

H12285

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: H12285

LOCALITY

State: Virginia

General Locality: Southern Chesapeake Bay

Sub-locality: Eastern Branch to Money Point

2011

CHIEF OF PARTY
CDR Lawrence T. Krepp

LIBRARY & ARCHIVES

Date:

NOAA FORM 77-28 (11-72)		U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION	REGISTRY NUMBER:
HYDROGRAPHIC TITLE SHEET			H12285
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:	Virginia		
General Locality:	Southern Chesapeake Bay		
Sub-Locality:	Eastern Branch to Money Point		
Scale:	1:10,000		
Dates of Survey:	03/14/2011 to 08/10/2011		
Instructions Dated:	02/11/2011		
Project Number:	OPR-E350-TJ-11		
Field Unit:	NOAA Ship <i>Thomas Jefferson</i>		
Chief of Party:	CDR Lawrence T. Krepp		
Soundings by:	Multibeam Echo Sounder, Singlebeam Echo Sounder		
Imagery by:	Side Scan Sonar		
Verification by:	Atlantic Hydrographic Branch		
Soundings Acquired in:	meters at Mean Lower Low Water		
H-Cell Compilation Units:	<i>meters at Mean Lower Low Water</i>		
Remarks:			

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

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Descriptive Report to Accompany Survey H12285

Project: OPR-E350-TJ-11

Locality: Southern Chesapeake Bay

Sublocality: Eastern Branch to Money Point

Scale: 1:10,000

March 2011 - July 2012

NOAA Ship *Thomas Jefferson*

Chief of Party: CDR Lawrence T. Krepp

A. Area Surveyed

The area surveyed comprised two parts. The Eastern Branch Elizabeth River from the N&W Bascule bridge to the N&W Swing Bridge. The Southern Branch of the Elizabeth River from St Helena to the N&W bascule bridge at Gilmerton.

A.1 Survey Limits

Data was acquired within the following survey limits:

Northeast Limit	Southwest Limit
36.8422222222 N 76.3127777778 W	36.775 N 76.2436111111 W

Table 1: Survey Limits

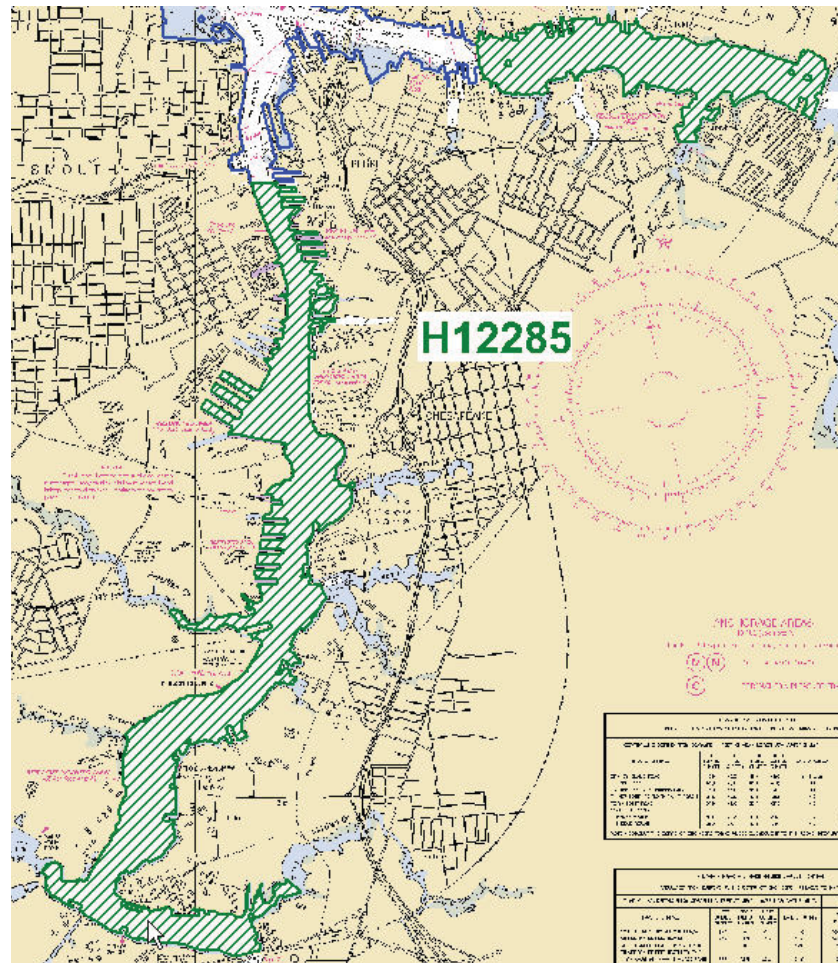


Figure 1: Sheet limits

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

A.2 Survey Purpose

The purpose of this project is to provide contemporary surveys to update National Ocean Service (NOS) nautical charting products. The project will also provide a foundation for development of an inset on chart 12253 to support Operation Sail (OpSail) activities occurring in 2012. This project will cover approximately 33 nm² of resurvey and category three survey areas as designated in NOAA Hydrographic Survey Priorities, 2010 edition.

A.3 Survey Quality

The entire survey is adequate to supersede previous data.

See Approval Sheet

H12285

TABLE 1. SUMMARY OF DATA

ITEM	UNIT	VALUE	REMARKS
1. AREA	SQ. FT.	1,200,000	
2. PERIMETER	FT.	10,000	
3. DEPTH	FT.	10	
4. WIDTH	FT.	100	
5. LENGTH	FT.	1000	
6. VOLUME	CUB. FT.	12,000,000	
7. WEIGHT	TONS	120,000	
8. COST	DOLLARS	1,200,000	
9. TIME	HOURS	100	
10. DISTANCE	FEET	1000	

LEGEND

1. AREA

2. PERIMETER

3. DEPTH

4. WIDTH

5. LENGTH

6. VOLUME

7. WEIGHT

8. COST

9. TIME

10. DISTANCE

Within the USACE maintained channel, the coverage requirement was HLS SSS. This standard was not met. Object detection MBES and 200% SSS were acquired in lieu of the HLS SSS requirement.



A.5 Survey Statistics

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

	HULL ID	3101 MB	3102 MB	Total
LNM	SBES Mainscheme	0.0	8.9	74.3
	MBES Mainscheme	60.6	32.3	92.9
	Lidar Mainscheme	0	0	0
	SSS Mainscheme	0	71.6	74.3
	SBES/MBES Combo Mainscheme	0	0	167.2
	SBES/SSS Combo Mainscheme	0	0	74.3
	MBES/SSS Combo Mainscheme	0	0	0
	SBES/MBES Combo Crosslines	3.5	0.8	13.2
	Lidar Crosslines	0	0	0
Number of Bottom Samples				0
Number of DPs				118
Number of Items Items Investigated by Dive Ops				0
Total Number of SNM				0.0001

Table 2: Hydrographic Survey Statistics

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

<i>Survey Dates</i>
03/14/2011
03/15/2011
03/17/2011
03/21/2011
03/22/2011
06/29/2011
07/06/2011
07/07/2011
07/08/2011
07/11/2011
07/13/2011
07/14/2011
07/20/2011
07/25/2011
07/26/2011
07/27/2011
07/28/2011
07/29/2011
08/03/2011
08/04/2011
08/10/2011

Table 3: Dates of Hydrography

A.6 Shoreline

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

A.7 Bottom Samples

Six bottom samples were taken, active dredging taking place in most areas.

Do not concur. The field unit did not acquire any bottom samples.

B. Data Acquisition and Processing

B.1 Equipment and Vessels

Refer to the Data Acquisition and Processing Report (DAPR) for a complete description of data acquisition and processing systems, survey vessels, quality control procedures and data processing methods. Additional information to supplement sounding and survey data, and any deviations from the DAPR are discussed in the following sections.

B.1.1 Vessels

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

Hull ID	3101	3102
LOA	31 feet	31 feet
Draft	0.8 meters	0.8 meters

Table 4: Vessels Used

Data were acquired by Thomas Jefferson Launches 3101 and 3102. 3101 acquired data from Reson 7125sv MBES, DP's. 3102 acquired data from Reson 7125 sv MBES, Odom CV200 VBES, Klein 5000 SSS, and DP's

B.1.2 Equipment

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

Manufacturer	Model	Type
Odom	CV200	SBES
Klein	5000	SSS
Reson	7125SV	MBES
Applanix	POS/MV	Positioning and Attitude System
Sea Bird	SBE19+	Conductivity, Temperature and Depth Sensor

Table 5: Major Systems Used

See DAPR for detailed information on equipment.

B.2 Quality Control

B.2.1 Crosslines

As per the HSSD 2011, Section 5.2.4.3 the quality control check was done using the standard deviation layer of the survey's BASE surface. Areas of unusually high standard deviation were investigated and resolved in processing, except where caused by areas of high bathymetric relief or the presence of features. No formalized cross line scheme was developed, lines were acquired on the fly as time and conditions permitted. River traffic and dredge operations were a factor.

A list of accepted cross lines can be found H:\Surveys\H12285\Descriptive Report\Separates\IV_Crossline_Comparisons. The images show standard deviation as Yellow less than 0.3m . Red greater than 0.3m 0.02% of the mainscheme multibeam soundings were greater than .3m. Vertical beam soundings that were were greater than .3m amounted to 0.06% The differences seen were attributed to slopes, ruins, obstructions and on-going dredging in the main channels.

Difference surfaces were performed comparing mainscheme to crosslines. The the multibeam difference equated to a standard deviation of 0.06m using Dataset: H:\Surveys\H12285\CARIS\Fieldsheets\H12285\H12285_MB\H12285_depth_diff.csar

Attribute layer: Diff

Feature layer: N/A

Attribute value bin size: 0.1 m

Statistical information:

Minimum: -6.4 m

Maximum: 7.95 m

Mean: -0 m

Area: N/A

Std_dev: 0.06 m

Total count: 957,071

The single beam difference equated a standard deviation of to 0.31 m using Dataset: H:\Surveys\H12285\Descriptive Report\Separates\IV_Crossline_Comparisons\H12298_VBXL_difference.csar

Attribute layer: Diff

Feature layer: N/A

Attribute value bin size: 0.1 m

Statistical information:

Minimum: -1.75 m

Maximum: 3.47 m

Mean: 0.01 m

Area: N/A

Std_dev: 0.31 m

Total count: 1,252

Statistics can be found in Appendix IV.



Figure 4: East _Std_Dev

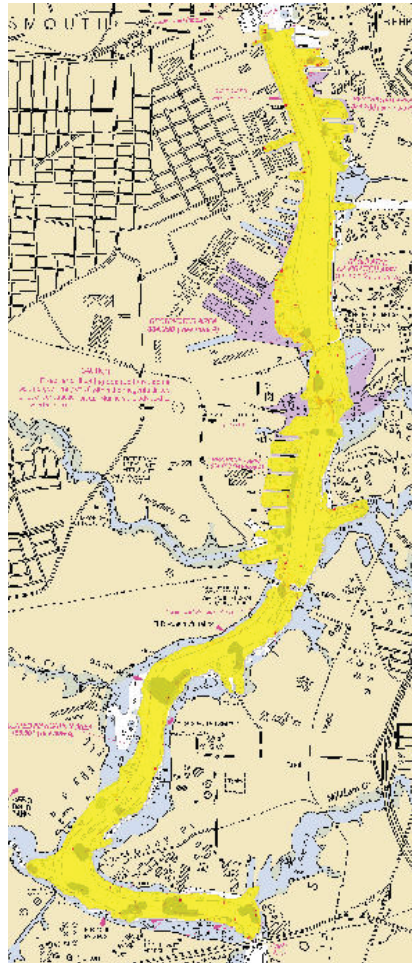


Figure 5: West _Std_Dev

B.2.2 Uncertainty

The following survey specific parameters were used for this survey:

Measured	Zoning
0meters	0meters

Table 6: Survey Specific Tide TPU Values

Hull ID	Measured - CTD	Measured - MVP	Surface
3101 and 3102	4meters/second	0.0meters/second	.2meters/second

Table 7: Survey Specific Sound Speed TPU Values

NOAA National Ocean Service (NOS), Center for Operational Oceanographic Products and Services (COOPS) provides tide uncertainty values for NOAA hydrographic surveys. The CO-OPS provided value is a combination of uncertainty from the tide measurement at the tide stations and the uncertainty of zoning. The combined uncertainty value is provided to the field units at the 95% confidence interval, or 2-sigma standard deviations. CARIS HIPS processing software calculates uncertainty values at 1-sigma standard deviation, therefore, the standard practice aboard NOAA Ship Thomas Jefferson is to divide the CO-OPS provided values by 1.96 and to enter the value into the zoning uncertainty field when calculating Total Propagated Uncertainty (TPU).

TPU is calculated and written to each line's HDCS file (CARIS processed data format). When surfaces are created, an uncertainty child layer is created. This child layer represents the amount of uncertainty for individual nodes in the surface based on a combination of a priori values from equipment vendors, values determined from environmental observation in the field, and from automated empirical analysis of data in real-time. Once all investigated features have been reviewed and least depths have been designated, surfaces are finalized. In finalization, the standard deviation for each node in the surface is multiplied by 1.96 to provide the 95% (2-sigma) confidence value for the node. This 2-sigma standard deviation is compared to the computed Total Vertical Uncertainty (TVU) for each node. The larger of the two values is retained as the finalized Uncertainty for each node. Uncertainty is reported in meters. See Figure 5 for a representation of the Uncertainty for the finalized bathymetry grid for H12285.

IHO has established allowable TVU values for each order of survey. This survey meets IHO Order I TVU requirements in over 98% of nodes in the final surface. See Figure 6 and 7 for the statistical distribution of nodes that meet or exceed the IHO TVU requirements (Zero and Positive values indicate that IHO Order 1 requirements were met).

TCARI was used to obtain uncertainty values for tide zoning and sounding reduction. No MVP's were used. The TCARI model spatially interpolates the harmonic constants (used to predict the astronomic tide), tidal datums, and residual water levels (i.e. the non-tidal component or the difference between the astronomically predicted tide and the observed water level) using the values at a combination of operational and historical stations.

B.2.3 Junctions

There are no junction surveys for this project as stated in the Project instructions.

B.2.4 Sonar QC Checks

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

B.2.5 Equipment Effectiveness

B.2.5.1 Density and Sparse Soundings

Some areas have sparse soundings due to vessels blocking the survey area. One example is at 36-47-06N 076-18-22W. The hull of a moored barge was rejected in subset editor. The result was sparse soundings.

