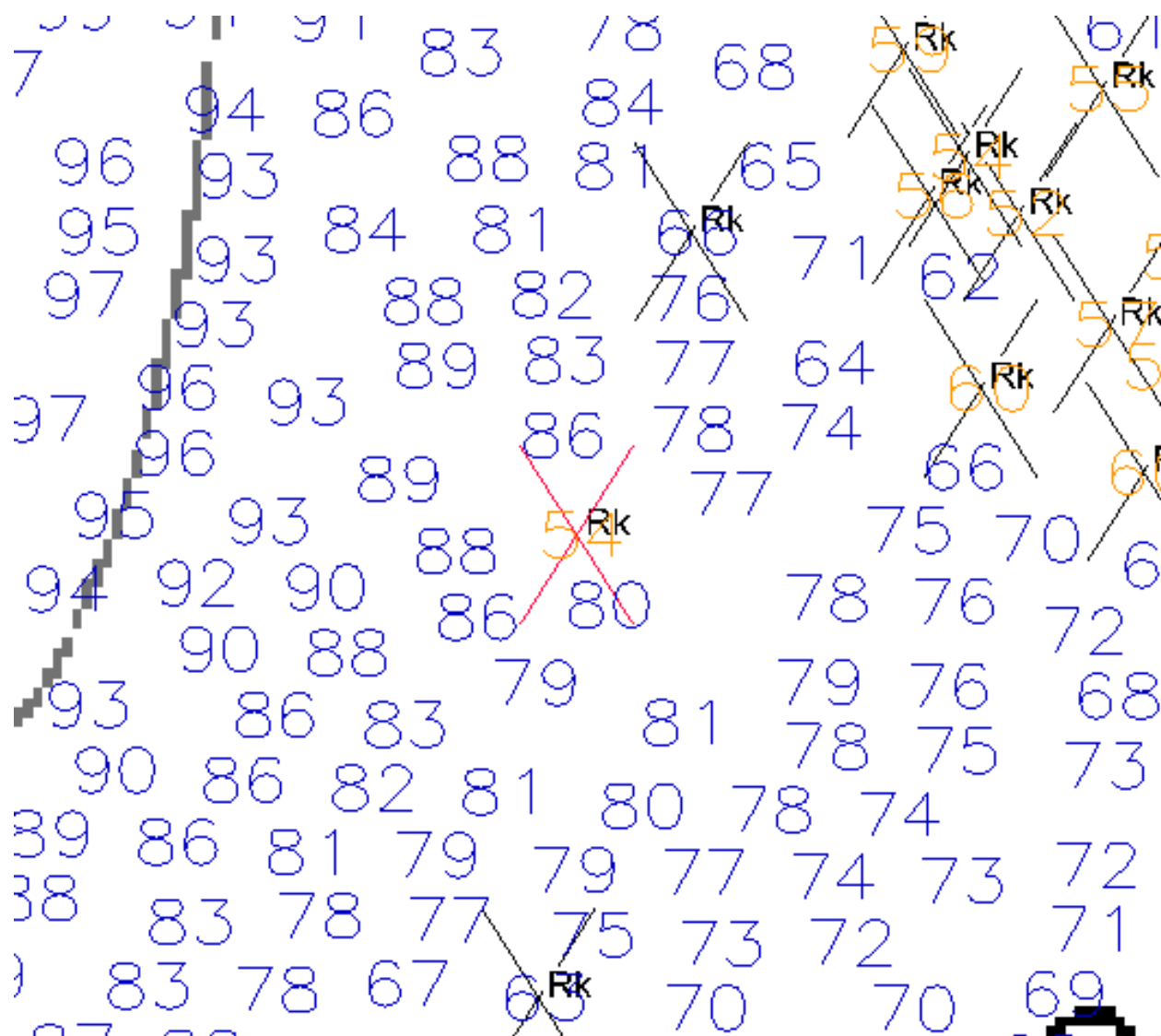


Figure 1.27.1

1.28) 47ft**Survey Summary**

Survey Position: 41° 09' 22.6" N, 072° 19' 28.1" W
Least Depth: 14.30 m (= 46.91 ft = 7.818 fm = 7 fm 4.91 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 0.984 m ; **TVU (TPEv)** ± 0.407 m
Timestamp: 2008-280.21:07:02.881 (10/06/2008)
Survey Line: h11251 / tj_3101_reson8125 / 2008-280 / 606_2103
Profile/Beam: 2091/94
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted rock with a least depth sounding of 46.91 ft(14.30m). Least depth acquired by Reson 8125 and corrected to MLLW using final water levels and final zoning was applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_3101_reson8125/2008-280/606_2103	2091/94	0.00	000.0	Primary
h11251/tj_3101_reson8125/2008-280/622_2056	733/193	46.17	177.6	Secondary (grouped)

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Underwater rock / awash rock (UWTROC)
Attributes: SORDAT - 20081006
 SORIND - US,US
 VALSOU - 14.297 m
 WATLEV - 3:always under water/submerged

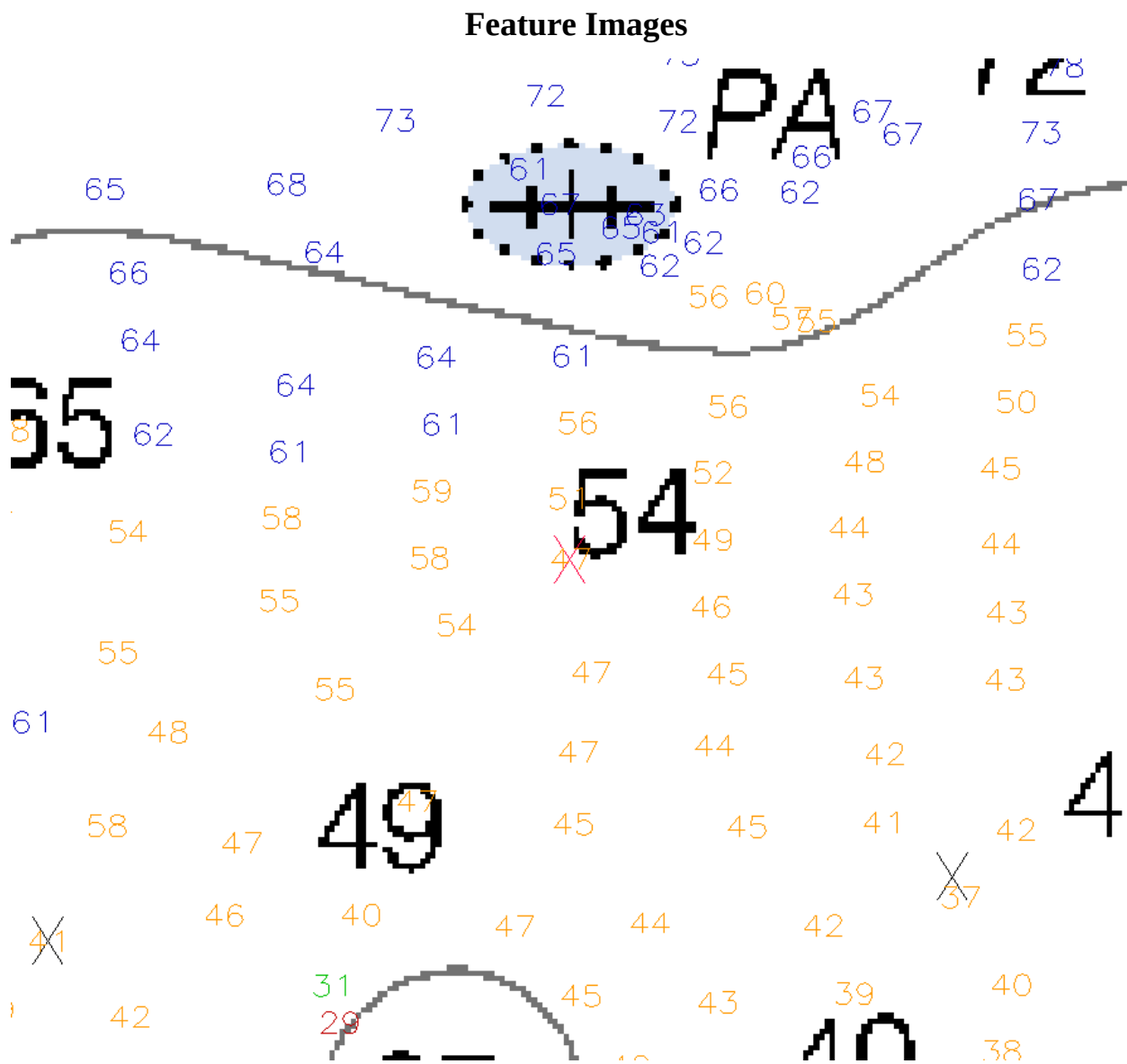


Figure 1.28.1

1.29) Foul Area

Survey Summary

Survey Position: 41° 08' 31.9" N, 072° 20' 53.2" W
Least Depth: 6.40 m (= 20.99 ft = 3.498 fm = 3 fm 2.99 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 0.982 m ; **TVU (TPEv)** ± 0.404 m
Timestamp: 2008-299.20:24:07.565 (10/25/2008)
Survey Line: h11251 / tj_3101_reson8125 / 2008-299 / 178_2021
Profile/Beam: 3325/14
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Rocky area acquired with SSS buffer line. Unable to acquire complete MB coverage, unsafe to MB survey. Chart as Foul Area.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_3101_reson8125/2008-299/178_2021	3325/14	0.00	000.0	Primary
h11251/tj_3102_klein5000_sss100/2008-287/100_1531	0014	14.55	054.4	Secondary (grouped)

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Underwater rock / awash rock (UWTROC)
Attributes: QUASOU - 6:least depth known
 SORDAT - 20081025
 SORIND - US,US
 TECSOU - 3:found by multi-beam
 VALSOU - 6.398 m
 VERDAT - 12:Mean lower low water
 WATLEV - 3:always under water/submerged

1.30) Foul Area

Survey Summary

Survey Position: 41° 07' 47.9" N, 072° 21' 38.2" W
Least Depth: 3.47 m (= 11.39 ft = 1.899 fm = 1 fm 5.39 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 0.982 m ; **TVU (TPEv)** ± 0.394 m
Timestamp: 2008-279.17:02:52.470 (10/05/2008)
Survey Line: h11251 / tj_3102_reson8101 / 2008-279 / 612_1702
Profile/Beam: 4/5
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Rocky area acquired with SSS buffer line. Unable to acquire complete MB coverage, unsafe to MB survey. Chart as Foul Area.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_3102_reson8101/2008-279/612_1702	4/5	0.00	000.0	Primary
h11251/tj_3102_klein5000_sss100/2008-287/100_1530	0024	50.19	048.3	Secondary (grouped)
h11251/tj_3102_klein5000_sss100/2008-287/100_1530	0022	117.83	029.4	Secondary (grouped)
h11251/tj_3102_klein5000_sss100/2008-287/100_1530	0025	136.15	205.4	Secondary (grouped)
h11251/tj_3102_klein5000_sss100/2008-287/100_1530	0020	176.53	031.3	Secondary (grouped)
h11251/tj_3102_klein5000_sss100/2008-287/100_1530	0019	315.13	033.2	Secondary (grouped)