B.2.6 Factors Affecting Soundings

B.2.6.1 None Exist

There were no other factors that affected corrections to soundings.

B.2.7 Sound Speed Methods

Sound Speed Cast Frequency: Sound Speed Cast Frequency: CTD casts were taken once a day when doing vertical beam and under four hours for multibeam with respect to location.

No sound speed zoning was required.

B.2.8 Coverage Equipment and Methods

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

B.3 Echo Sounding Corrections

B.3.1 Corrections to Echo Soundings

HDGS sounding data were corrected to mean lower low water (MLLW) using verified tides from Sewells Point, (8638610); and Money Point, (8639348) using the TCARI zone E350TJ2011.tc

B.3.2 Calibrations

All sounding systems were calibrated as detailed in the DAPR.

B.4 Backscatter

Backscatter was not collected for this survey.

B.5 Data Processing

B.5.1 Software Updates

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

The following Feature Object Catalog was used: NOAA Pofile Field.xml

B.5.2 Surfaces

The following CARIS surfaces were submitted to the Processing Branch:

Surface Name	Surface Type	Resolution	Depth Range	Surface Parameter	Purpose
H12285_VB_4m_MLLW_Final	BASE Uncertainty	4.0 meters	0.53 meters - 16.89 meters	NOAA_4m	SBES Set Line Spacing
H12285_MB_50cm_MLLW_Final	CUBE	0.5 meters	0.02 meters - 24.27 meters	NOAA_0.5m	Object Detection
H12285_100_50cm_mos	SSS Mosaic	0.5 meters	0 meters - 25 meters	NOAA_0.5m	Obj Detection
H12285_200_50cm_mos	SSS Mosaic	0.5 meters	0 meters - 25 meters	NOAA_0.5m	Obj Detection

Table 8: CARIS Surfaces

IHOness was performed on the Multibeam grid. This tests whether the uncertainty values meet IHO order specifications. Positive values pass IHO, negative values fail IHO. 1143 of the soundings amounting to 0.01% of all soundings were negative. The majority of the soundings that failed were near piers with boom and dredge areas.

B.5.3 Final Feature File

A Final feature files in S57 format can be found in H12285\PSS\Hob_Files\ H12285_FFF.000 and H12285_FFF.000_Multimedia.zip

C. Vertical and Horizontal Control

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

C.1 Vertical Control

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

Standard Vertical Control Methods Used:

TCARI

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

Station Name	Station ID
Sewells Point, VA	863-8610
Money Point	863-9348

Table 9: NWLON Tide Stations

File Name	Status
8639348.tid	Final Approved
8638610.tid	Final Approved

Table 10: Water Level Files (.tid)

File Name	Status
E350TJ2011.tc	Final

Table 11: Tide Correctors (.zdf or .tc)

A request for final approved tides was sent to N/OPS1 on 09/06/2011. The final tide note was received on 09/15/2011.

A request for final approved tides was sent to N/OPS1 on 06 September 2011. The final tide note was received on 15 September 2011. The TCARI grid E350TJ2011.tc submitted with the project instructions was confirmed as the final grid for project OPR-E350-TJ-2011, H12285

C.2 Horizontal Control

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

The following DGPS Stations were used for horizontal control:

DGPS Stations
Drive, VA

Table 12: USCG DGPS Stations

D. Results and Recommendations

D.1 Chart Comparison

D.1.1 Raster Charts

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

Chart	Scale	Edition	Edition Date	LNLM Date	NM Date
12253	1:20000	46	08/2008	03/10/2012	03/10/0012

Table 13: Largest Scale Raster Charts

12253

The majority of the survey was in tabulated channels. Of the 1325 features addressed, 118 were bathy related. The rest of the items were either changes in shoreline, dolphins and piers. The most significant change to address will be the completion of the Jordan Bridge. It was removed and is currently under construction approximately 15 meters south of the charted position. Gilmerton Bridge is also under re-construction. The soundings out side of the channel s were generally deeper. Isolated shoals were identified in the report and significant shoals flagged as Dangers to Navigation. There are items on the ENC but not on the Raster and vice versa. They are indicated in the Final Feature File.

D.1.2 Electronic Navigational Charts

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

ENC	Scale	Edition	Update Application Date	Issue Date	Preliminary?
US5VA17M	1:20000	2	03/24/2004	03/24/2012	NO

Table 14: Largest Scale ENC's

US5VA17M

See Discussion on Raster Chart.

D.1.3 AWOIS Items

Number of AWOIS Items Addressed: 9

Number of AWOIS Items Not Addressed: 7

Seven of the AWOIS items were inaccessible or out of range of the survey area.

D.1.4 Charted Features

Disprovals of the following items working north to south were as follows:

- a. 18 ft rep (11ft soundings found). This was not deemed a DTON as it is only big enough for Tug and small barge traffic. Fig 8.
- b. 39 ft rep 1993 (24 ft sounding found in the NE corner)Fig. 8
- c. 3 ft rep 1976 (Soundings 8-17 ft overlap the text) Fig. 8
- d. Obstn PA was unreachable. Fig. 8
- e. 40 ft rep 1993 (30 ft soundings in west end, 32 ft soundings east end) Fig. 9
- f. 35 ft rep 1977 (21 ft snds on east edge, 33ft snd on west edge) Fig. 10
- g. 12 ft rep 1967 (6 ft sounding in east end) Fig. 11
- h. WK PA (inaccessible) Fig.1

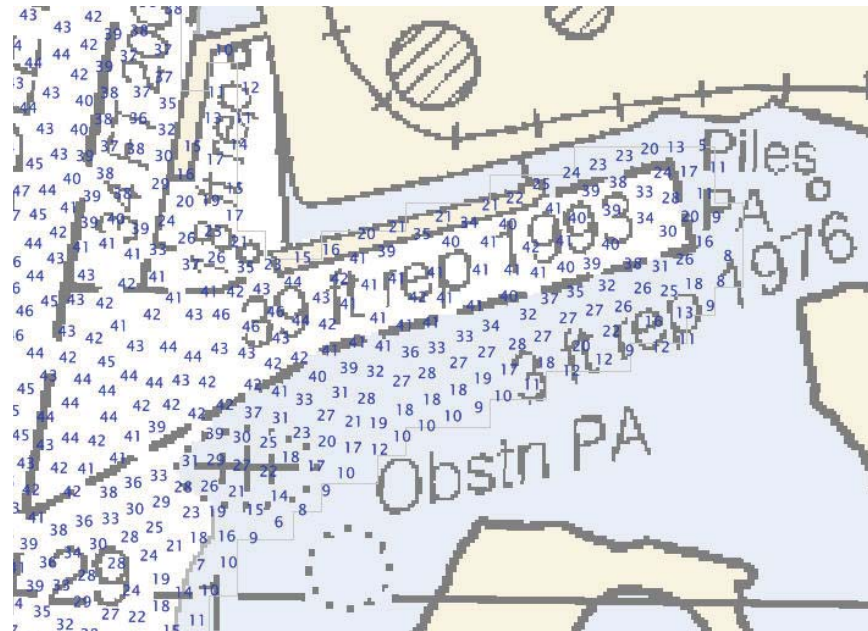


Figure 6: 18ft rep thru_ObstnPA

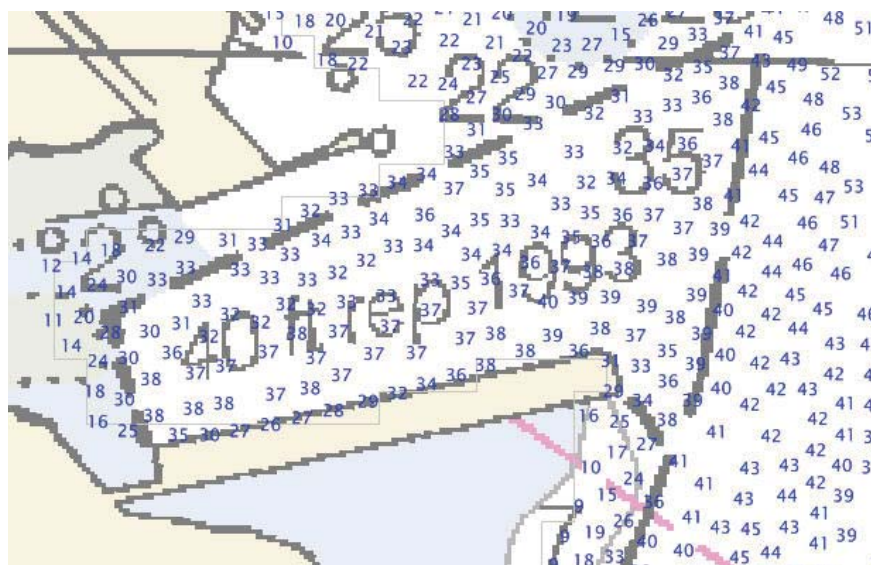


Figure 7: 40ft rep

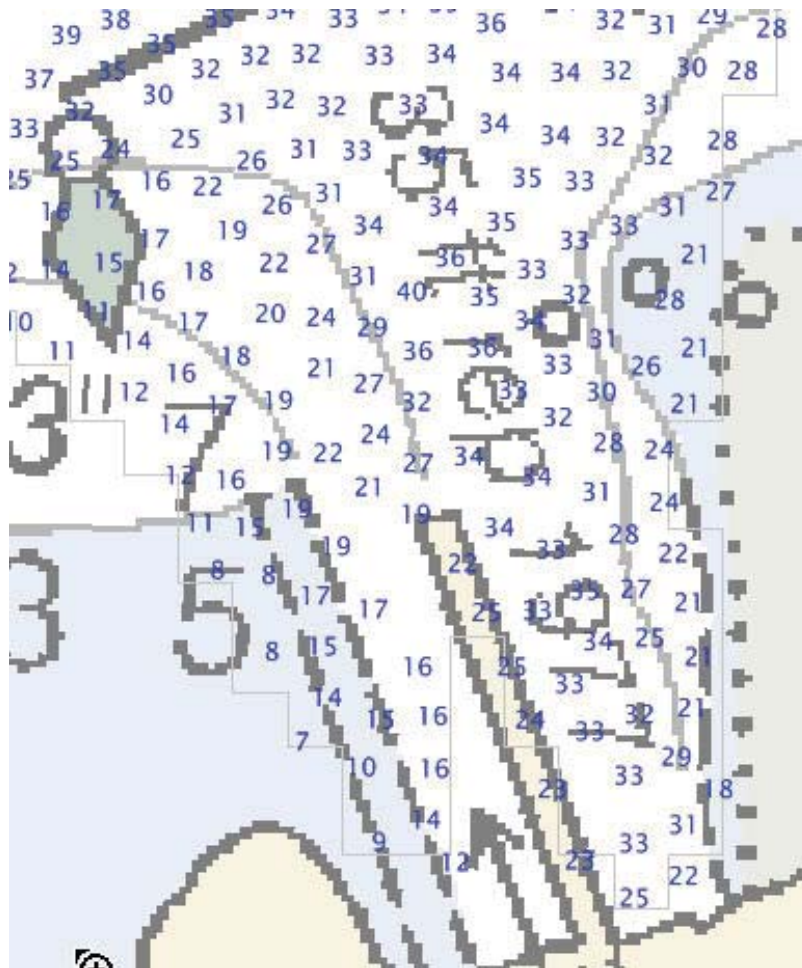


Figure 8: 35ft rep



Figure 9: 12ft rep and WkPA

D.1.5 Uncharted Features

See Feature Report

The following orthometric imagery was used:

File Name	Source	Source Image Date
62360556.tif	NAIP	06/02/2009
48539078.tif	NAIP	06/02/2009
07058199.tif	NAIP	06/02/2009

Table 15: Orthometric Imagery

D.1.6 Dangers to Navigation

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

D.1.7 Shoal and Hazardous Features

Dangerous shoals and features are listed in the DToN report.

Shoaling near Blows Creek with 2-3 ft soundings blocking the approach were Observed. Shoaling at St Julians Creek was Observed with 2 foot soundings blocking the approach. Recommend Removing 12ft reported and changing the channel to Blue Tint.

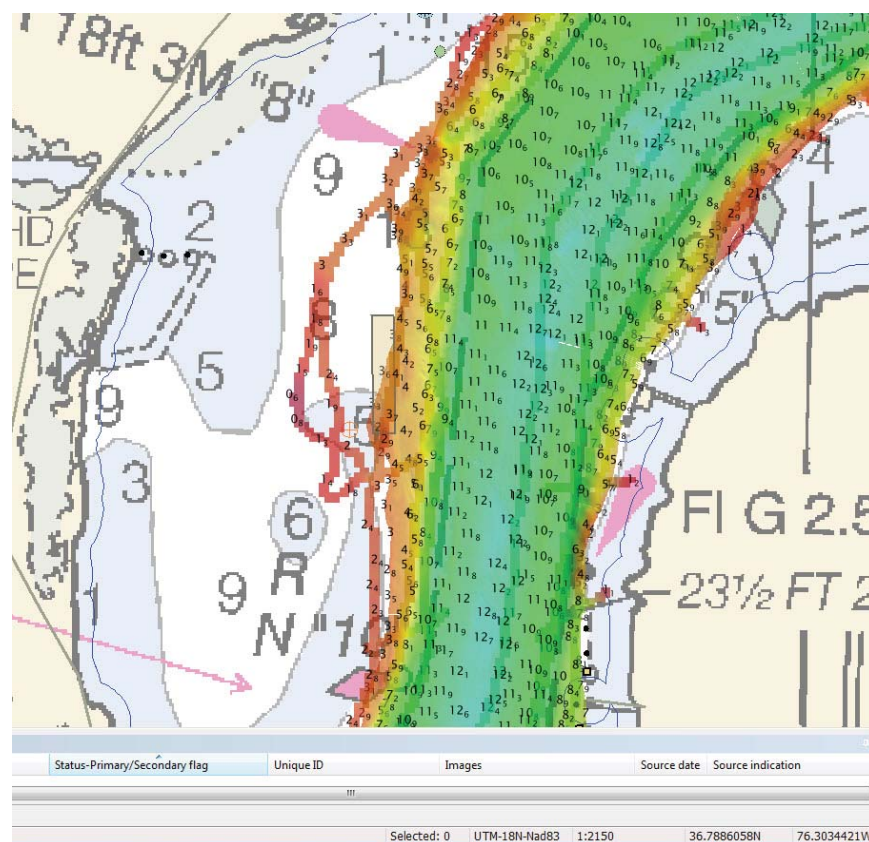


Figure 10: St Julians Creek

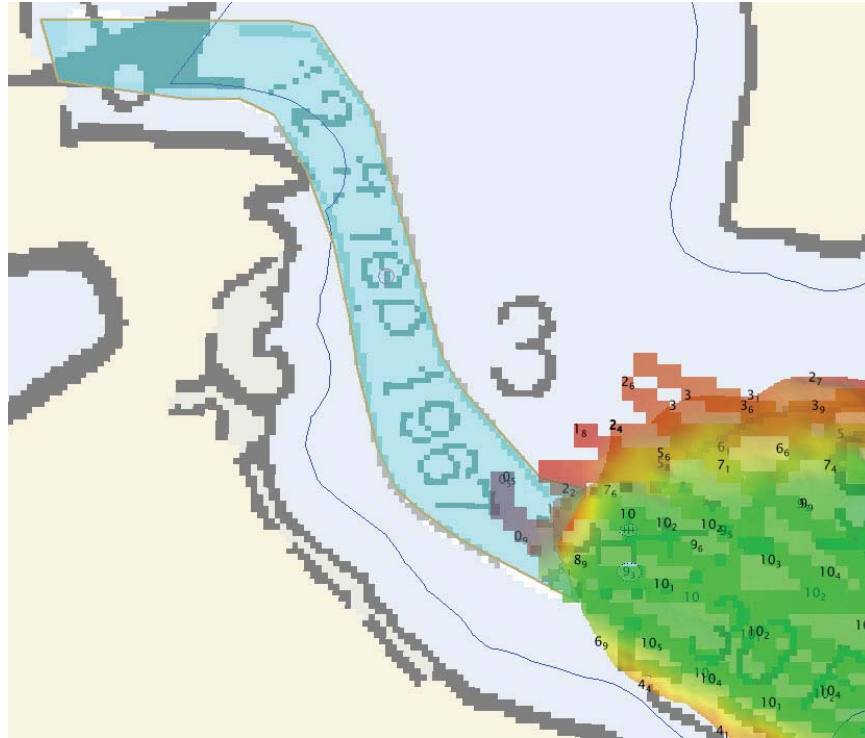


Figure 11: Blows Creek

D.1.8 Channels

See Fig 12 for Tabulated and Controlling Depth comparisons. Some encroachment was observed near the N & W Railway bridge but is within range of the controlling depths.

Tabulated Depth Comparison

Least Depths found in Controlling Depth

	Surveyed Soundings Minus=shoal , Plus = deeper			
Name of Channel	Left out	Left In	Right In	Right Out
Southern Branch Lower Reach	1 ft	2 ft	2 ft	3 ft
Southern Branch Middle Reach	5 ft	2 ft	2 ft	5 ft
	Left	Middle		Right
N&W Railway Lift Bridge Reach	3 ft	2 ft		6 ft
Gilmerton Bridge Reach	-6 ft	1 ft		-3ft
St. Julians Creek Turning Basin	1ft	1ft		1ft
East Branch Elizabeth River 25 ft controlling depth	-1 = Least depth was 24 ft near Bascule Bridge entrance			
East Branch Elizabeth River 17 ft controlling depth	-3 = Least depth was 14 ft south side near GM plant			

Figure 12: Tabulated Depth Comparison

D.2 Additional Results

D.2.1 Shoreline

There is considerable change in shoreline regarding ruins, piles and wrecks. See Appendix 2 for details

D.2.2 Prior Surveys

No prior survey comparisons exist for this survey.

D.2.3 Aids to Navigation

There are 19 aids to navigation in this survey and appear to be charted properly.

D.2.4 Overhead Features

Overhead features exist for this survey, but were not investigated.

D.2.5 Submarine Features

Six Submarine features exist for this survey, but were not investigated.

D.2.6 Ferry Routes and Terminals

No ferry routes or terminals exist for this survey.

D.2.7 Platforms

No platforms exist for this survey.

D.2.8 Significant Features

No significant features exist for this survey.

D.2 Construction and Dredging

The Jordan Bridge was removed and being rebuilt approximately 15 meters south of its original position. The location of the bridge supports on either side of the channel are further apart. The prescribed channel depth in the area may not show a true representation of the depths in this area. There may be future

relocation of the buoys marking the channel as construction continues. A notice should be made in Coast Pilot to use caution while transiting between these areas.



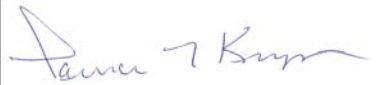
Figure 13: Jordan Bridge

E. Approval Sheet

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

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

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

Approver Name	Approver Title	Approval Date	Signature
Peter Lewit	Sheet Manager	01/14/2013	
William G. Winner, LT/NOAA	Field Operations Officer	01/14/2013	
Lawrence T. Krepp, CDR/NOAA	Commanding Officer	01/14/2013	

F. Table of Acronyms

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

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

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

APPENDIX I

TIDES AND WATER LEVELS



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

September 06, 2011

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

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

SUBJECT: Request for Approved Tides/Water Levels

Please provide the following data:

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

Transmit data to the following:

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

NOAA/National Ocean Service/CO-OPS
Chief, Engineering Division
N/OPS1 - SSMC4, Station 6531
1305 East-West Highway
Silver Spring, MD 20910

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

Project No.: OPR-E350-TJ-11
Registry No.: H12285
State: Virginia
Locality: Southern chesapeake Bay
Sublocality: Eastern Branch to Money Point

Attachments containing:

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

cc: MOA-TJ



Year_DOY	Min Time	Max Time
2011_073	15:08:24	17:51:16
2011_074	14:31:07	17:30:54
2011_076	14:27:02	17:28:52
2011_080	15:27:27	18:06:35
2011_081	14:15:48	17:37:10
2011_187	13:44:01	18:23:50
2011_188	13:27:44	18:36:43
2011_189	13:29:46	16:46:45
2011_192	14:06:47	17:29:22
2011_194	13:42:25	18:36:07
2011_195	13:46:45	17:51:51
2011_201	13:17:21	16:39:19
2011_206	17:04:51	18:06:09
2011_207	13:14:37	18:23:46
2011_208	13:07:31	18:18:53
2011_209	13:41:16	18:24:41
2011_210	13:55:37	14:49:35
2011_216	14:16:07	20:46:03
2011_222	13:57:40	16:09:31



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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE : September 15, 2011

HYDROGRAPHIC BRANCH: Atlantic
HYDROGRAPHIC PROJECT: OPR-E350-TJ-2011
HYDROGRAPHIC SHEET: H12285

LOCALITY: Eastern Branch to Money Point, Southern Chesapeake Bay
TIME PERIOD: March 14 - August 10, 2011

TIDE STATION USED: Sewells Point, VA 863-8610
Lat. 36° 56.8'N Long. 76° 19.8'W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 0.778 meters

TIDE STATION USED: Money Point, VA 863-9348
Lat. 36° 46.7'N Long. 76° 18.1'W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 0.915 meters

REMARKS: RECOMMENDED GRID

Please use the TCARI grid "E350TJ2011.tc" submitted with the project instructions as the final grid for project OPR-E350-TJ-2011, H12285, during the time period between March 14 and August 10, 2011.

Refer to attachments for grid information.

Note 1: Provided time series data are tabulated in metric units (meters), relative to MLLW and on Greenwich Mean Time on the 1983-2001 National Tidal Datum Epoch (NTDE).

Note 2: Due to inaccurate shoreline between Eastern Branch and Money Point, survey track lines fall outside of the TCARI grid boundaries in some areas. TCARI will extrapolate the tide corrector to cover these soundings.

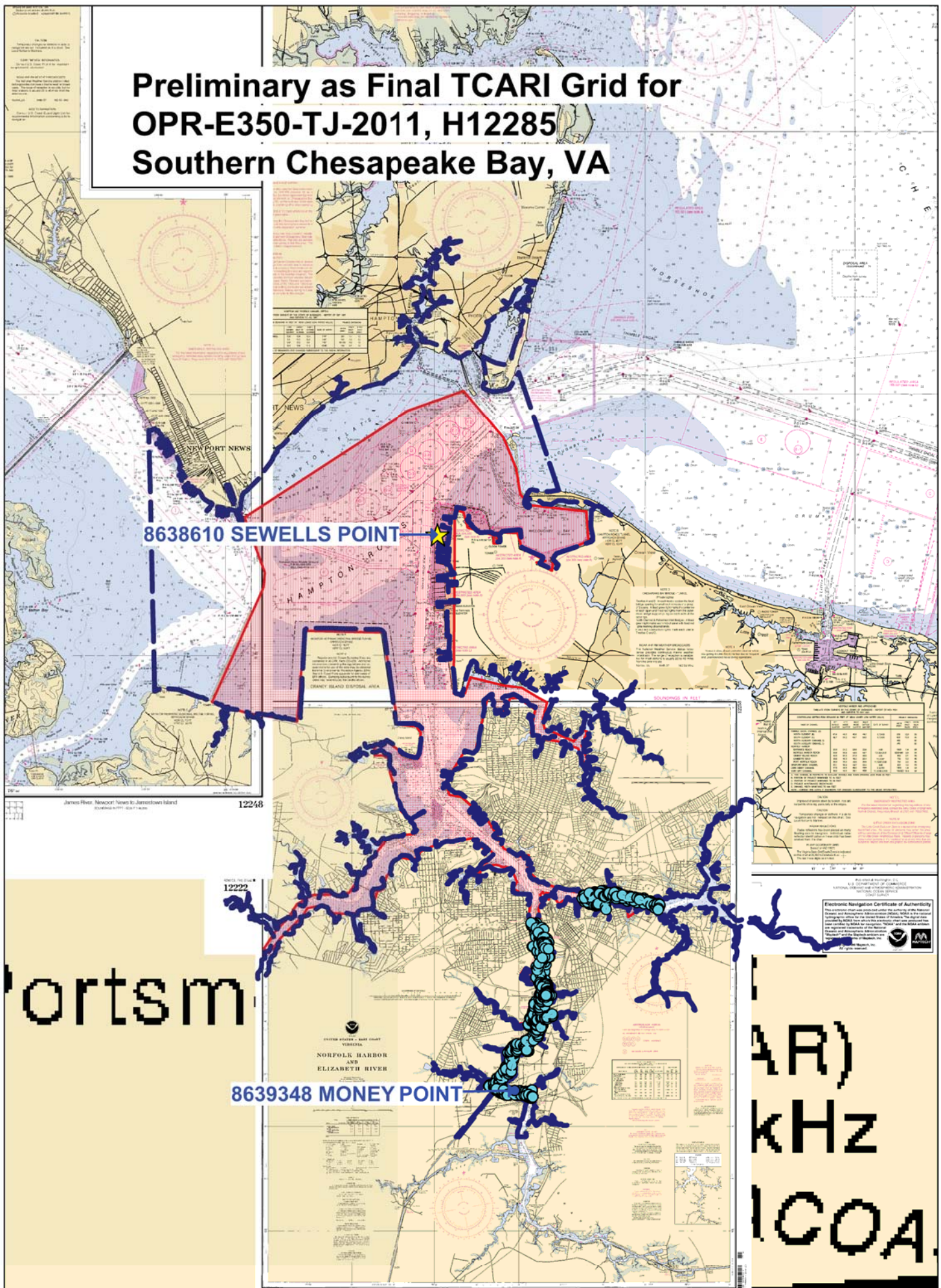
Gerald Hovis

Digitally signed by Gerald Hovis
DN: cn=Gerald Hovis, o=Center for Operational
Oceanographic Products and Services, ou=NOAA/NOS/
CO-OPS/OD/PSB, email=gerald.hovis@noaa.gov, c=US
Date: 2011.09.15 09:24:27 -04'00'

CHIEF, PRODUCTS AND SERVICES BRANCH



Preliminary as Final TCARI Grid for OPR-E350-TJ-2011, H12285 Southern Chesapeake Bay, VA



APPENDIX II

SUPPLEMENTAL SURVEY RECORDS AND CORRESPONDENCE



shoal soundings inside US Army Corps channel

James J Miller <james.j.miller@noaa.gov>

Thu, Jun 6, 2013 at 4:09 PM

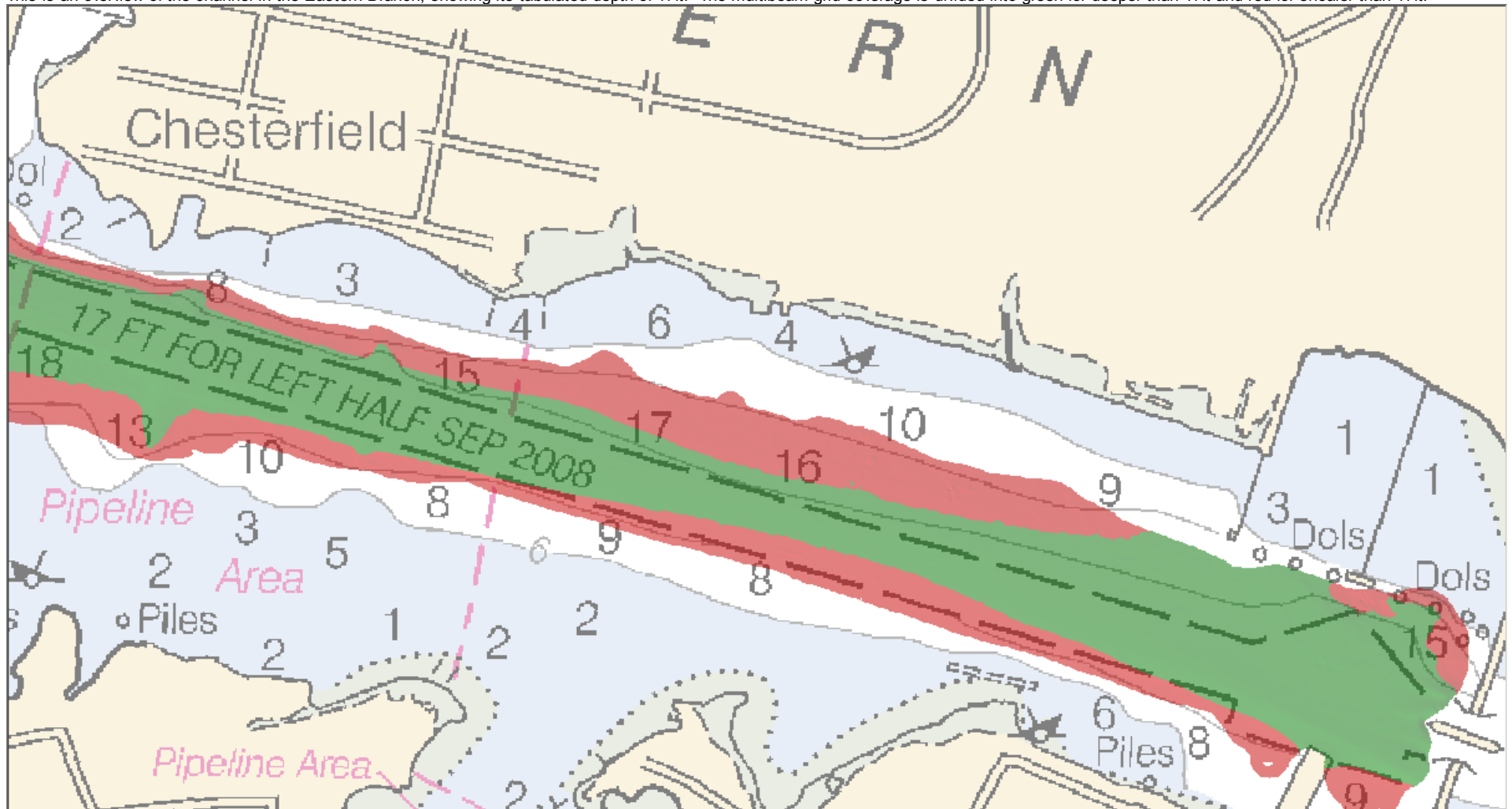
To: Denise Gruccio - NOAA Federal <denise.gruccio@noaa.gov>