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Underwater rock / awash rock (UWTROC)
Attributes: QUASOU - 2:depth unknown
 SORDAT - 20081005
 SORIND - US,US
 TECSOU - 3:found by multi-beam
 VALSOU - 3.473 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Feature Images

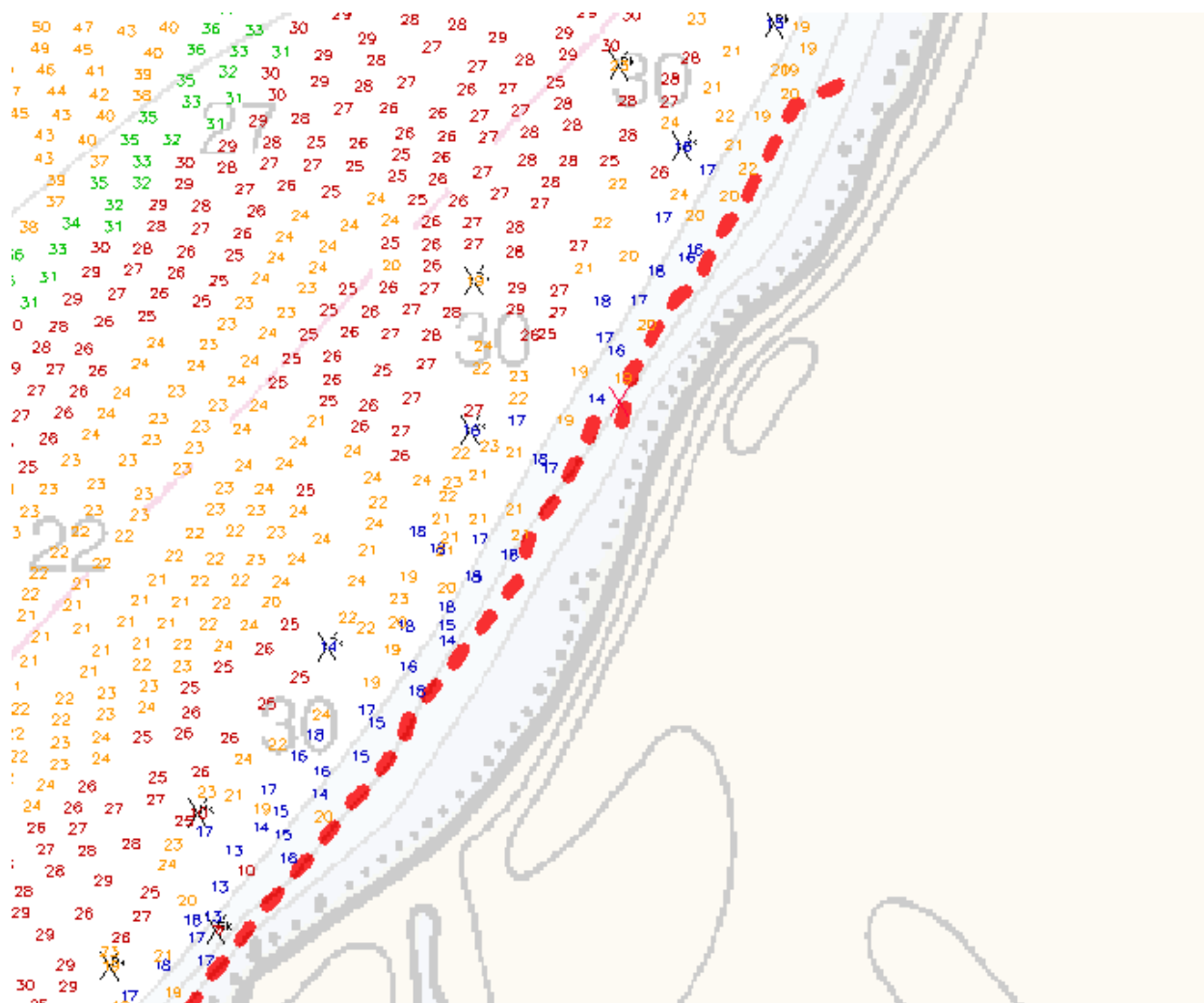


Figure 1.30.1

1.31) 16ft**Survey Summary**

Survey Position: 41° 08' 29.9" N, 072° 19' 41.0" W
Least Depth: 4.98 m (= 16.34 ft = 2.723 fm = 2 fm 4.34 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 0.985 m ; **TVU (TPEv)** ± 0.417 m
Timestamp: 2008-287.19:26:06.505 (10/13/2008)
Survey Line: h11251 / tj_3102_reson8101 / 2008-287 / 437_1923
Profile/Beam: 2304/1
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted rock with a least depth sounding of 16.34ft(4.98m). Least depth acquired by Reson 8101 and corrected to MLLW using final water levels and final zoning was applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_3102_reson8101/2008-287/437_1923	2304/1	0.00	000.0	Primary
h11251/tj_3102_reson8101/2008-287/437_1923	2334/11	11.81	130.4	Secondary (grouped)
h11251/tj_3102_reson8101/2008-287/436_1929	2145/100	22.08	294.0	Secondary (grouped)
h11251/tj_3102_reson8101/2008-287/439_1910	2161/99	72.57	151.8	Secondary (grouped)
h11251/tj_3102_reson8101/2008-287/428_2009	2195/1	113.83	009.1	Secondary (grouped)

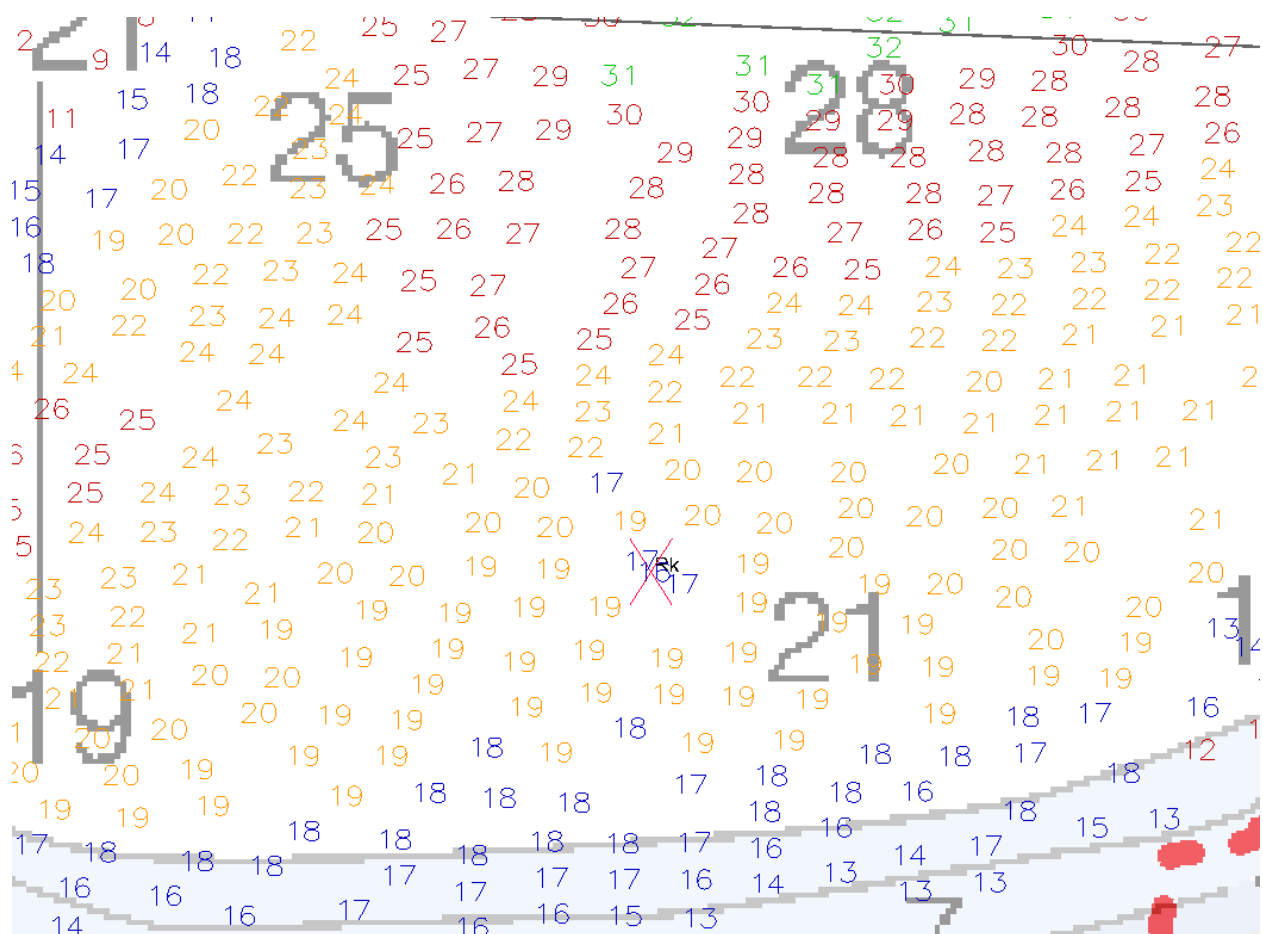
Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Underwater rock / awash rock (UWTROC)
Attributes: QUASOU - 6:least depth known
 SORDAT - 20081013
 SORIND - US,US
 TECSOU - 3:found by multi-beam
 VALSOU - 4.979 m
 VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Feature Images*Figure 1.31.1*

1.32) 14ft**Survey Summary**

Survey Position: 41° 08' 59.9" N, 072° 19' 45.6" W
Least Depth: 4.44 m (= 14.57 ft = 2.428 fm = 2 fm 2.57 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 0.986 m ; **TVU (TPEv)** ± 0.425 m
Timestamp: 2008-297.16:42:54.445 (10/23/2008)
Survey Line: h11251 / tj_3102_reson8101 / 2008-297 / 044_1642
Profile/Beam: 399/1
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted rock with a least depth sounding of 14.57ft (4.44m). Least depth acquired by Reson 8101 and corrected to MLLW using final water levels and final zoning was applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_3102_reson8101/2008-297/044_1642	399/1	0.00	000.0	Primary
h11251/tj_3101_reson8125/2008-282/561_1601	2657/185	28.26	204.7	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/046_1711	169/57	114.46	195.3	Secondary (grouped)
h11251/tj_s222_reson7125_port/2008-268/006_1801	7520/156	521.25	145.3	Secondary (grouped)
h11251/tj_s222_reson7125_port/2008-268/007_1959	14335/4	612.08	146.5	Secondary (grouped)

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Underwater rock / awash rock (UWTROC)
Attributes: SORDAT - 20081023
 SORIND - US,US
 VALSOU - 4.440 m
 WATLEV - 3:always under water/submerged

Figure 1.32.1

1.33) 17ft**Survey Summary**

Survey Position: 41° 09' 01.8" N, 072° 19' 35.1" W
Least Depth: 5.35 m (= 17.55 ft = 2.925 fm = 2 fm 5.55 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 0.984 m ; **TVU (TPEv)** ± 0.400 m
Timestamp: 2008-297.17:08:25.854 (10/23/2008)
Survey Line: h11251 / tj_3102_reson8101 / 2008-297 / 047_1708
Profile/Beam: 129/4
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted rock with a least depth sounding of 17.55ft (5.35m). Least depth acquired by Reson 8101 and corrected to MLLW using final water levels and final zoning was applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_3102_reson8101/2008-297/047_1708	129/4	0.00	000.0	Primary
h11251/tj_3101_reson8125/2008-282/561_1601	1849/70	37.32	022.7	Secondary (grouped)
h11251/tj_3101_reson8125/2008-282/566_1535	1217/49	76.30	208.6	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/049_1714	216/28	90.15	206.0	Secondary (grouped)
h11251/tj_3101_reson8125/2008-282/559_1815	2337/115	100.26	048.5	Secondary (grouped)
h11251/tj_3101_reson8125/2008-282/569_1520	1482/1	115.26	162.4	Secondary (grouped)
h11251/tj_3101_reson8125/2008-282/569_1520	1219/128	139.80	203.2	Secondary (grouped)
h11251/tj_3101_reson8125/2008-282/572_1505	407/81	201.71	185.6	Secondary (grouped)

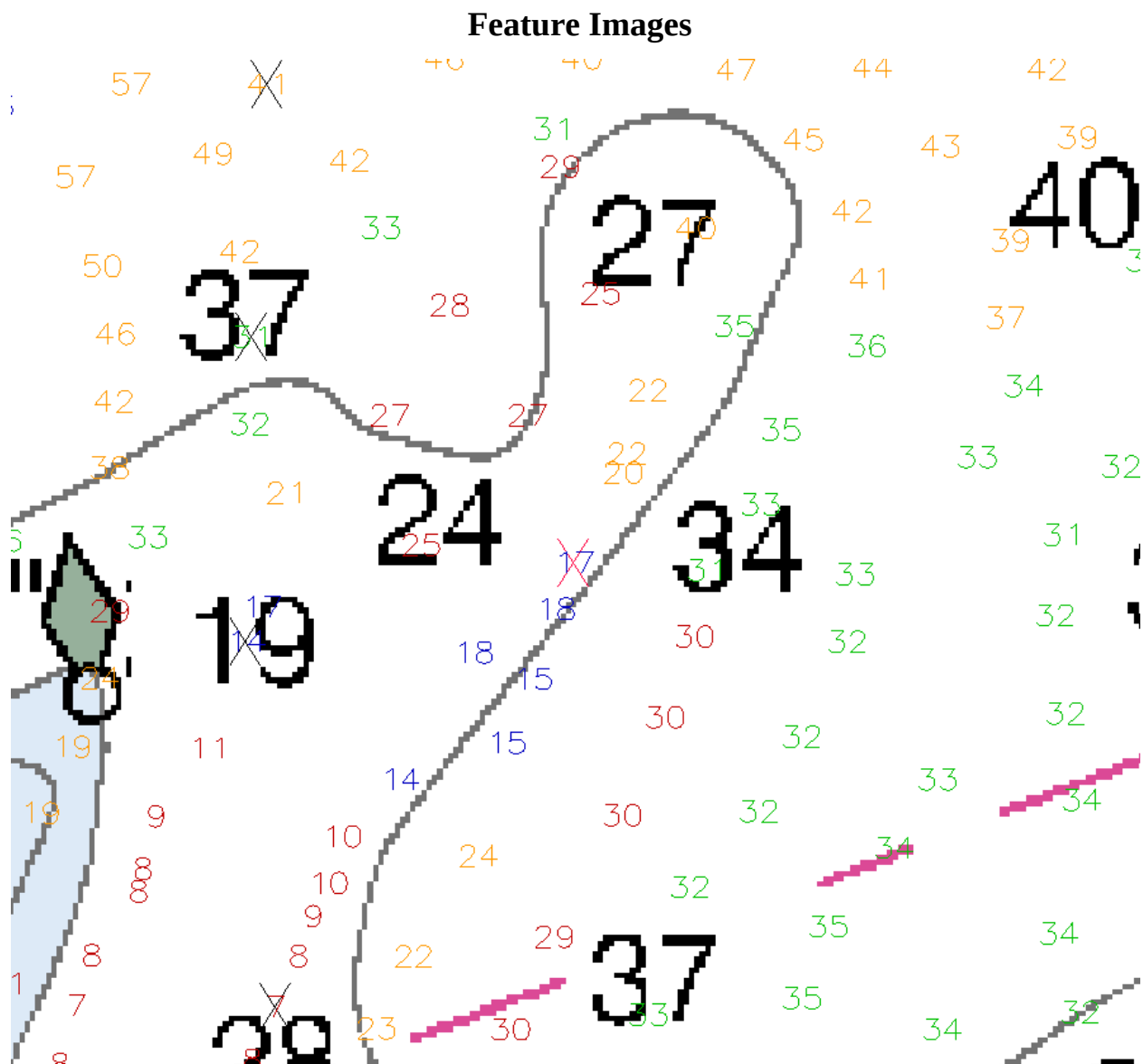
Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Underwater rock / awash rock (UWTROC)
Attributes: SORDAT - 20081005
 SORIND - US,US
 VALSOU - 5.349 m

WATLEV - 3:always under water/submerged

*Figure 1.33.1*

1.34) 46ft**Survey Summary**

Survey Position: 41° 08' 57.2" N, 072° 20' 57.4" W
Least Depth: 14.21 m (= 46.60 ft = 7.767 fm = 7 fm 4.60 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 1.020 m ; **TVU (TPEv)** ± 0.554 m
Timestamp: 2008-297.19:03:49.867 (10/23/2008)
Survey Line: h11251 / tj_3102_reson8101 / 2008-297 / 124_1856
Profile/Beam: 2059/3
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted rock with a least depth sounding of 46.60ft(14.21m). Least depth acquired by on Reson 8101 and corrected to MLLW using final water levels and final zoning was applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_3102_reson8101/2008-297/124_1856	2059/3	0.00	000.0	Primary
h11251/tj_3102_reson8101/2008-297/124_1856	2085/8	31.01	250.8	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/073_1922	2251/86	34.53	170.2	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/072_1906	406/6	43.99	289.8	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/073_1922	2163/41	64.76	119.8	Secondary (grouped)
h11251/tj_3102_reson8101/2008-280/585_2036	1137/7	94.59	068.2	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/073_1922	2249/5	95.44	149.9	Secondary (grouped)
h11251/tj_3102_reson8101/2008-280/583_2050	1223/7	104.08	018.1	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/124_1856	2238/8	109.76	231.2	Secondary (grouped)
h11251/tj_3102_reson8101/2008-280/584_2042	285/13	113.02	267.4	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/068_1810	2092/5	113.64	333.8	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/073_1922	1983/14	122.72	085.0	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/124_1856	2301/11	131.61	233.1	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/124_1856	1792/2	131.85	051.6	Secondary (grouped)
h11251/tj_3101_reson8125/2008-300/039_1458	499/59	134.15	314.7	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/072_1906	183/10	134.44	241.2	Secondary (grouped)
h11251/tj_3101_reson8125/2008-300/039_1458	373/95	136.12	298.6	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/068_1810	2052/13	139.42	337.5	Secondary (grouped)

h11251/tj_3102_reson8101/2008-297/073_1922	2415/5	140.80	182.1	Secondary (grouped)
h11251/tj_3102_reson8101/2008-282/582_1810	2021/21	147.69	351.3	Secondary (grouped)
h11251/tj_s222_reson7125_port/2008-268/005_1637	12600/180	156.08	113.1	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/124_1856	2280/100	163.08	264.5	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/068_1810	1899/3	166.05	005.3	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/073_1922	1955/1	168.95	091.7	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/072_1906	69/3	170.56	242.8	Secondary (grouped)
h11251/tj_3102_reson8101/2008-279/619_1558	339/4	192.96	077.7	Secondary (grouped)
h11251/tj_3102_reson8101/2008-282/582_1810	2407/96	193.22	287.5	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/073_1922	1886/1	195.69	083.0	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/071_1833	463/3	201.56	271.4	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/124_1856	1576/92	240.46	027.4	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/124_1856	1547/13	244.55	040.1	Secondary (grouped)
h11251/tj_3102_reson8101/2008-280/583_2050	976/6	275.42	035.9	Secondary (grouped)

Hydrographer Recommendations

[None]

S-57 Data

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

Attributes: QUASOU - 6:least depth known
 SORDAT - 20081023
 SORIND - US,US
 TECSOU - 3:found by multi-beam
 VALSOU - 14.205 m
 VERDAT - 12:Mean lower low water
 WATLEV - 3:always under water/submerged