Cc: Abigail Higgins - NOAA Federal <abigail.higgins@noaa.gov>, Castle Parker - NOAA Federal <castle.e.parker@noaa.gov>, Edward Owens - NOAA Federal <edward.owens@noaa.gov>

Hi Denise,

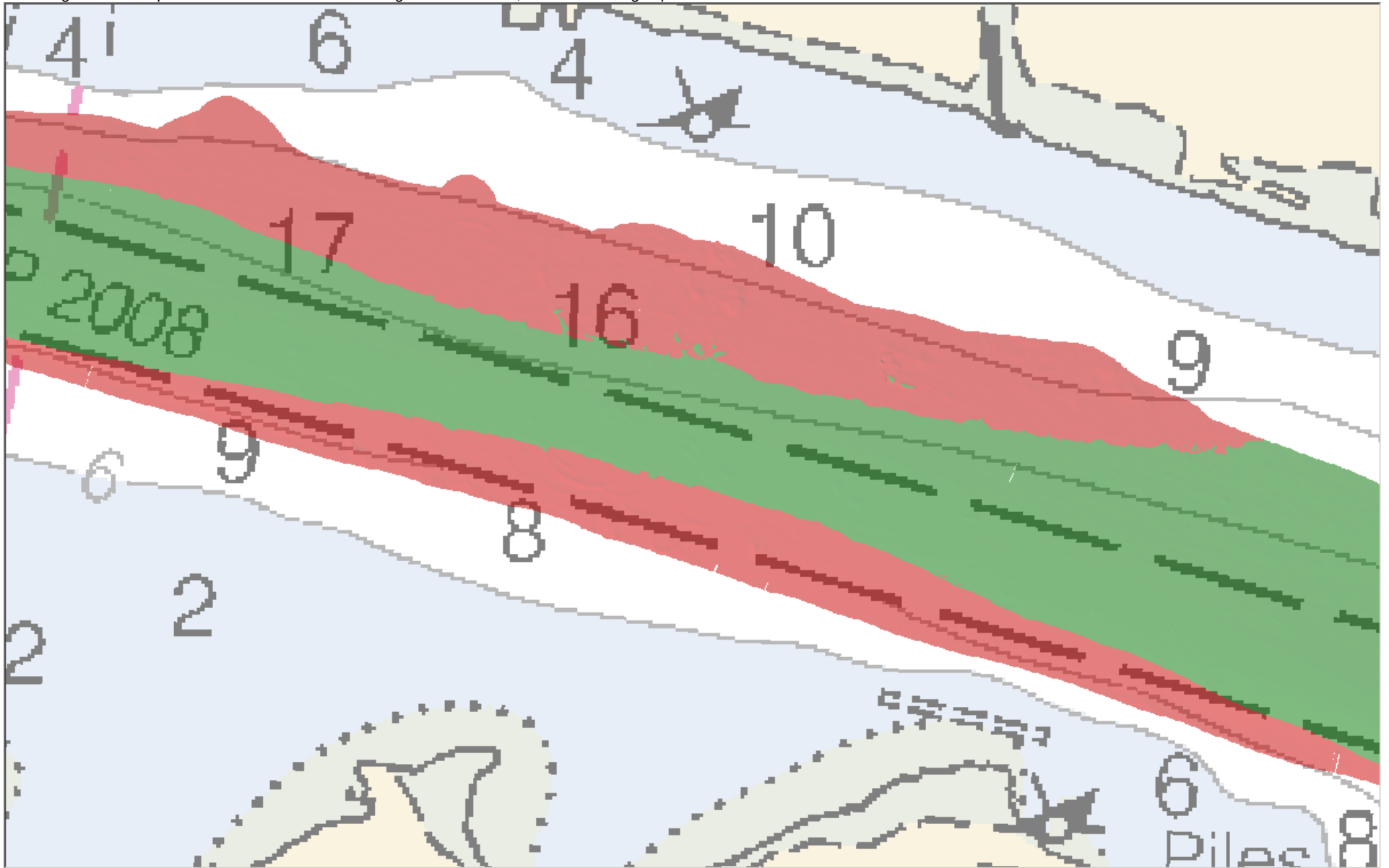
I am working on the SAR for TJ survey H12285, which covers portions of the Eastern and Southern Branches of the Elizabeth River in Norfolk. I have identified some shoal soundings inside an Army Corps maintained channel centered around 36-50-16N, 76-15-03W.

This is an overview of the channel in the Eastern Branch, showing its tabulated depth of 17ft. The multibeam grid coverage is divided into green for deeper than 17ft and red for shoaler than 17ft.

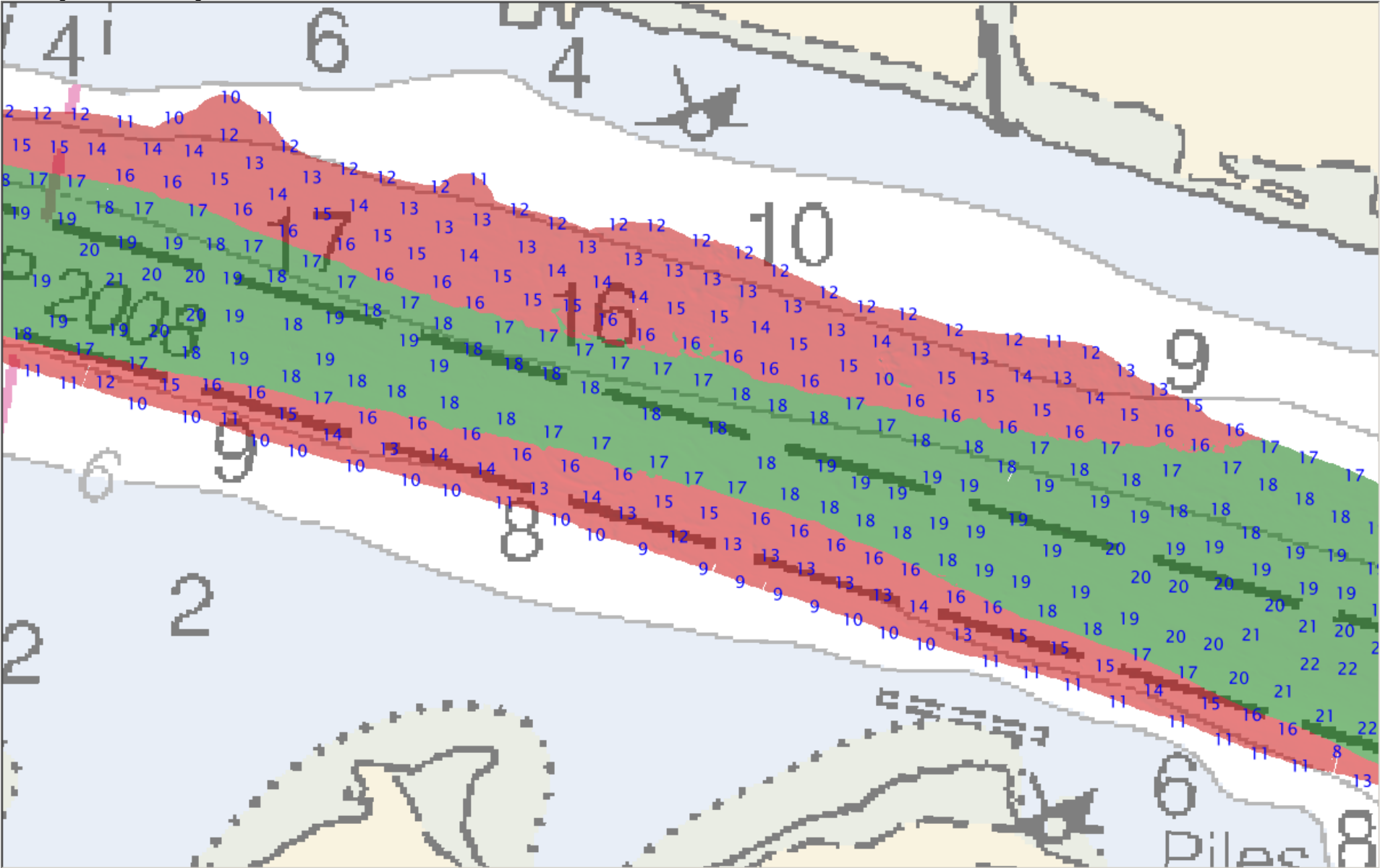




This image is a closeup view of the shoal area encroaching into the channel, with red showing depths shoaler than 17ft.

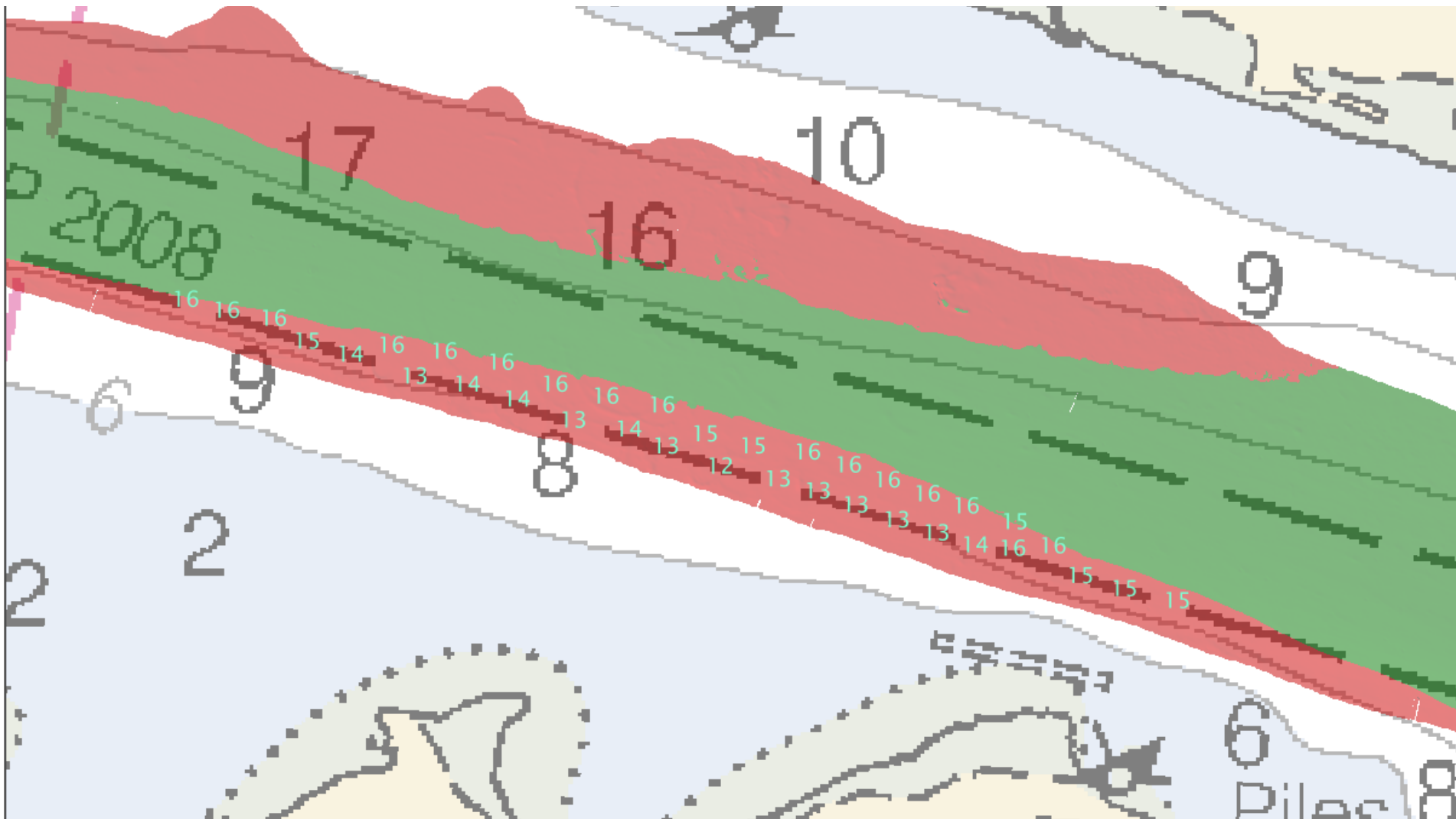


This image includes soundings in feet.



This image shows only the soundings shoaler than 17ft which lie within the channel or along its edge.





For the soundings displayed in the previous image, I have attached an ASCII file with all the sounding coordinates and depths in feet. Please let me know if you have any questions or need more information for the Army Corps.

Respectfully,
James



James Miller - NOAA Federal <james.j.miller@noaa.gov>

H12285 obstructions in USACE channels

Denise Gruccio - NOAA Federal <denise.gruccio@noaa.gov>

Thu, Dec 11, 2014 at 10:16 AM

To: "James J. Miller" <james.j.miller@noaa.gov>

Thx James...I will pass on to USACE.

On Thu, Dec 11, 2014 at 9:58 AM, James J. Miller <james.j.miller@noaa.gov> wrote:

Hi Denise,

I have updated the report with three additional obstructions for possible removal by the US Army Corps or channel tabulation updates. This is the final update for the report, there are no additional features to be added.