Feature Images

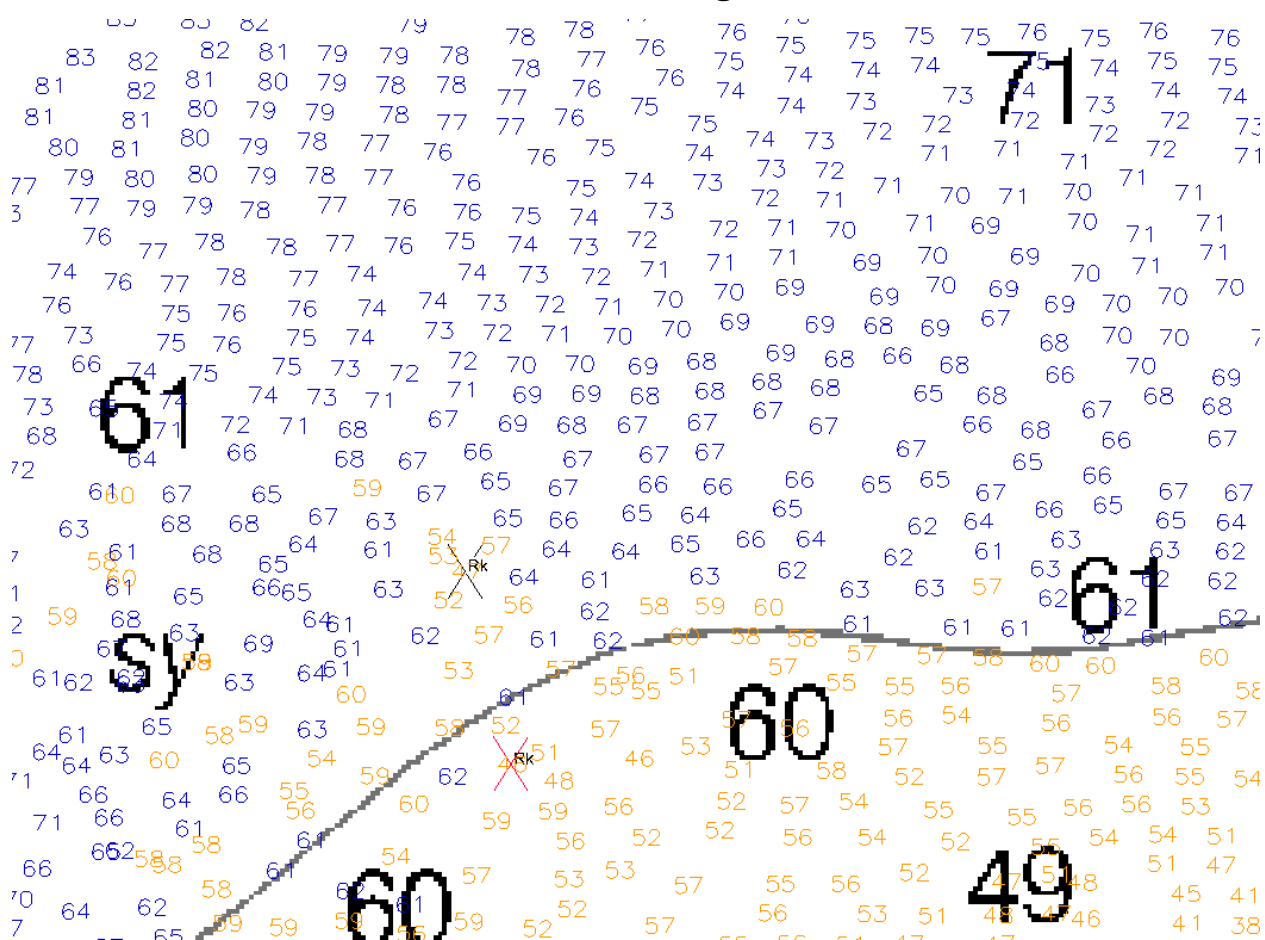


Figure 1.34.1

1.35) Foul Area

Survey Summary

Survey Position: 41° 06' 39.6" N, 072° 23' 04.7" W
Least Depth: 2.99 m (= 9.81 ft = 1.635 fm = 1 fm 3.81 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 0.984 m ; **TVU (TPEv)** ± 0.406 m
Timestamp: 2008-299.15:40:35.344 (10/25/2008)
Survey Line: h11251 / tj_3102_reson8101 / 2008-299 / 063_1534
Profile/Beam: 788/1
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Rocky area acquired with SSS buffer line. Unable to acquire complete MB coverage, unsafe to MB survey. Chart as Foul Area.

Feature Correlation

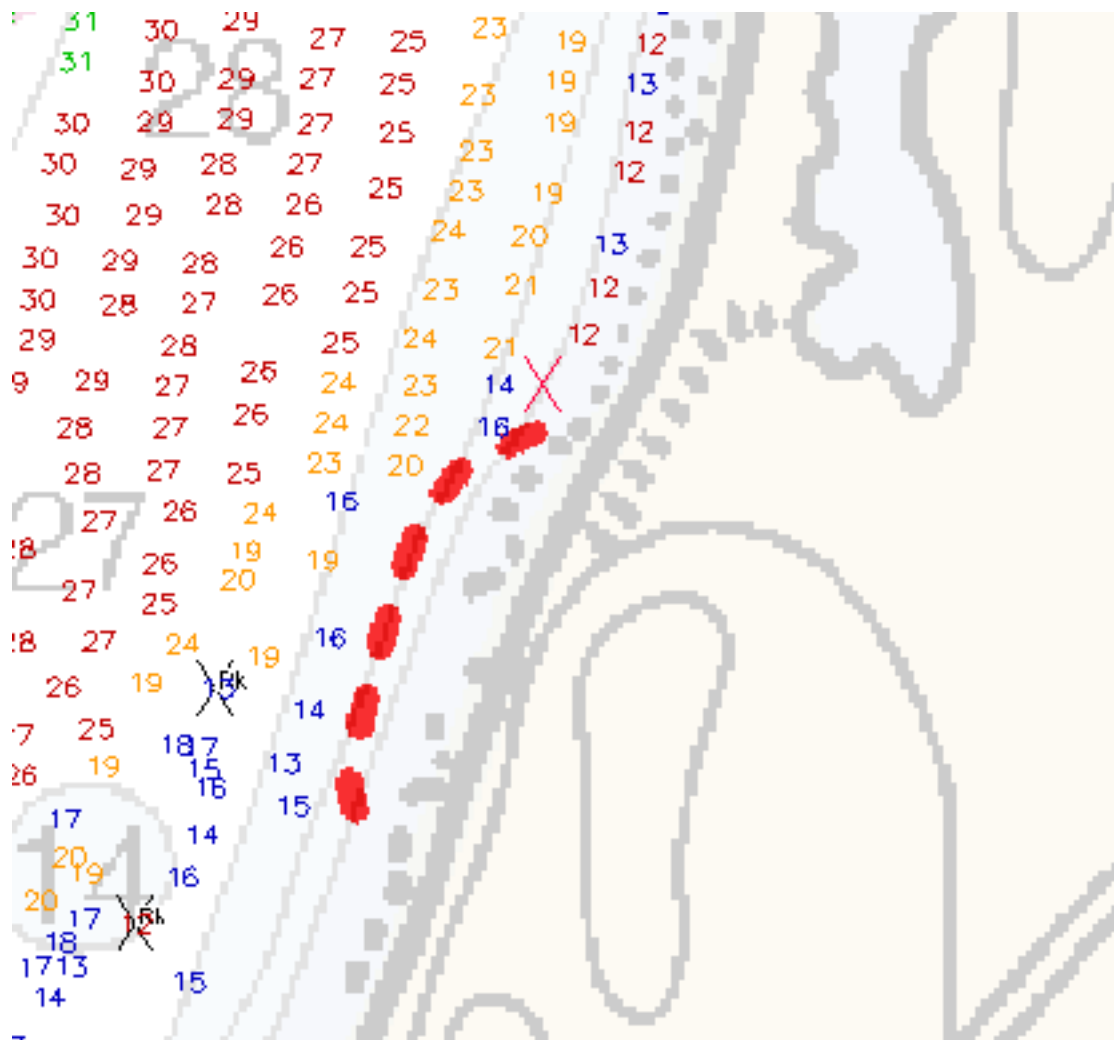
Address	Feature	Range	Azimuth	Status
h11251/tj_3102_reson8101/2008-299/063_1534	788/1	0.00	000.0	Primary

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Underwater rock / awash rock (UWTROC)
Attributes: QUASOU - 2:depth unknown
 SORDAT - 20081007
 SORIND - US,US
 TECSOU - 3:found by multi-beam
 VALSOU - 2.990 m
 VERDAT - 12:Mean lower low water
 WATLEV - 3:always under water/submerged

Feature Images*Figure 1.35.1*

1.36) Foul Area

Survey Summary

Survey Position: 41° 07' 15.7" N, 072° 22' 19.2" W
Least Depth: 3.38 m (= 11.10 ft = 1.849 fm = 1 fm 5.10 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 0.985 m ; **TVU (TPEv)** ± 0.415 m
Timestamp: 2008-299.14:26:58.598 (10/25/2008)
Survey Line: h11251 / tj_3102_reson8101 / 2008-299 / 018_1352
Profile/Beam: 17356/1
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Rocky area acquired with SSS buffer line. Unable to acquire complete MB coverage, unsafe to MB survey. Chart as Foul Area.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_3102_reson8101/2008-299/018_1352	17423/9	0.00	000.0	Primary
h11251/tj_3102_reson8101/2008-287/100_1648	24087/6	14.42	108.3	Secondary (grouped)
h11251/tj_3102_klein5000_sss100/2008-287/100_1530	0032	19.82	254.5	Secondary
h11251/tj_3102_klein5000_sss100/2008-281/114_2059	0001	20.91	259.2	Secondary
h11251/tj_3102_reson8101/2008-299/018_1352	17356/1	21.19	254.3	Secondary (grouped)
h11251/tj_3101_reson8125/2008-297/006_1326	227/155	32.76	223.9	Secondary (grouped)
h11251/tj_3102_reson8101/2008-299/018_1352	17539/76	35.36	077.0	Secondary (grouped)
h11251/tj_3101_reson8125/2008-297/006_1326	648/206	58.00	216.1	Secondary (grouped)
h11251/tj_3102_klein5000_sss100/2008-287/100_1530	0010	70.69	240.0	Secondary (grouped)
h11251/tj_3101_reson8125/2008-297/008_1359	734/175	78.48	181.1	Secondary (grouped)
h11251/tj_3102_klein5000_sss100/2008-287/100_1530	0011	84.84	226.3	Secondary (grouped)
h11251/tj_3102_reson8101/2008-299/018_1352	17092/99	87.56	228.3	Secondary (grouped)

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: CATOBS - 6:foul area
SORDAT - 20081025
SORIND - US,US
TECSOU - 2:found by side scan sonar
VALSOU - 3.382 m
WATLEV - 5:awash

Geo object 2: Underwater rock / awash rock (UWTROC)

Attributes: SORDAT - 20081007
SORIND - US,US
VALSOU - 3.382 m
WATLEV - 3:always under water/submerged

1.37) 54ft**Survey Summary**

Survey Position: 41° 08' 45.0" N, 072° 21' 44.1" W
Least Depth: 16.57 m (= 54.37 ft = 9.061 fm = 9 fm 0.37 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 1.015 m ; **TVU (TPEv)** ± 0.411 m
Timestamp: 2008-297.13:43:14.522 (10/23/2008)
Survey Line: h11251 / tj_s222_reson7125_port / 2008-297 / 036_1342
Profile/Beam: 557/24
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted least depth sounding of 54.73ft (16.57m) on a obstruction. Least depth acquired by Reson 7125 and corrected to MLLW using final water levels and final zoning was applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_3101_reson8125/2008-300/058_1448	85/145	0.00	000.0	Primary
h11251/tj_s222_reson7125_port/2008-297/036_1342	557/24	70.36	145.4	Secondary (grouped)