Respectfully,
James

James J. Miller
Physical Scientist
NOAA Office of Coast Survey
Atlantic Hydrographic Branch
439 W York St | Norfolk, VA | 23510
757-441-6746 x 111

On Mon, Dec 8, 2014 at 2:30 PM, James J. Miller <james.j.miller@noaa.gov> wrote:

Hi Denise,

I have updated the report with two additional obstructions for possible removal by the US Army Corps or channel tabulation updates.

Respectfully,
James

James J. Miller
Physical Scientist
NOAA Office of Coast Survey
Atlantic Hydrographic Branch
439 W York St | Norfolk, VA | 23510
757-441-6746 x 111

On Tue, Nov 25, 2014 at 4:59 PM, James J. Miller <james.j.miller@noaa.gov> wrote:

Hi Denise,

Survey H12285 found three obstructions that are positioned within US Army Corps channels. Please forward the attached document to the USACE for possible removal operations or channel tabulation updates.

Respectfully,
James

James J. Miller
Physical Scientist
NOAA Office of Coast Survey
Atlantic Hydrographic Branch
439 W York St | Norfolk, VA | 23510
757-441-6746 x 111

—
LCDR Denise Gruccio, NOAA
NOAA Navigation Manager for Mid-Atlantic Region
NOAA MOC-A
439 West York St
Bldg 2 - 2nd Floor
Norfolk, VA 23510

[Click here for NOAA's latest charting products!](#)

571-305-0995 (mobile)
757-441-6746 ext 116 (office)
757-441-6601 (fax)
Denise.Gruccio@noaa.gov

Obstructions in Elizabeth River Channels

Survey H12285

NOAA Ship Thomas Jefferson

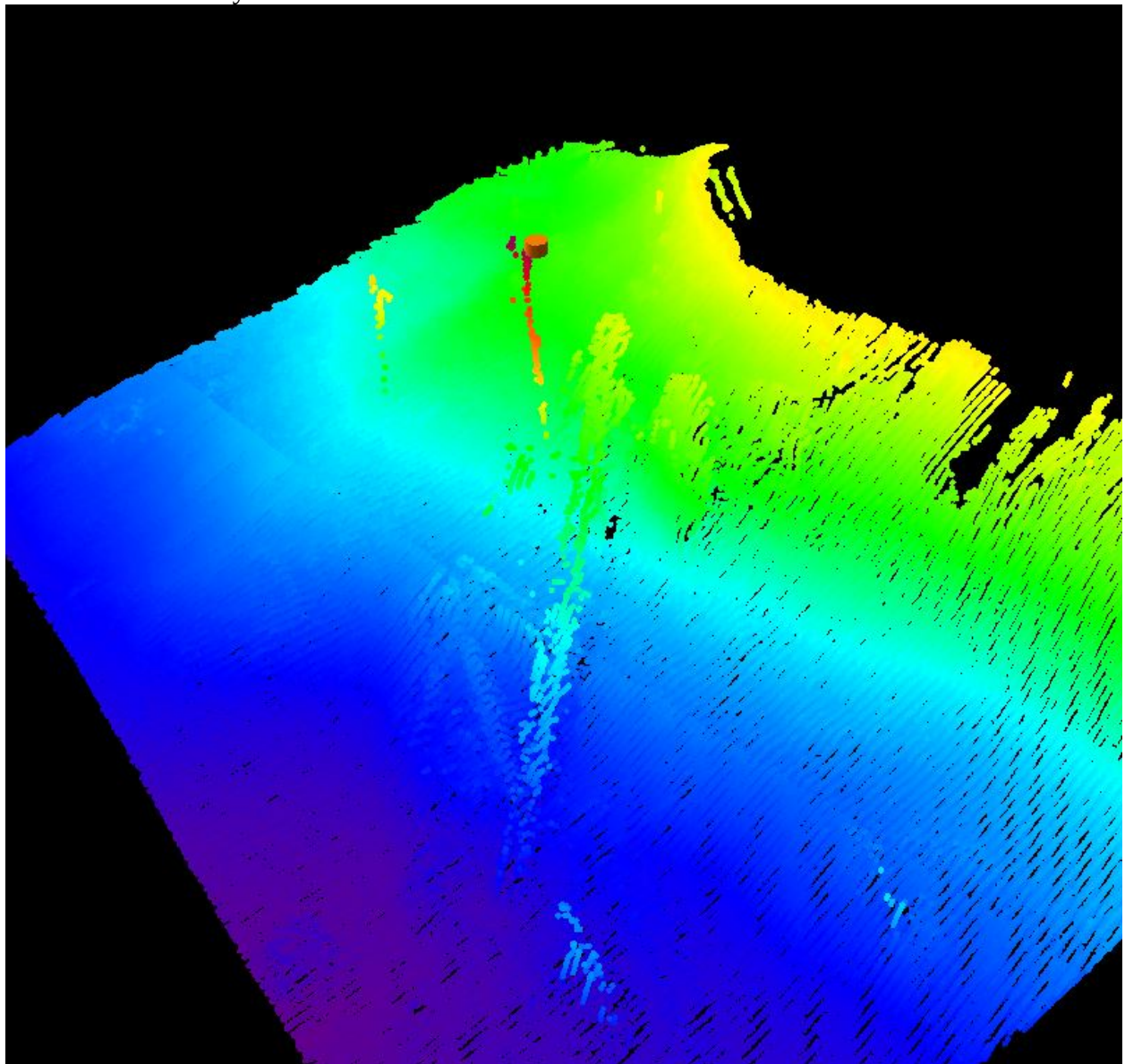
March - August 2011

Target 1 – Submerged Obstructions

36-50-25.264N, 076-15-55.055W

Least depth is 5.307 m (17.411 ft)

Positioned within the left outside quarter of the NS RY Bascule Bridge to Campostella Bridge Channel in the Eastern Branch of the Elizabeth River. The controlling depth of the channel is 22.6 ft from a survey in October 2012.

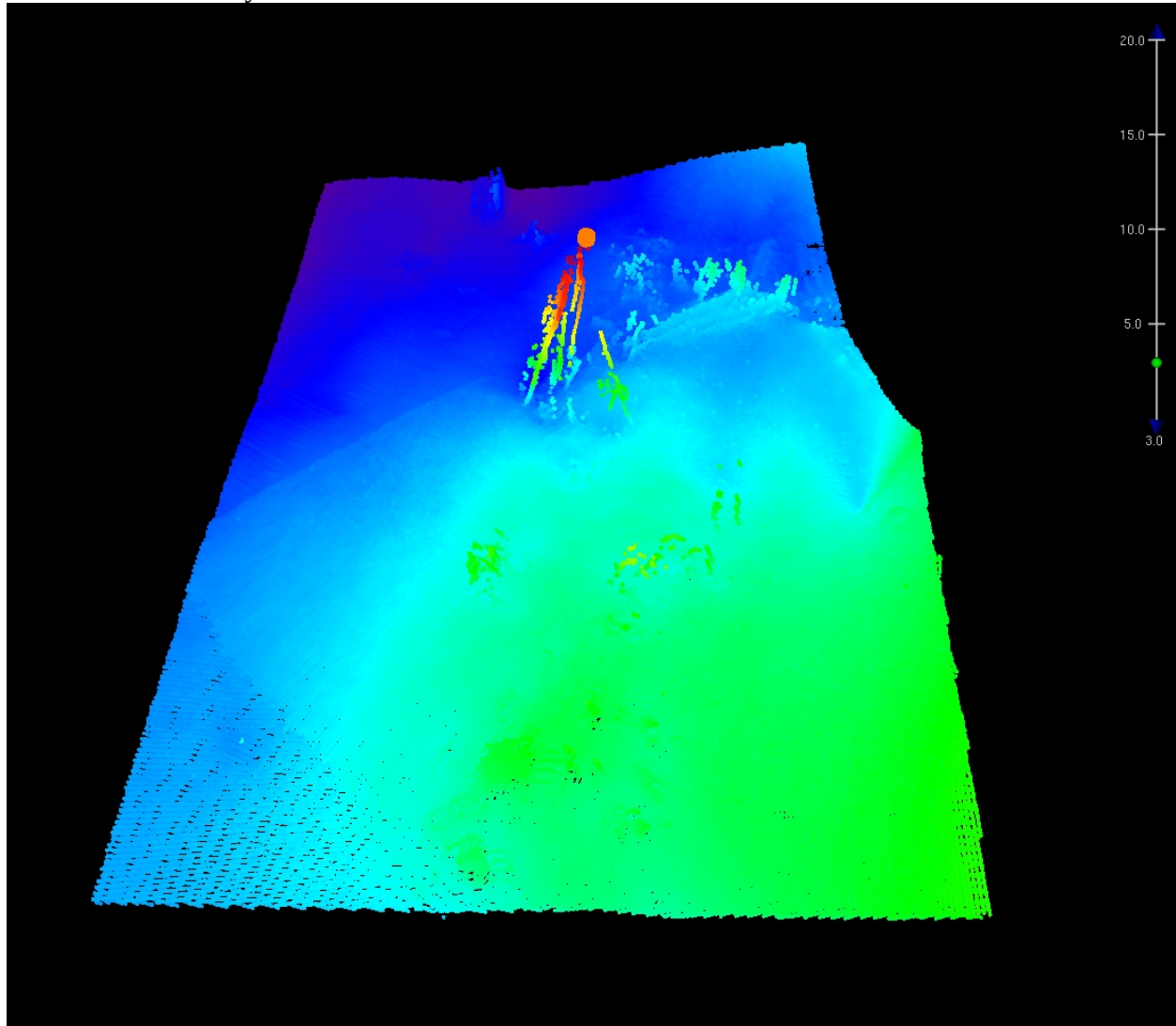


Target 2 – Submerged Obstructions

36-50-24.256N, 076-15-55.283W

Least depth is 5.549 m (18.205 ft)

Positioned within the right outside quarter of the NS RY Bascule Bridge to Campostella Bridge Channel in the Eastern Branch of the Elizabeth River. The controlling depth of the channel is 23.7 ft from a survey in October 2012.

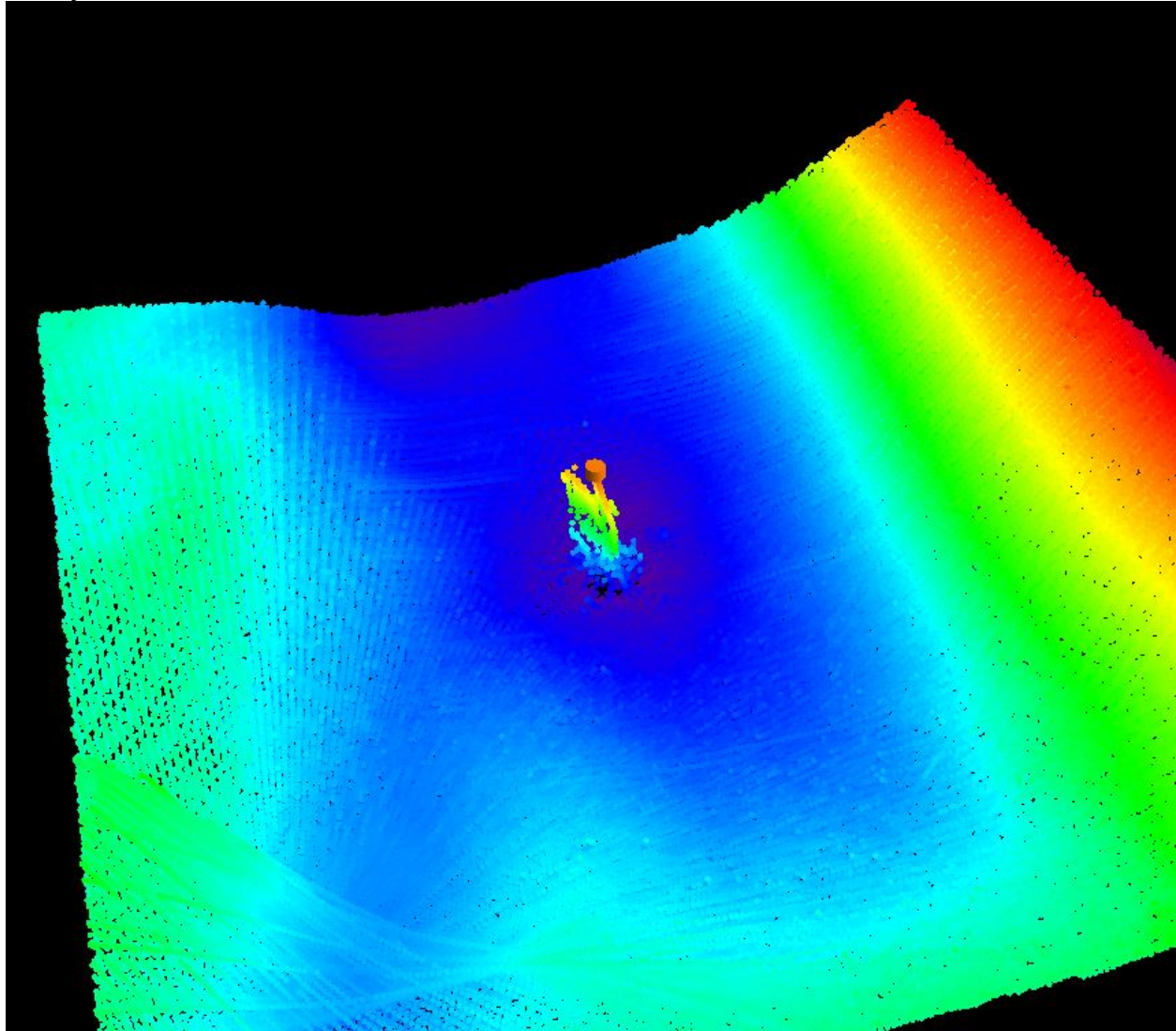


Target 3 – Submerged Obstruction

36-46-36.634N, 076-18-15.732W

Least depth is 9.607 m (31.519 ft)

Positioned within the right outside quarter of the Gilmerton Bridge Reach Channel in the Southern Branch of the Elizabeth River. The controlling depth of the channel is 32.9 ft from a survey in March 2010.

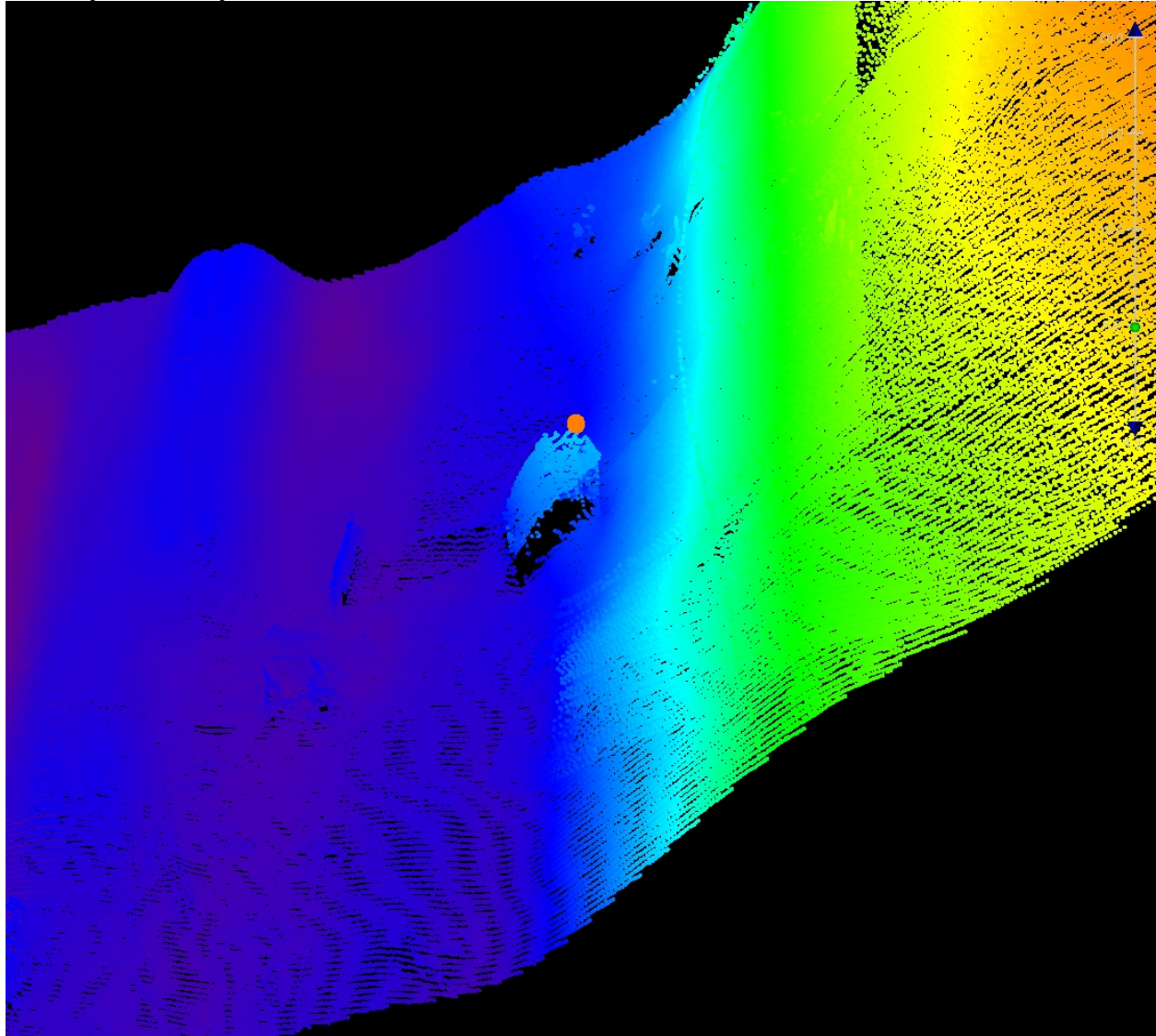


Target 4 – Submerged Obstruction

36-47-52.903, 076-17-35.030W

Least depth is 10.482 m (34.390 ft)

Positioned along the channel edge of the right outside quarter of the Middle Reach Channel in the Southern Branch of the Elizabeth River. The controlling depth of the channel is 34.4 ft from a survey in January 2010.

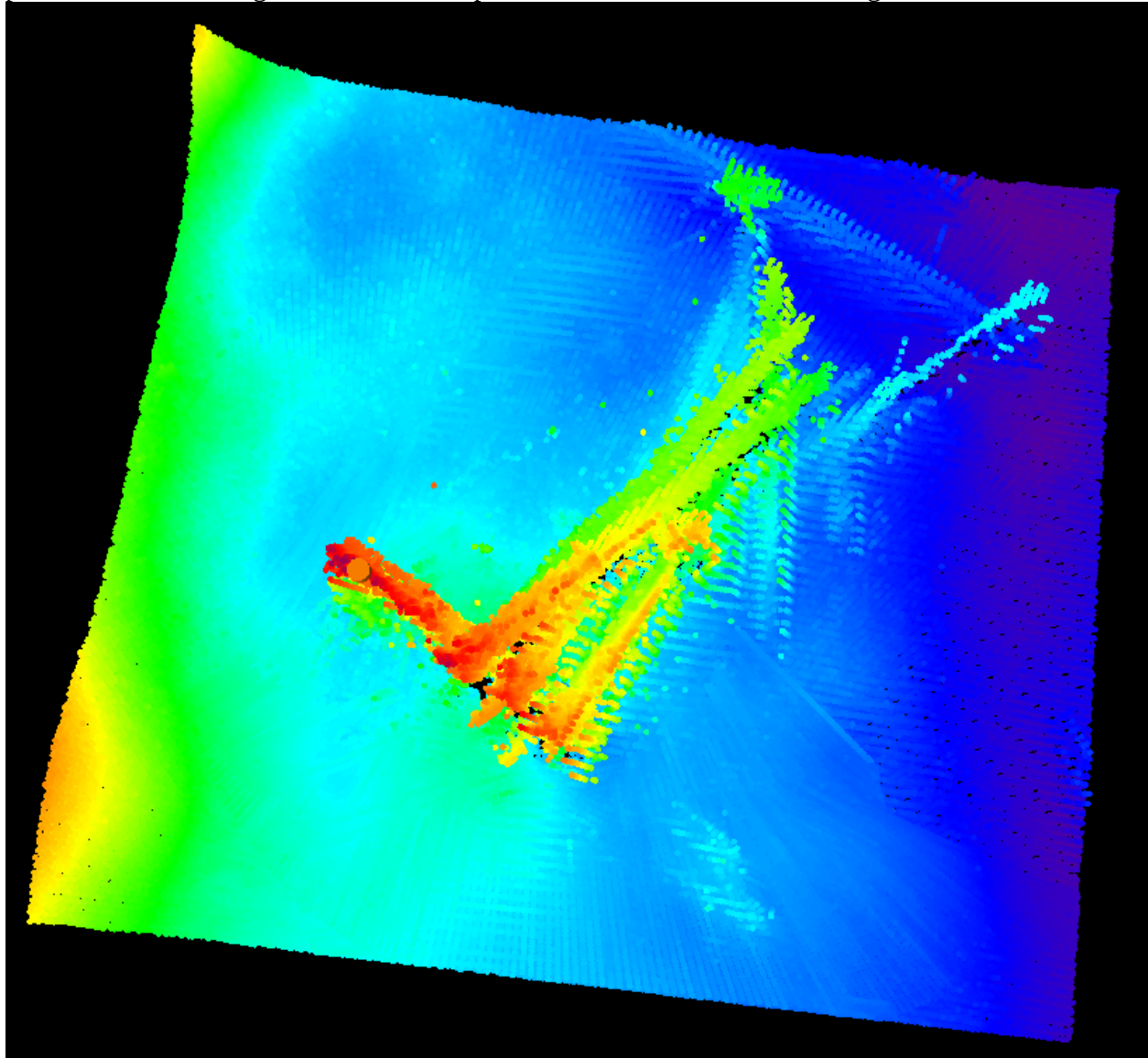


Target 5 – Submerged Obstructions

36-48-39.251N, 076-17-27.393W

Least depth is 10.637 m (34.898 ft)

Positioned within the right outside quarter of the Middle Reach Channel in the Southern Branch of the Elizabeth River. The controlling depth of the channel is 34.4 ft from a survey in January 2010. The features are slightly deeper than the controlling depth of the channel, but they may pose a hazard to navigation due to their prominence above the surrounding riverbed.

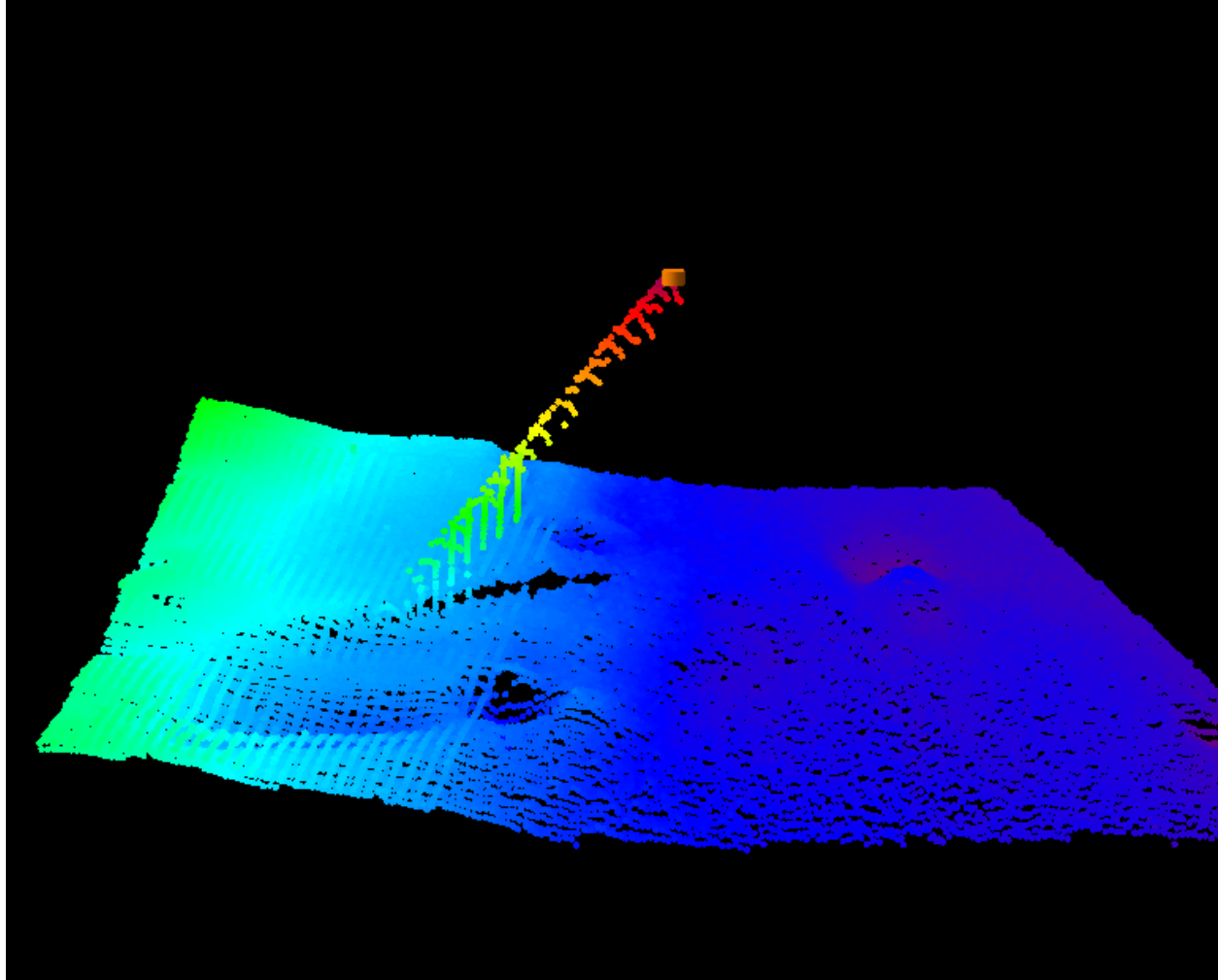


Target 6 – Submerged Obstruction

36-49-29.960N, 076-17-32.639W

Least depth is 8.917 m (29.255 ft)

Positioned just outside of the right outside quarter of the Lower Reach Channel of the Southern Branch of the Elizabeth River. The controlling depth of the channel is 35.9 ft from a survey in January 2010. The feature is located outside of the channel, but it may pose a hazard to navigation due to its prominence above the surrounding riverbed.

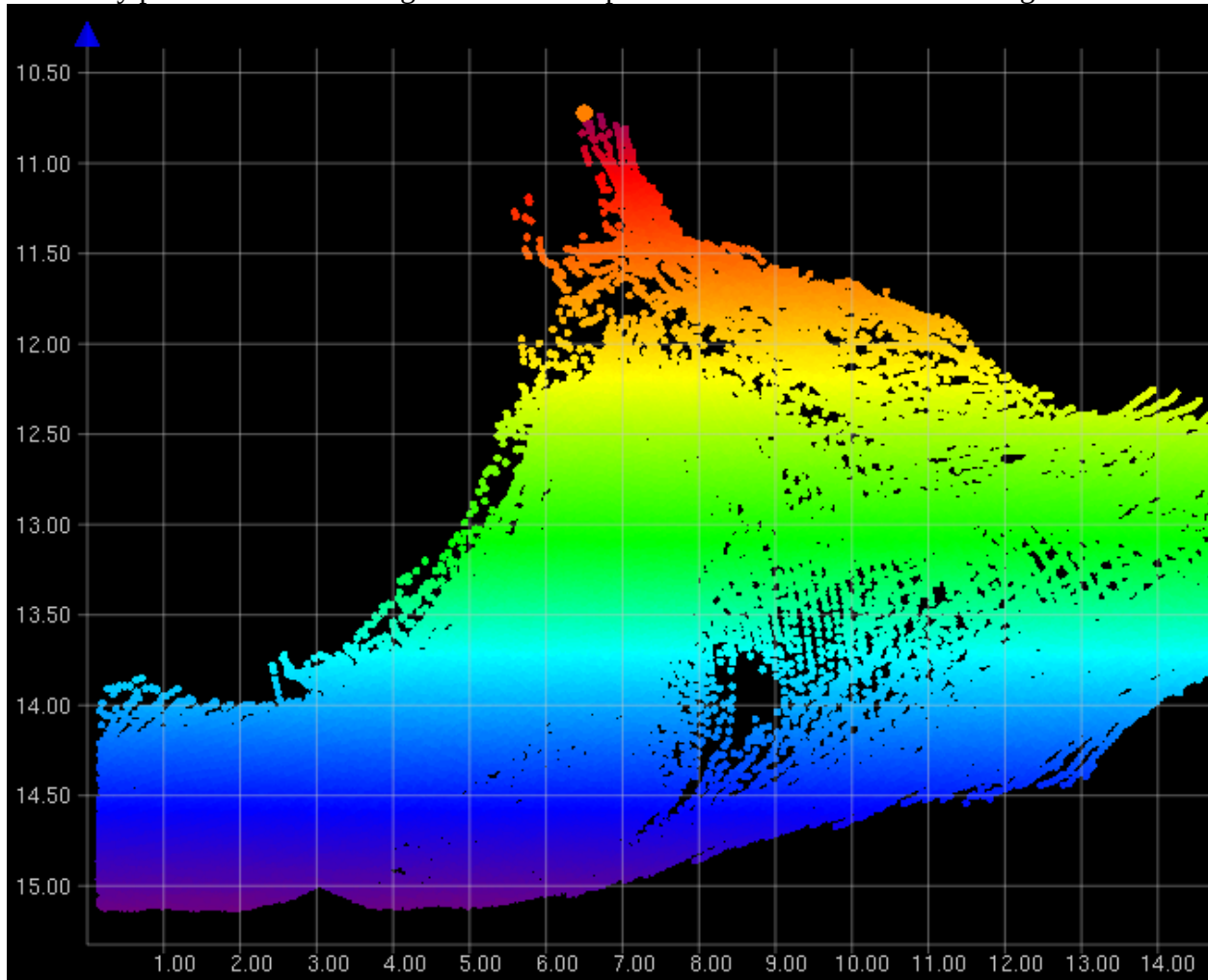


Target 7 – Submerged Obstruction

36-47-48.429N, 076-17-34.154W

Least depth is 10.698 m (35.098 ft)

Positioned within the middle half of the N&W Railway Lift Bridge Reach Channel of the Southern Branch of the Elizabeth River. The controlling depth of the channel is 35 ft from a survey in March 2010. The depth of the feature is equal to the controlling depth of the channel, but it may pose a hazard to navigation due to its prominence above the surrounding riverbed.