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Obstruction (OBSTRN)
Attributes: NATCON - 7:metal
 QUASOU - 1:depth known
 TECSOU - 3:found by multi-beam
 VALSOU - 16.571 m
 VERDAT - 12:Mean lower low water
 WATLEV - 3:always under water/submerged
Geo object 2: Underwater rock / awash rock (UWTROC)
Attributes: SORDAT - 20081005
 SORIND - US,US

VALSOU - 16.571 m

WATLEV - 3:always under water/submerged

H11251 AWOIS Report

Registry Number: H11251
State: New York
Locality: Eastern Long Island Sound
Sub-locality: Truman Beach to Inlet point
Project Number: OPR-B370-TJ-08
Survey Dates: 10/14/2008 - 10/23/2008

Charts Affected

Number	Edition	Date	Scale (RNC)	RNC Correction(s)*
12358	20th	04/01/2008	1:40,000 (12358_1)	NGA NTM: None (06/07/2008) USCG LNM: None (06/03/2008) CHS NTM: None (04/25/2008)
12354	42nd	12/01/2006	1:80,000 (12354_1)	USCG LNM: 04/29/2008 (06/03/2008) CHS NTM: None (04/25/2008) NGA NTM: 12/04/1999 (06/07/2008)
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	SOUNDING	AWOIS	[no data]	[no data]	[no data]	---
1.2	1186/1	Shoal	1.95 m	41° 08' 46.4" N	072° 19' 57.2" W	12417
1.3	114/10	Rock	16.96 m	41° 09' 28.4" N	072° 19' 20.2" W	12415

1 - DR_AWOIS

1.1) AWOIS #12416 - SOUNDING

No Primary Survey Feature for this AWOIS Item

Search Position: 41° 08' 43.5" N, 072° 20' 50.3" W
Historical Depth: 5.49 m
Search Radius: 100
Search Technique: S2,MB
Technique Notes: [None]

History Notes:

H01590b (1883)-- 18 FT LEAD-LINE DEPTH NOW CHARTED IN POSITION: 41°08'43.50" N 072°20'50.27" W [NAD 83] [ENTERED 4/19/04 JCM]

Survey Summary

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

Remarks:

Disproved AWOIS 12416, a charted 18 ft, with MB and SSS. Soundings corrected to MLLW using verified water levels and final zoning was applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
AWOIS_B370-TJ-08	AWOIS # 12416	0.00	000.0	Primary

Hydrographer Recommendations

[None]

S-57 Data

[None]

1.2) 1186/1**Primary Feature for AWOIS Item #12417**

Search Position: 41° 08' 48.5" N, 072° 19' 58.7" W
Historical Depth: 2.13 m
Search Radius: 100
Search Technique: S2,MB
Technique Notes: Search not required in less than 4 meters water depth

History Notes:

H01590b (1883) -- 7 FT LEAD-LINE DEPTH NOW CHARTED IN POSITION: 41°08'48.52" N 072°19'58.72" W
 [NAD 83] [ENTERED 4/19/04 JCM]

Survey Summary

Survey Position: 41° 08' 46.4" N, 072° 19' 57.2" W
Least Depth: 1.95 m (= 6.41 ft = 1.068 fm = 1 fm 0.41 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 0.983 m ; **TVU (TPEv)** ± 0.401 m
Timestamp: 2008-288.14:12:45.120 (10/14/2008)
Survey Line: h11251 / tj_3102_reson8101 / 2008-288 / 177_1410
Profile/Beam: 1186/1
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Disproved AWOIS 12417, a charted 7 ft sounding, with MB and SSS. Soundings corrected to MLLW using verified water levels and final zoning was applied.

Feature Correlation

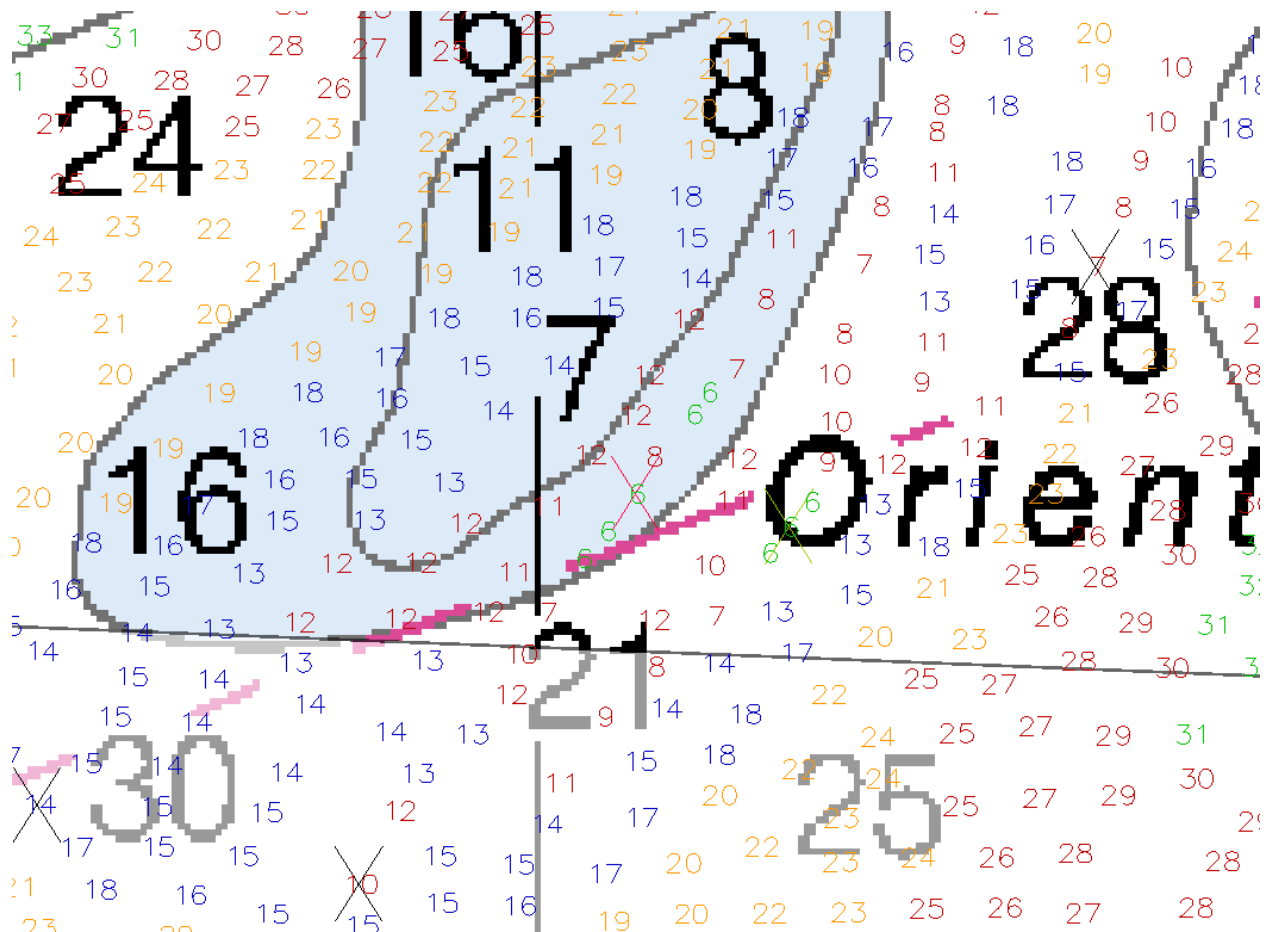
Address	Feature	Range	Azimuth	Status
h11251/tj_3102_reson8101/2008-288/177_1410	1186/1	0.00	000.0	Primary
AWOIS_B370-TJ-08	AWOIS # 12417	74.51	151.2	Secondary (grouped)
ChartGPs - ENC US4NY1GM	Depth 66	142.53	132.7	Secondary (grouped)

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Sounding (SOUNDG)
Attributes: QUASOU - 1:depth known
SORDAT - 20081014
SORIND - US,US
TECSOU - 3:found by multi-beam
VERDAT - 12:Mean lower low water

Feature Images*Figure 1.2.1*

1.3) 114/10**Primary Feature for AWOIS Item #12415**

Search Position: 41° 09' 30.4" N, 072° 19' 28.3" W
Historical Depth: [None]
Search Radius: 200
Search Technique: S2,MB
Technique Notes: [None]

History Notes:

LNM 12/91 CGD1 (3/20/91) -- WRECK, POSITION APPROXIMATE, NEAR: 41°09'30.40" N 072°19'28.30" W
 [NAD 83] [ENTERED 4/19/04 JCM]

Survey Summary

Survey Position: 41° 09' 28.4" N, 072° 19' 20.2" W
Least Depth: 16.96 m (= 55.65 ft = 9.275 fm = 9 fm 1.65 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 0.999 m ; **TVU (TPEv)** ± 0.431 m
Timestamp: 2008-297.17:29:59.075 (10/23/2008)
Survey Line: h11251 / tj_3102_reson8101 / 2008-297 / 055_1729
Profile/Beam: 114/10
Charts Affected: 12358_1, 12354_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

AWOIS 12415, a charted wreck PA, was covered by MB and SSS, but only 80% of the required 200 meter search radius was covered. Soundings corrected to MLLW using verified water levels and final zoning was applied. Retain as charted.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11251/tj_3102_reson8101/2008-297/055_1729	114/10	0.00	000.0	Primary
h11251/tj_3102_reson8101/2008-297/055_1729	92/6	18.62	095.0	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/055_1729	80/1	43.40	118.8	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/056_1735	346/98	82.55	102.7	Secondary (grouped)
h11251/tj_s222_reson7125_port/2008-268/012_1714	802/256	97.49	173.0	Secondary (grouped)
h11251/tj_3101_reson8125/2008-280/625_2029	389/105	102.97	124.9	Secondary (grouped)
h11251/tj_3101_reson8125/2008-280/626_2024	1393/240	122.05	143.5	Secondary (grouped)

h11251/tj_3102_reson8101/2008-297/056_1735	537/19	123.21	178.7	Secondary (grouped)
h11251/tj_s222_reson7125_port/2008-268/012_1714	1104/98	124.00	109.4	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/056_1735	337/26	133.40	119.9	Secondary (grouped)
h11251/tj_s222_reson7125_port/2008-268/013_1352	5905/241	150.65	122.1	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/056_1735	646/27	154.28	205.0	Secondary (grouped)
h11251/tj_3101_reson8125/2008-280/626_2024	1625/210	162.11	195.2	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/056_1735	295/13	162.28	115.5	Secondary (grouped)
ChartGPs - ENC US4NY1GM	Danger 4	186.95	117.5	Secondary (grouped)
AWOIS_B370-TJ-08	AWOIS # 12415	199.14	108.5	Secondary (grouped)
h11251/tj_3102_reson8101/2008-297/056_1735	195/11	201.80	104.4	Secondary (grouped)
h11251/tj_3101_reson8125/2008-280/627_2019	387/2	211.21	114.4	Secondary (grouped)
h11251/tj_s222_reson7125_port/2008-268/014_1257	3085/8	243.27	117.9	Secondary (grouped)