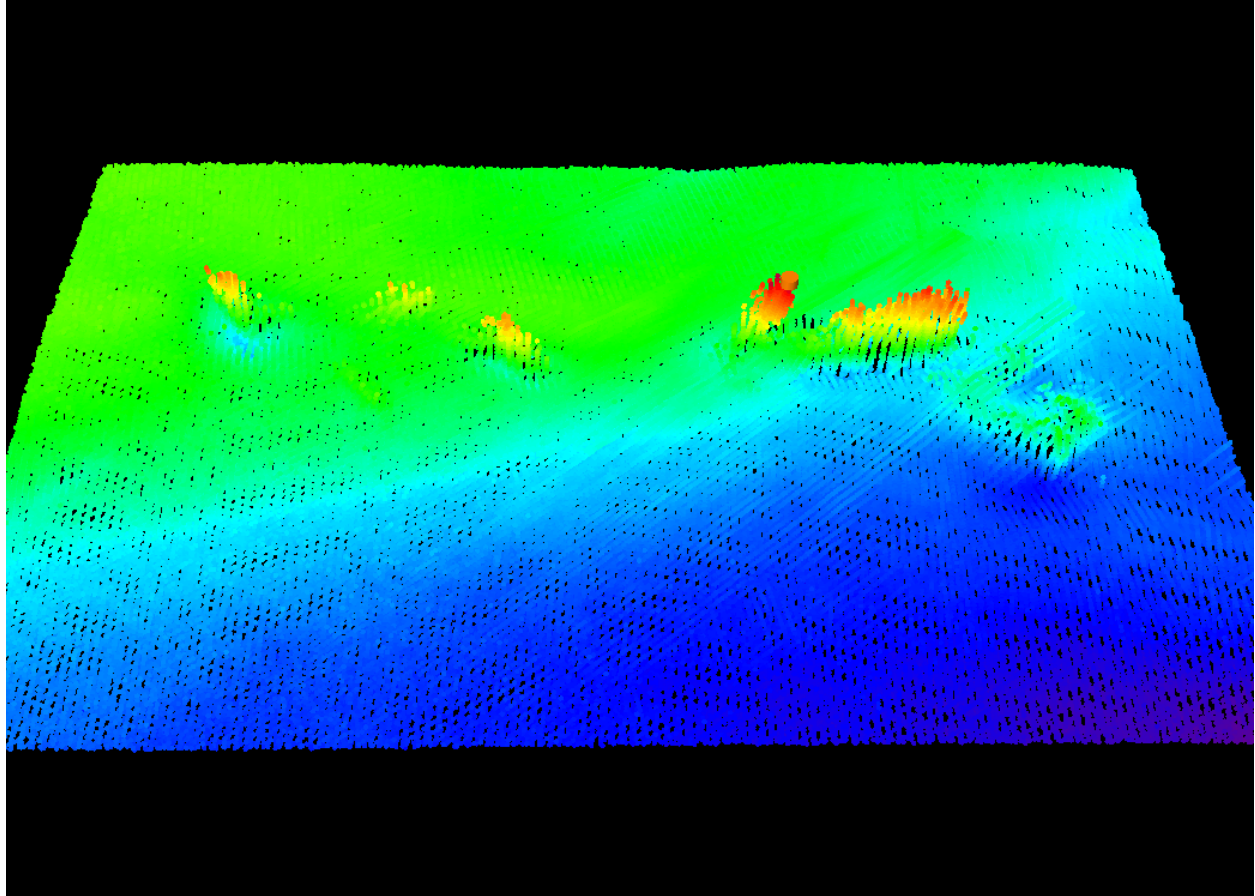


Target 8 – Submerged Obstructions

36-46-38.707N, 076-17-49.583W

Least depth is 10.509 m (34.478 ft)

Positioned within the left outside quarter of the Gilmerton Bridge Reach Channel in the Southern Branch of the Elizabeth River. The controlling depth of the channel is 33.8 ft from a survey in March 2010. The features are slightly deeper than the controlling depth of the channel, but they may pose a hazard to navigation due to their prominence above the surrounding riverbed.





James Miller - NOAA Federal <james.j.miller@noaa.gov>

Private fixed aids in the Southern Branch of the Elizabeth River, Norfolk.

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

Tue, Dec 16, 2014 at 1:58 PM

To: James Miller - NOAA Federal <james.j.miller@noaa.gov>, Edward Owens - NOAA Federal <edward.owens@noaa.gov>

FYI.

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

----- Forwarded message -----

From: **Hudson, Frank AUX** <Frank.Hudson@uscg.mil>

Date: Tue, Dec 16, 2014 at 1:40 PM

Subject: RE: Private fixed aids in the Southern Branch of the Elizabeth River, Norfolk.

To: "matthew.jaskoski@noaa.gov" <matthew.jaskoski@noaa.gov>

Cc: "Kearney, Matthew E CIV" <Matthew.E.Kearney@uscg.mil>, "Grimes, Albert L CIV" <Albert.L.Grimes@uscg.mil>

Sir, it is possible they are Class III PATONs; if so, they would not be in the Light List. However, we have no information on these aids; therefore, we believe they are unauthorized. Should you find any identifying information about them, we will gladly research further.

Mr. Kearney can still be contacted on questions concerning private aids to navigation in CG Fifth District.

Thank you.

Frank
Frank Hudson, Jr
USCG Auxiliary PATON Liaison
USCG District Five,
Waterways Branch (dpw)

"Standards are always out of date;
that's why they're called standards."
George F. Will

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

From: Kearney, Matthew E CIV

Sent: Monday, December 15, 2014 6:30 AM

To: Grimes, Albert L CIV; Hudson, Frank AUX

Subject: FW: Private fixed aids in the Southern Branch of the Elizabeth River, Norfolk.

Private aid question.

Matthew E. Kearney
Marine Information Specialist
5th Coast Guard District
[757-398-6552](tel:757-398-6552)

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

From: matthew.jaskoski@noaa.gov [mailto:matthew.jaskoski@noaa.gov]

Sent: Friday, December 12, 2014 2:42 PM

To: Kearney, Matthew E CIV

Subject: Private fixed aids in the Southern Branch of the Elizabeth River, Norfolk.

Mr. Kearney,

NOAA's Office of Coast Survey recently completed a survey of an area in the Southern Branch of the Elizabeth River, Norfolk, VA. As part of this work the field unit identified a discrepancy in a Private Aid to Navigation in the upper reach near Gilmerton. The ATON are 2 fixed warning marks for an uncharted oyster bed/farm. The ATON are not currently in the Light List.

As you may know, for nautical charting purposes NOAA sources the position and characteristics of all ATON from IATONIS, and any discrepancies in aids noted by the field surveyor are routed directly to the appropriate USCG district. As a result I wanted to pass this information along to you and request any information you may have regarding these aids, currently we plan to forward these items as "Beacon Special Purpose" for chart update, but we have no amplifying information as to whether the marks are lighted or their characteristics.

Our most current contact information lists you as the PATON chief for District 5 - if there is a more appropriate point of contact please let me know.

I have attached an image of the area and the ATON, the chart is 12253.

Thank you for your assistance,
v/r

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

Cell: 757-647-3356



James Miller - NOAA Federal <james.j.miller@noaa.gov>

Mooring Buoys in the Elizabeth River

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

Thu, Dec 18, 2014 at 12:48 PM

To: James Miller - NOAA Federal <james.j.miller@noaa.gov>, Edward Owens - NOAA Federal <edward.owens@noaa.gov>

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

----- Forwarded message -----

From: **Grimes, Albert L CIV** <Albert.L.Grimes@uscg.mil>

Date: Thu, Dec 18, 2014 at 12:46 PM

Subject: RE: Mooring Buoys in the Elizabeth River

To: "matthew.jaskoski@noaa.gov" <matthew.jaskoski@noaa.gov>

Cc: "Kearney, Matthew E CIV" <Matthew.E.Kearney@uscg.mil>, "Hernandez, Carlos A BOSN4" <Carlos.A.Hernandez@uscg.mil>, "Hudson, Frank AUX" <Frank.Hudson@uscg.mil>

We will investigate the reported unauthorized buoys. When the owners are identified they will be required to provide ACE/ State compliance as well as having an approved Private Aids To Navigation application; CG-2554. More to follow.

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

From: matthew.jaskoski@noaa.gov [mailto:matthew.jaskoski@noaa.gov]

Sent: Thursday, December 18, 2014 12:15 PM

To: Hudson, Frank AUX

Cc: Grimes, Albert L CIV; Kearney, Matthew E CIV

Subject: Mooring Buoys in the Elizabeth River

Hello Frank,

I wanted to pass along some more information about some PATON noted in the Elizabeth River. As part of our review of the hydrographic survey in the Elizabeth River we have identified 4 mooring buoys that are not charted but appear to be used for commercial purposes. They are not currently in the light list, so we can not submit these for inclusion in the chart. If you feel these moorings are significant to warrant inclusion on the chart please let me know.

The positions and characteristics are:

36-50-18.799N; 076-16-21.614W; mooring buoy; barrel (tun); black 36-50-19.626N; 076-15-02.741W; mooring buoy; spherical; unknown color 36-50-18.624N; 076-16-05.569W; mooring buoy; unknown shape; unknown color 36-50-18.713N; 076-14-59.590W; mooring buoy; spherical; unknown color

regards, and thanks again for your help.

Matt

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



James Miller - NOAA Federal <james.j.miller@noaa.gov>

H12285 DTON #2 Submission to NDB

NDB E-Mail Account <ocs.ndb@noaa.gov>

Wed, Dec 17, 2014 at 3:28 PM

To: _NOS OCS NSD Coast Pilot <coast.pilot@noaa.gov>, _NOS OCS PBA Branch <ocs.pba@noaa.gov>, _NOS OCS PBB Branch <ocs.pbb@noaa.gov>, _NOS OCS PBC Branch <ocs.pbc@noaa.gov>, _NOS OCS PBD Branch <ocs.pbd@noaa.gov>, _NOS OCS PBE Branch <ocs.pbe@noaa.gov>, _NOS OCS PBG Branch <ocs.pbg@noaa.gov>, Benjamin K Evans <Benjamin.K.Evans@noaa.gov>, Castle E Parker <Castle.E.Parker@noaa.gov>, Don Lipscomb <Don.Lipscomb@noaa.gov>, James M Crocker <James.M.Crocker@noaa.gov>, "Matthew.Kroll" <Matt.Kroll@noaa.gov>, OCS NDB <OCS.NDB@noaa.gov>, Tara Wallace <Tara.Wallace@noaa.gov>

Cc: James Miller - NOAA Federal <james.j.miller@noaa.gov>, Matthew Jaskoski <Matthew.Jaskoski@noaa.gov>, Michael Gonsalves - NOAA Federal <michael.gonsalves@noaa.gov>, Edward Owens <Edward.Owens@noaa.gov>, Denise Gruccio - NOAA Federal <denise.gruccio@noaa.gov>

L-2449/14 and DD-25666 have been registered by the Nautical Data Branch and directed to PBE for processing.

The DtoN reported is an obstruction in the Southern Branch of the Elizabeth River, VA.

The following charts are affected:

12253 kapp 593

12206 kapp 539

The following ENC is affected:

US5VA17M

References:

H12285

OPR-E350-TJ-11

This information was discovered by the NOAA ship THOMAS JEFFERSON and was submitted by AHB.

From: James J. Miller [mailto:james.j.miller@noaa.gov]

Sent: Wednesday, December 17, 2014 11:58 AM

To: OCS NDB - NOAA Service Account

Cc: Matthew Jaskoski - NOAA Federal; Michael Gonsalves - NOAA Federal; Castle Parker - NOAA Federal; Edward Owens - NOAA Federal; Denise Gruccio - NOAA Federal

Subject: H12285 DTON #2 Submission to NDB

Good day,

Please find attached a zip file for survey H12285 DTON #2 for submission to Nautical Data Branch (NDB) and Marine Chart Division (MCD). This danger submission contains an uncharted 5 ft Obstruction (submerged pile).

The information originates from the NOAA Ship *Thomas Jefferson* and has undergone a complete Survey Acceptance Review (SAR) at the Atlantic Hydrographic Branch (AHB). The contents of the attached WinZip file

were generated at AHB. The attached zip file contains a DTON Letter (PDF), associated image files, and a Pydro XML file.

If you have any questions, please direct them back to me via email or phone 757-441-6746 extension 111.

Thank you for your assistance with this matter.