Hydrographer Recommendations

[None]

S-57 Data

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

Attributes: QUASOU - 1:depth known
 SORDAT - 20081023
 SORIND - US,US
 TECSOU - 3:found by multi-beam
 VALSOU - 16.962 m
 VERDAT - 12:Mean lower low water
 WATLEV - 3:always under water/submerged

Feature Images

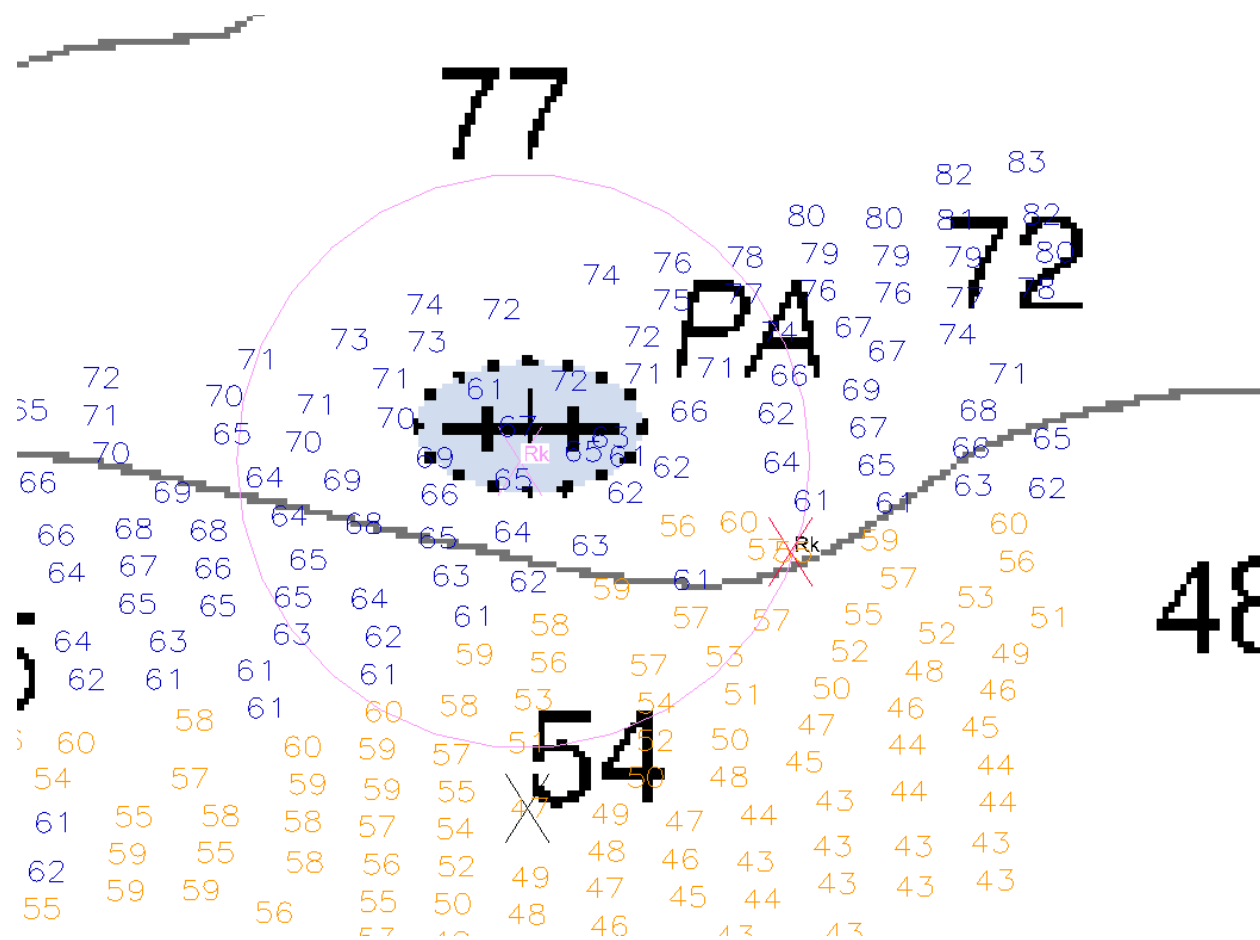
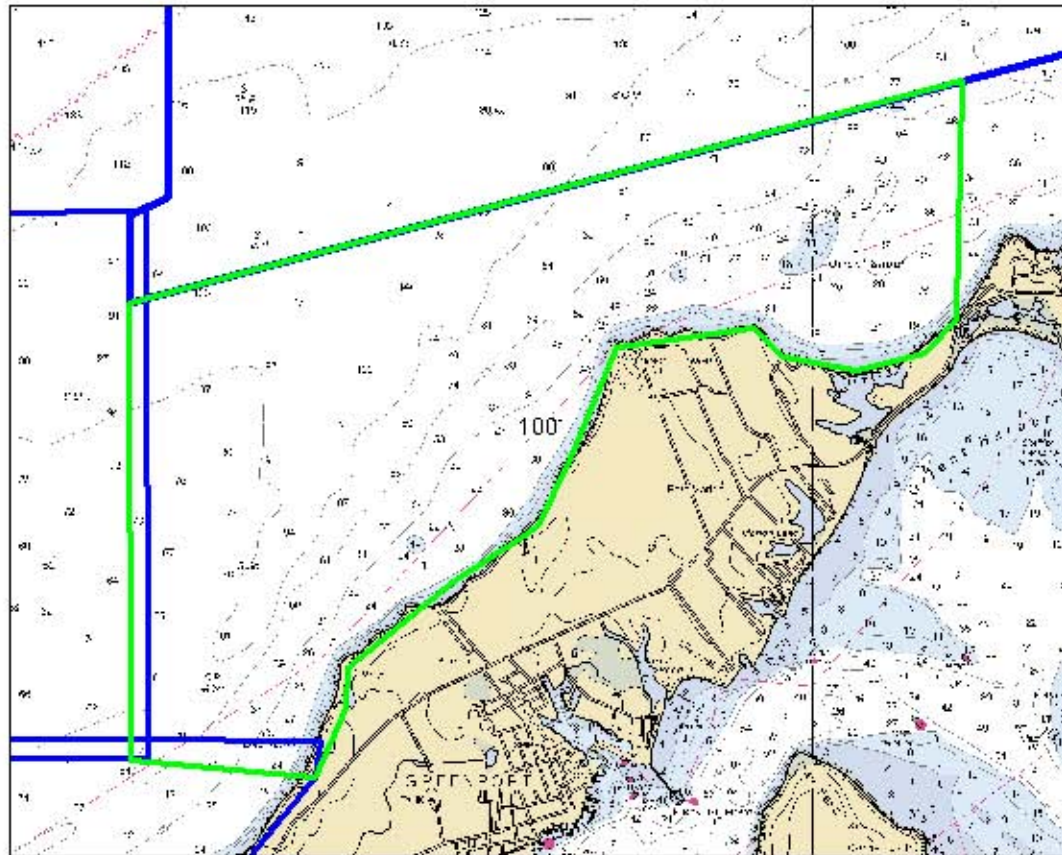


Figure 1.3.1

Appendix III

Progress Sketch



Project	Sheet_Letter	H_num	HQ_Est_SHM	CumIPercCompPre	CumIPercCompCt	SHM_CompCurl	CumSHMcom	CumIPercProcess
B370-TJ-08	P		10	0	0	0	0	0
B370-TJ-08	K	H11999	34	0	90	31	31	0
B370-TJ-08	Q	H11997	37	0	100	37	37	0
B370-TJ-08	J	H11251	6	0	100	6	6	0
B370-TJ-08	H	H11445	3	0	100	3	3	0
			4	0	0	0	0	0
			0	0	0	0	0	0

Progress Sketch OPR-B370-TJ-08
September 2008

Appendix IV

Tides and Water Levels

1. Tide Notes

-N/A

2. Request for Approved Tides

3. Final Tide Notes



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

October 29, 2008

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

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

SUBJECT: Request for Approved Tides/Water Levels

Please provide the following data:

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

Transmit data to the following:

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

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

Project No.: OPR-B370-TJ-08
Registry No.: H11251
State: New York
Locality: Eastern Long Island Sound
Sublocality: Truman Beach to Inlet Point

Attachments containing:

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

cc: N/CS33



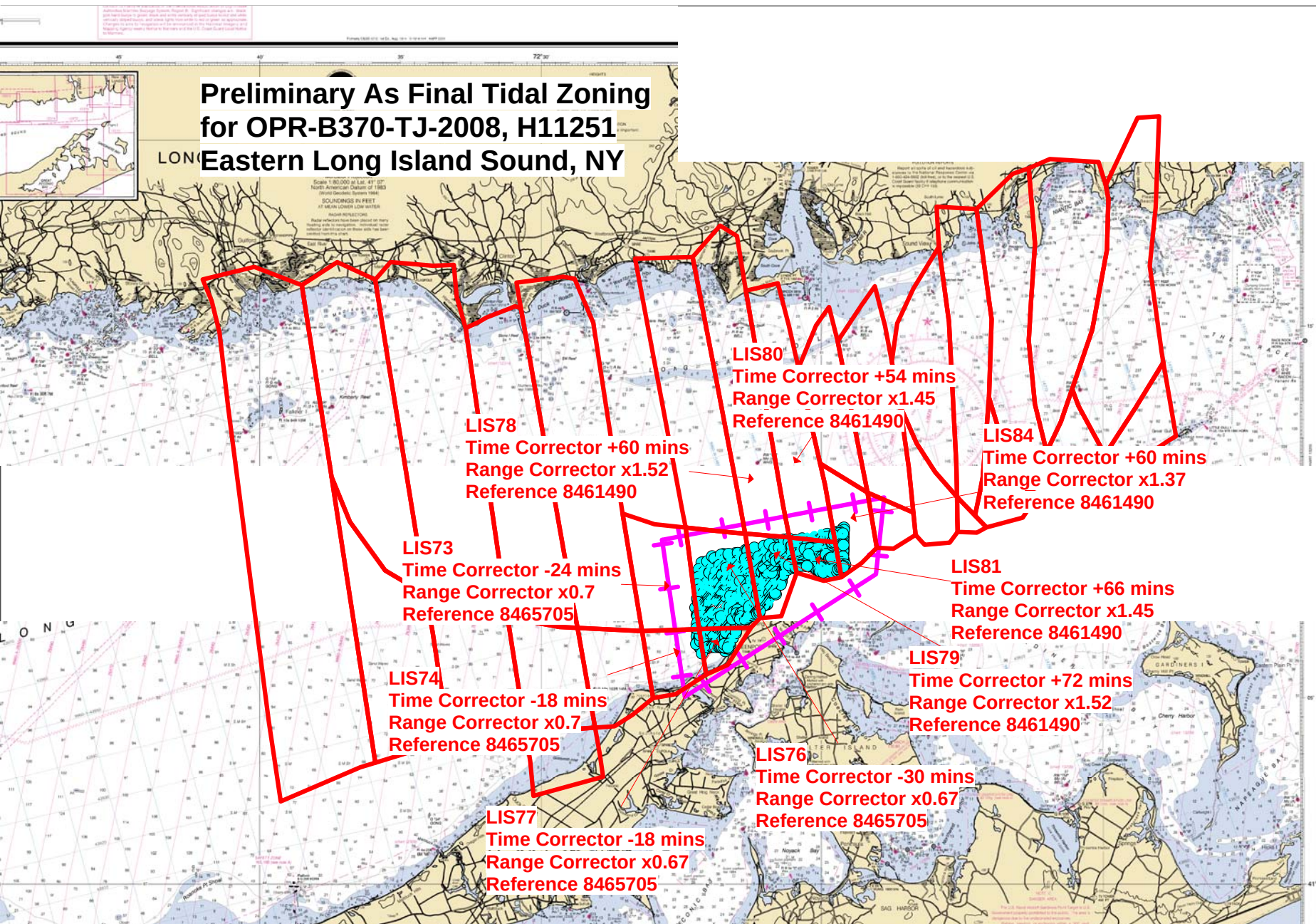
Year_DOY	Min Time	Max Time
2008_268	13:00:07	22:06:21
2008_275	15:13:33	19:15:40
2008_279	15:31:46	21:01:56
2008_280	19:32:00	21:15:30
2008_281	19:33:45	21:30:33
2008_282	14:33:55	21:28:14
2008_287	16:04:37	21:29:17
2008_288	12:34:15	14:48:48
2008_295	12:44:39	20:23:49
2008_297	12:40:02	21:31:43
2008_298	13:36:06	19:37:14
2008_299	12:54:56	21:11:23
2008_300	13:27:05	18:05:31
2008_301	12:34:37	13:10:38



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



**Preliminary As Final Tidal Zoning
for OPR-B370-TJ-2008, H11251
Eastern Long Island Sound, NY**



Appendix V

Supplemental Survey Records & Correspondence

Subject: Re: H11821 Deliverables

From: Shepard Smith <Shep.Smith@noaa.gov>

Date: Fri, 30 May 2008 11:56:42 -0400

To: daniel wright <Daniel.Wright@noaa.gov>

CC: megan nadeau <Megan.Nadeau@noaa.gov>, jasper schaer <jasper.schaer@noaa.gov>, Castle E Parker <Castle.E.Parker@noaa.gov>, Wesley Kitt <Wesley.Kitt@noaa.gov>

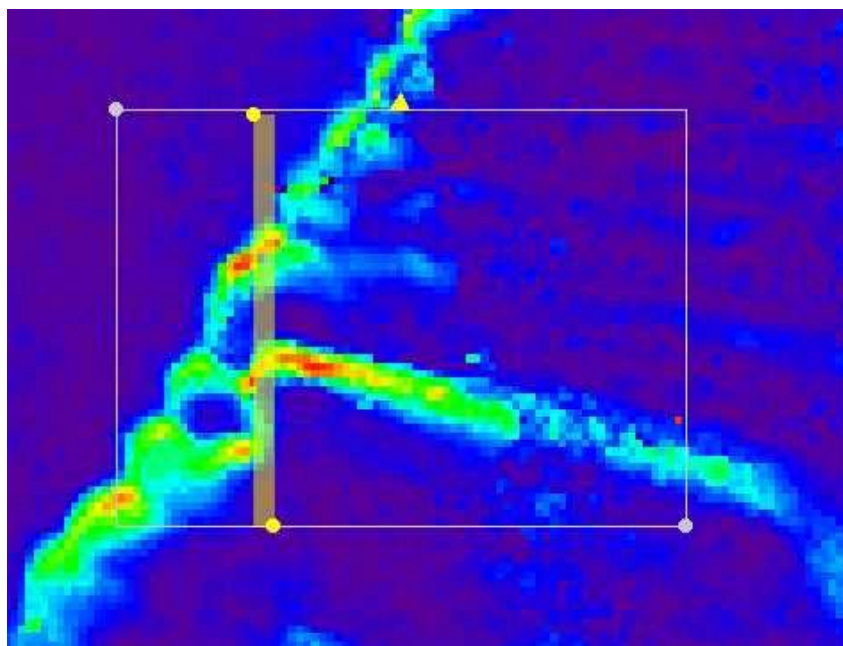
TJ,

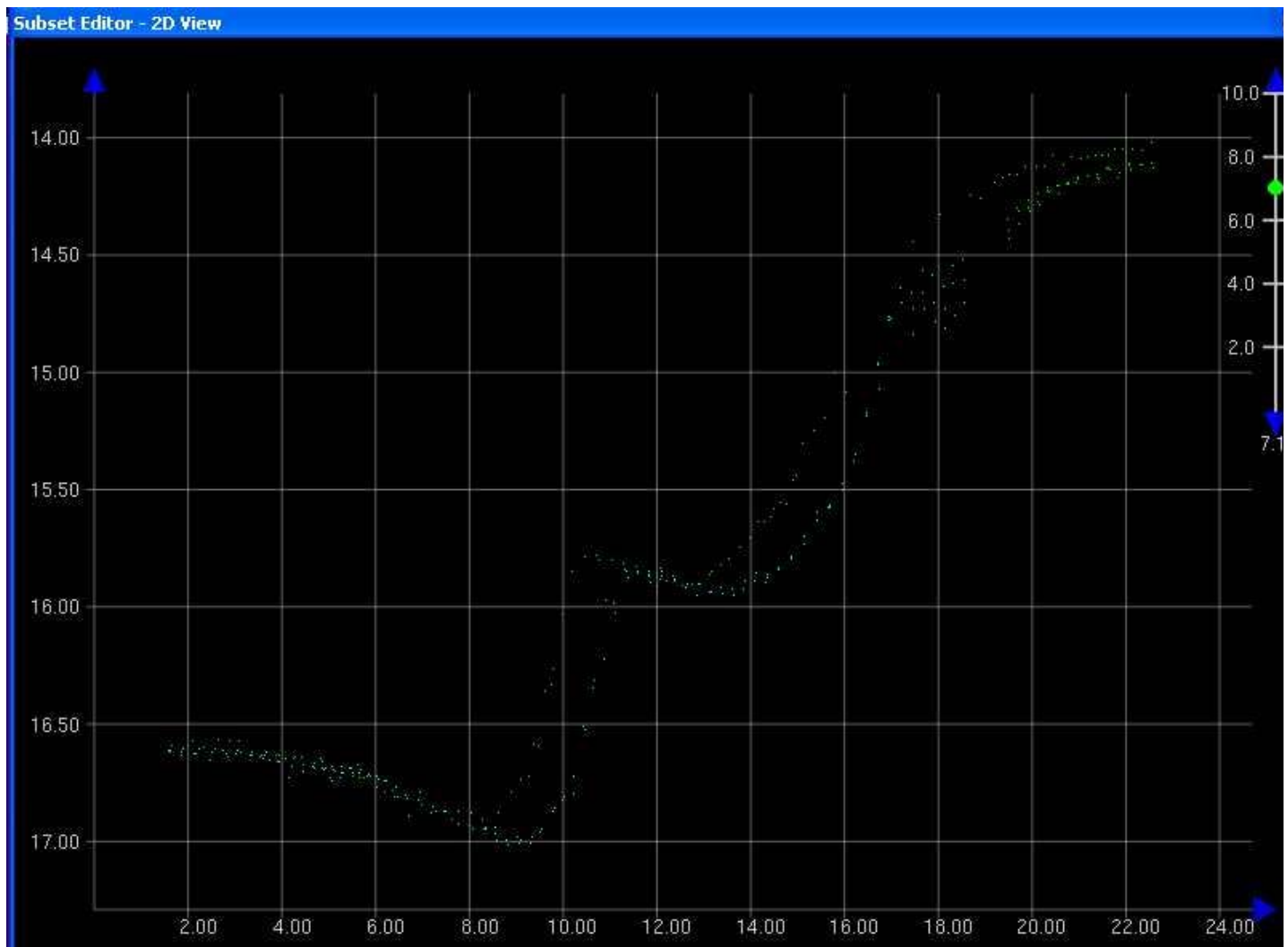
Yes, please.

I envision something along these lines:

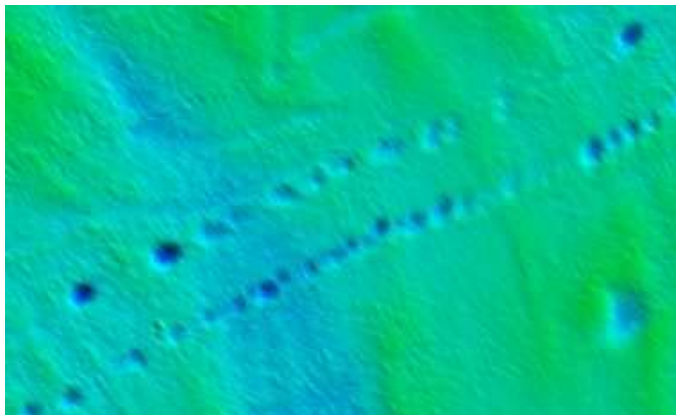
"The standard deviation layer of each grid was examined for areas of unusually high uncertainty that might indicate unresolved systematic errors. The colors in the following screen captures are scaled from 0 to 0.5m (*adjust as appropriate*). Comments to follow:

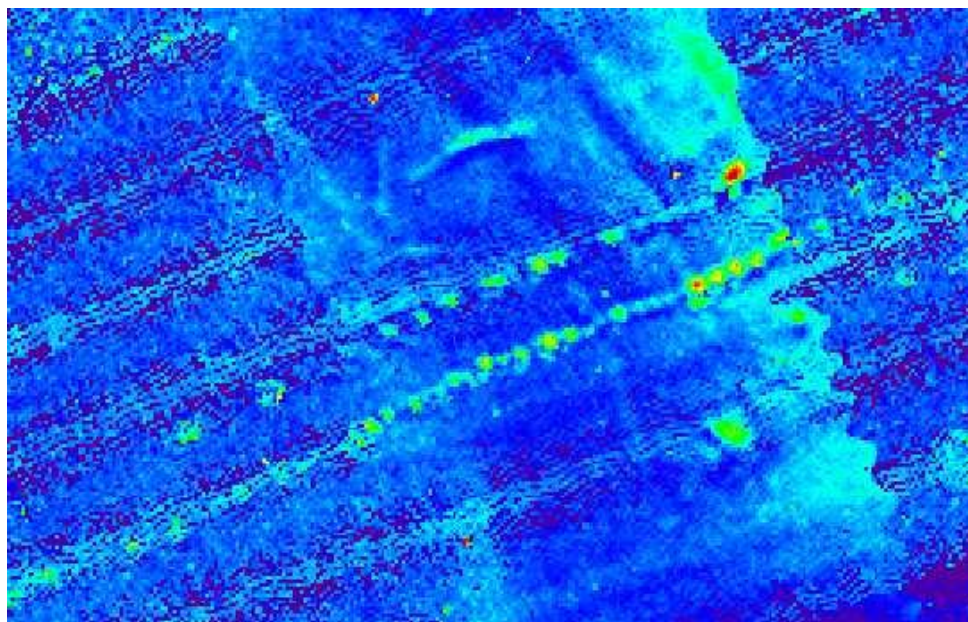
In areas of steep slopes and on the edges of dredged scours, horizontal errors between adjacent lines on the order of 1m caused std deviation of around 0.5m



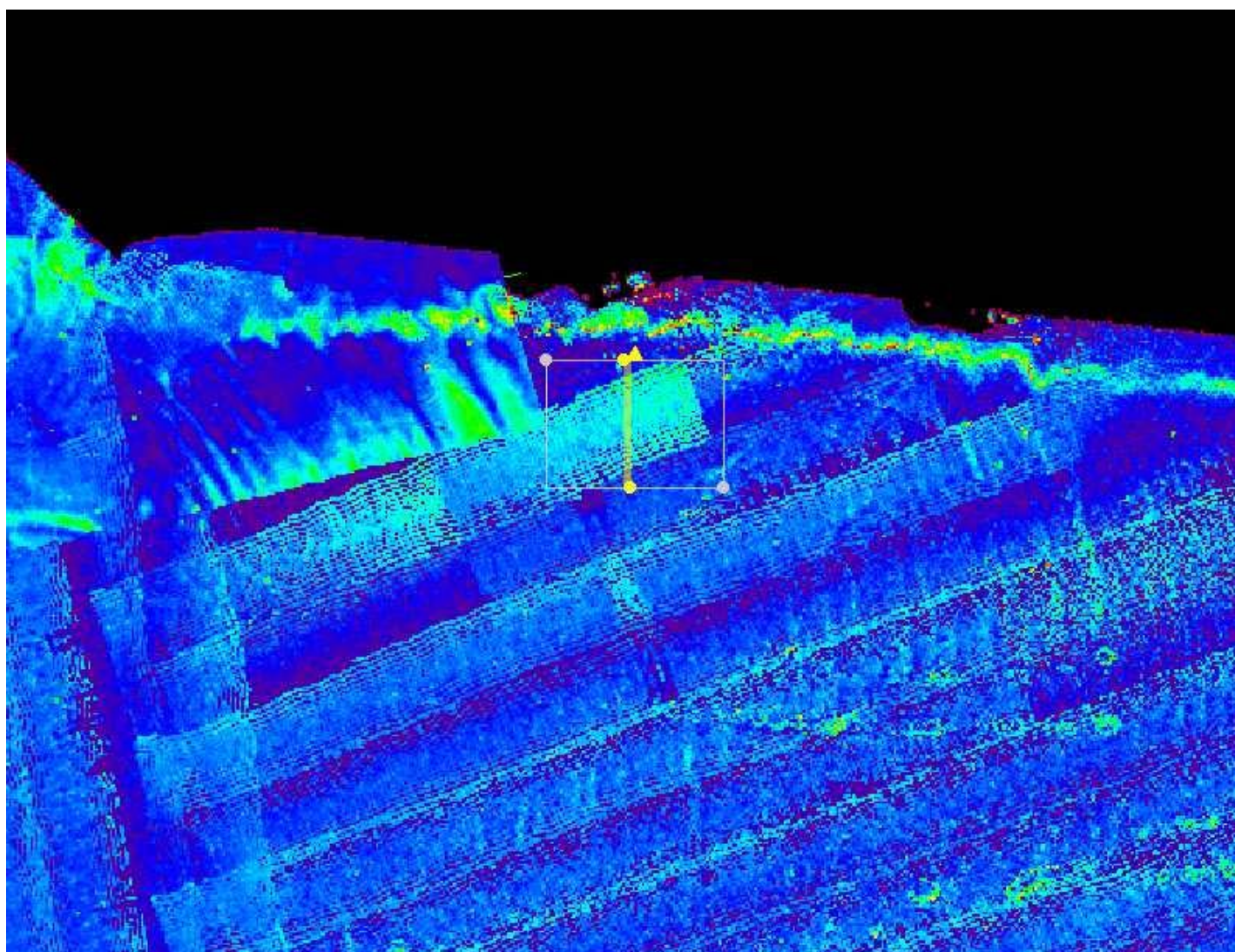


Lines of spudprints show up as lines of high std deviation that happened to coincide with the direction of the mainscheme lines.





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



etc, etc...

daniel wright wrote:

Hello Shep,

We are preparing our deliverables for H11821, Approaches to Jacksonville, and we would like confirmation/clarification on the following:

1. In our discussion regarding crossline comparisons, we agreed that an analysis of areas of high standard deviation in the BASE surface would be preferable over Pydro crossline stats, or a crossline to mainscheme surface differencing. Do you still concur?

2. Section 5.1.2 of the Specs and Deliverables;

"If single beam and multibeam are specified in the Hydrographic Survey Project Instructions or Statement of Work and they both fall in a common area, then a separate single beam surface is required."

In 2 of the 5 field sheets we collected both MB and SB for mainscheme bathy. If the soundings will be generated from the combined data, wouldn't this be better submitted as 1 combined surface? Or would you prefer 2 separate surfaces? Currently we have them combined.

Please let us know your thoughts on this.

Br,
Dan

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

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

jasper.schaer wrote:

Our data analysis has revealed that we are at IHO-2, if we use the 0.38 TPE value for B370. Is this tpe value, 0.38m, a 1-sigma or 95% value?

thanks-js

jasper.schaer wrote:

Thanks, Craig for your quick response. -js

Craig Martin wrote:

Jeremy / Jasper,

In response to your email on two of TJ's survey projects:

- 1) The error estimate that should be used for the tides portion of the TPE on the B370 project is 0.38 meters.
- 2) Generally, no revision to preliminary tide zones is conducted, unless the mission is drastically beyond the scope of the original project submitted to CO-OPS. Short overages outside of the preliminary zoning is addressed and covered in the Smooth Tide process. We have not received a request for smooth tides for any B370 sheets to date. Once HPT receives these requests we will adjust the zoning and send back to the ship for application.
- 3) Due to total lack of tide information inside Menemsha Pond, CO-OPS is unable to provide reliable tide correctors to meet OCS specs beyond the southern border of Edy's Island. The TCARI grid was adjusted to the point where information could be confidentially extrapolated to meet these standards. This was annotated in the "Notes" section on the Final Tide note for the H-11920 in which the data was collected. In addition, CO-OPS informed HSD of this lack of tide information when the data was collected.

Regards,
Craig

Jeremy McHugh wrote:

Hi HPT,
Could you please address each of Jasper's three concerns and copy everyone on the reply. Thanks!
Jeremy

----- Original Message -----

Subject: Tide zoning issues on two TJ's survey projects
Date: Sat, 27 Sep 2008 16:39:25 -0400
From: jasper.schaer <jasper.schaer@noaa.gov>
Organization: NOAA-TJ
To: Smooth.Tides@noaa.gov

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

Tide zoning issues on B370 & B307.

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

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

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

r-js

--

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

Carolyn Lindley <Carolyn.Lindley@noaa.gov>

Oceanographer

NOAA/National Ocean Service

CO-OPS

From Olivia.Hauser@noaa.gov



Sent Thursday, May 1, 2008 3:10 pm

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

Cc Mark.Vanwaes@noaa.gov

Bcc

Subject HVCR

Hi FOOs, CSTs and Team Leads,

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

Olivia

Subject: Re: for the Appendix V record, OPR-B307, H11920 & H11921

From: "shep.smith" <smith.shepard@gmail.com>

Date: Sat, 26 Jul 2008 14:26:28 -0400

To: jasper schaeer <jasper.schaer@noaa.gov>

Sounds like a good approach.

jasper schaeer wrote:

Sir,

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

V/r-js

U.S. DEPARTMENT OF COMMERCE
(10-95) NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

VESSEL No.	PROJECT NO. OPR – B370 - TJ-08 FIELD NO. H11251 SHEET LETTER:			YEAR 2008	SURVEY TITLE: OPR-B370-TJ-08			SURVEY NO: H11251	CHECKED BY:	DATE CHECKED:
POSITION NUMBERS	DAY OF THE YEAR	SAMPLE POSITION		DEPTHS (METERS)	TYPE OF SAMPLER	APPROXIMATE PENETRATION (CENTIMETERS)	LENGTH OF CORE	FIELD DESCRIPTION SIZE OR CONSISTENCY COLOR-NOUN (USE STANDARD ABBREVIATIONS)	REMARKS (Unusual conditions ,cohesiveness, dented cutter, stat.no.,type of bottom, relief .i.e slope plain disposition etc.)	
		LATITUDE (o ' ") North	LONGITUDE (o ' ") West							
1	300	41.121716962014	-72.391701359745				1.5"	fne br S		
2	300	41.113597833314	-72.395290997216				1.5"	fne br S		
3	300	41.109118999980	-72.389958663843				1.5"	crs br S		
4	300	41.125628833313	-72.371034497028				1.5"	hrd		
5	300	41.130947666647	-72.379141497091				1.5"	fne dk gy M		
6	300	41.136210666646	-72.364375496974				1.5"	sml P		
7	300	41.144946499978	-72.341354163449				1.5"	hrd sml P		
8	300	41.145750166644	-72.322899496623				1.5"	fne br S brk Sh		
9	300	41.155564499977	-72.322725996620				1.5"	lrg P		
10	300	41.154297333311	-72.335118330062				1.5"	brk Sh sml P		
11	300	41.151016333312	-72.352296496874				1.5"	brk Sh crs S		
12	300	41.146330333312	-72.365237830313				1.5"	brk Sh		
13	300	41.144093999980	-72.378789830420				1.5"	crs S sml Sh		
14	300	41.140685833314	-72.393461163866				1.5"	sml P lrg P		
15	282	41.149120222199	-72.327234079994				1.5"	hrd		
16	282	41.143466916645	72.355516496901				1.5"	med bn S Sh P		