Respectfully,

James Miller

James J. Miller

Physical Scientist

NOAA Office of Coast Survey

Atlantic Hydrographic Branch

439 W York St | Norfolk, VA | 23510

757-441-6746 x 111



H12285 DTON #2.zip

1569K

APPENDIX III

SURVEY FEATURES REPORT

AWOIS	8
DTONs	16
Maritime Boundary Items	0
Wrecks	9

H12285 Feature Report

Registry Number: H12285
State: Virginia
Locality: Southern Chesapeake Bay
Sub-locality: Eastern Branch to Money Point
Project Number: OPR-E350-TJ-11
Survey Dates: 03/14/2011 - 08/10/2011

Charts Affected

Number	Edition	Date	Scale (RNC)	RNC Correction(s)*
12253	46th	08/01/2008	1:20,000 (12253_1)	[L]NTM: ?
12206	33rd	10/01/2008	1:40,000 (12206_2) 1:40,000 (12206_1)	[L]NTM: ?
12221	80th	01/01/2009	1:80,000 (12221_1)	[L]NTM: ?
12207	21st	03/01/2004	1:80,000 (12207_1)	[L]NTM: ?
12280	8th	03/01/2008	1:200,000 (12280_2)	[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	Wreck	Wreck	[None]	36° 49' 20.6" N	076° 17' 18.0" W	---
2.1	Wreck - Depth Unknown	Wreck	[None]	36° 50' 23.1" N	076° 15' 06.4" W	---
2.2	3.991m Wreck	Wreck	3.99 m	36° 50' 18.4" N	076° 14' 59.6" W	---
2.3	Wreck - Depth Unknown	Wreck	[None]	36° 50' 12.4" N	076° 14' 53.8" W	---
3.1	AWOIS 11402	GP	[None]	36° 46' 49.8" N	076° 18' 26.6" W	11402
3.2	AWOIS 14701	Wreck	[None]	36° 47' 31.6" N	076° 18' 12.4" W	14701
3.3	AWOIS 14705	GP	[None]	36° 46' 34.1" N	076° 18' 00.7" W	14705
3.4	AWOIS 14699	GP	[None]	36° 48' 02.4" N	076° 17' 23.0" W	14699
3.5	AWOIS 14693	Wreck	2.96 m	36° 50' 19.5" N	076° 16' 11.0" W	14693
3.6	AWOIS 14694	GP	[None]	36° 50' 12.6" N	076° 16' 07.6" W	14694
3.7	AWOIS 14695	Wreck	[None]	36° 50' 19.3" N	076° 15' 48.8" W	14695

3.8	AWOIS 14696	Wreck	[None]	36° 50' 15.4" N	076° 15' 37.1" W	14696
4.1	DTON 1.1	Obstruction	5.50 m	36° 47' 35.2" N	076° 17' 41.2" W	---
4.2	DTON 1.8	Obstruction	4.29 m	36° 48' 11.6" N	076° 17' 33.8" W	---
4.3	DTON 2.1	Obstruction	1.73 m	36° 47' 42.1" N	076° 17' 33.0" W	---
4.4	DTON 1.9	Obstruction	8.92 m	36° 49' 30.0" N	076° 17' 32.6" W	---
4.5	DTON 1.10	Obstruction	2.89 m	36° 49' 37.0" N	076° 17' 27.6" W	---
4.6	DTON 1.11	Obstruction	4.42 m	36° 47' 52.4" N	076° 17' 27.3" W	---
4.7	DTON 1.4	Obstruction	5.25 m	36° 48' 29.7" N	076° 17' 26.4" W	---
4.8	DTON 1.12	GP	[None]	36° 49' 33.6" N	076° 17' 18.6" W	---
4.9	DTON 1.5	Obstruction	5.63 m	36° 48' 29.9" N	076° 17' 22.5" W	---
4.10	DTON 1.13	GP	[None]	36° 49' 29.8" N	076° 17' 19.1" W	---
4.11	DTON 1.7	Obstruction	6.70 m	36° 49' 33.4" N	076° 17' 21.0" W	---
4.12	DTON 1.14	GP	[None]	36° 49' 25.8" N	076° 17' 19.0" W	---
4.13	DTON 1.15	GP	[None]	36° 49' 23.1" N	076° 17' 20.1" W	---
4.14	DTON 1.16	GP	[None]	36° 49' 24.6" N	076° 17' 18.2" W	---
4.15	DTON 1.17	GP	[None]	36° 49' 24.1" N	076° 17' 18.3" W	---
4.16	DTON 1.2	Wreck	[None]	36° 50' 19.4" N	076° 15' 54.1" W	---

1 - Charted Features

1.1) Wreck

Survey Summary

Survey Position: 36° 49' 20.6" N, 076° 17' 18.0" W
Least Depth: [None]
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 2000-085.00:00:00.000 (03/25/2000)
Dataset: H12285_Features.000
FOID: US 0002048912 00001(0226001F43900001)
Charts Affected: 12253_1, 12206_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

WRECKS/remrks: Not Visible above Water

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12285_Features.000	US 0002048912 00001	0.00	000.0	Primary

Hydrographer Recommendations

Update to Subm Wk

S-57 Data

Geo object 1: Wreck (WRECKS)
Attributes: CATWRK - 2:dangerous wreck
 NINFOM - Revise to submerged wreck
 QUASOU - 2:depth unknown
 SORDAT - 20000325
 SORIND - US,US,graph,Chart 12253
 WATLEV - 3:always under water/submerged

Office Notes

SAR: Charted stranded wreck not observed visually, recommend to update to sunken wreck. Compile:
 Revise to submerged wreck with depth unknown.

2 - New Features

2.1) Wreck - Depth Unknown

Survey Summary

Survey Position: 36° 50' 23.1" N, 076° 15' 06.4" W
Least Depth: [None]
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 2011-222.00:00:00.000 (08/10/2011)
Dataset: H12285_Features.000
FOID: 0_ 0000044379 00001(FFFE0000AD5B0001)
Charts Affected: 12253_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

WRECKS/remrks: Position by SSS, Visual/photo

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12285_Features.000	0_ 0000044379 00001	0.00	000.0	Primary

Hydrographer Recommendations

Chart subm Wk

S-57 Data

Geo object 1: Wreck (WRECKS)
Attributes: CATWRK - 2:dangerous wreck
 CONVIS - 2:not visual conspicuous
 NINFOM - Add wreck
 QUASOU - 2:depth unknown
 SORDAT - 20110810
 SORIND - US,US,graph,H12285
 WATLEV - 3:always under water/submerged

Office Notes

SAR: Feature located at survey position with sidescan sonar. Compile: Add wreck with depth unknown.

Feature Images



Figure 2.1.1

2.2) 3.991m Wreck

Survey Summary

Survey Position: 36° 50' 18.4" N, 076° 14' 59.6" W
Least Depth: 3.99 m (= 13.09 ft = 2.182 fm = 2 fm 1.09 ft)
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 2011-222.00:00:00.000 (08/10/2011)
Dataset: H12285_Features.000
FOID: US 0002048913 00001(0226001F43910001)
Charts Affected: 12253_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

[None]

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12285_Features.000	US 0002048913 00001	0.00	000.0	Primary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

13ft (12253_1, 12207_1, 12221_1, 12280_2)

2fm (13003_1)

S-57 Data

Geo object 1: Wreck (WRECKS)
Attributes: CATWRK - 2:dangerous wreck
 NINFOM - Add wreck
 QUASOU - 9:value reported (not confirmed)
 SORDAT - 20110810
 SORIND - US,US,graph,H12285
 VALSOU - 3.991 m
 WATLEV - 3:always under water/submerged

Office Notes

SAR: Feature located at survey position with sidescan and multibeam sonar. Compile: Add wreck.

Feature Images

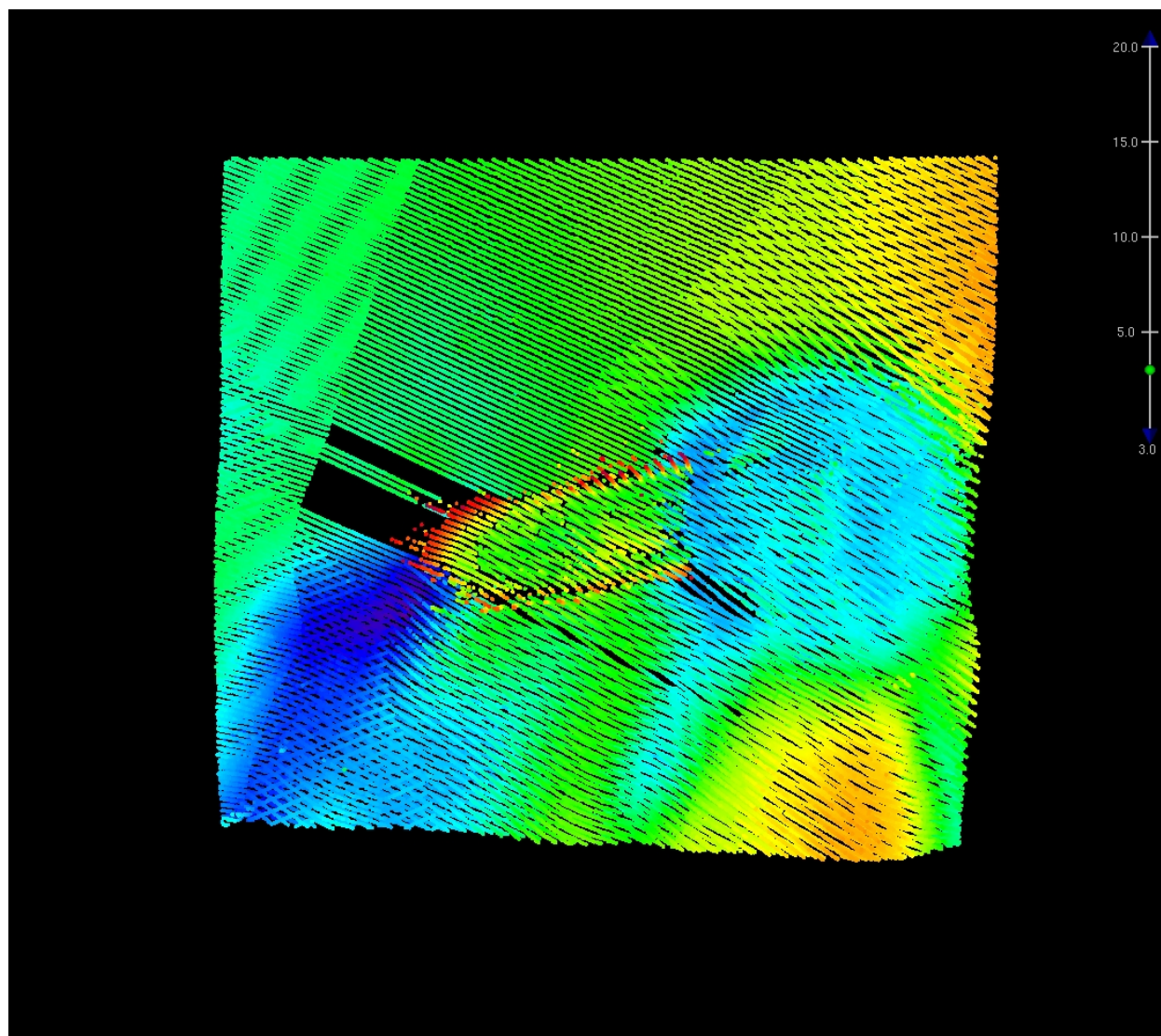


Figure 2.2.1



Figure 2.2.2

2.3) Wreck - Depth Unknown

Survey Summary

Survey Position: 36° 50' 12.4" N, 076° 14' 53.8" W
Least Depth: [None]
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 2011-222.00:00:00.000 (08/10/2011)
Dataset: H12285_Features.000
FOID: 0_ 0000044375 00001(FFFE0000AD570001)
Charts Affected: 12253_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

WRECKS/remrks: Subm Wk too shoal to get in, lies outside 6ft curve, oyster post on wreck site.

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12285_Features.000	0_ 0000044375 00001	0.00	000.0	Primary

Hydrographer Recommendations

Chart Dangerous Wk least depth unknown

S-57 Data

Geo object 1: Wreck (WRECKS)
Attributes: CATWRK - 2:dangerous wreck
 CONVIS - 2:not visual conspicuous
 NINFOM - Add wreck
 QUASOU - 2:depth unknown
 SORDAT - 20110810
 SORIND - US,US,graph,H12285
 WATLEV - 3:always under water/submerged

Office Notes

SAR: Feature located at survey position with sidescan sonar. Compile: Add wreck with depth unknown.

Feature Images



Figure 2.3.1

3 - AWOIS Features

3.1) AWOIS 11402

Feature for AWOIS Item #11402

Search Position: 36° 46' 49.8" N, 076° 18' 26.6" W

Historical Depth: [None]

Search Radius: [unknown]

Search Technique: [unknown]

Technique Notes:

History Notes:

[unknown]

Survey Summary

Survey Position: 36° 46' 49.8" N, 076° 18' 26.6" W

Least Depth: [None]

TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]

Timestamp: 1981-001.00:00:00.000 (01/01/1981)

Dataset: H12285_Features.000

FOID: US 0002048920 00001(0226001F43980001)

Charts Affected: 12253_1, 12206_1, 12206_2, 12207_1, 13003_1

Remarks:

[None]

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12285_Features.000	US 0002048920 00001	0.00	000.0	Primary

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Cartographic symbol (\$CSYMB)

Attributes: NINFOM - Delete wreck
NTXTDS - Chart 12253, ED47, NTM 20141018

Office Notes

SAR: Feature disproved at charted position with sidescan and multibeam sonar. Compile: Delete wreck.

3.2) AWOIS 14701

Feature for AWOIS Item #14701

Search Position: 36° 47' 31.6" N, 076° 18' 12.4" W

Historical Depth: [None]

Search Radius: [unknown]

Search Technique: [unknown]

Technique Notes:

History Notes:

[unknown]

Survey Summary

Survey Position: 36° 47' 31.6" N, 076° 18' 12.4" W

Least Depth: [None]

TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]

Timestamp: 2000-085.00:00:00.000 (03/25/2000)

Dataset: H12285_Features.000

FOID: US 0002049131 00001(0226001F446B0001)

Charts Affected: 12253_1, 12206_1, 12207_1, 13003_1

Remarks:

WRECKS/remrks: SSS hit out of range of MB, too shoal to develop

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12285_Features.000	US 0002049131 00001	0.00	000.0	Primary

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Wreck (WRECKS)

Attributes: CATWRK - 2:dangerous wreck
NINFOM - Retain wreck
QUASOU - 2:depth unknown
SORDAT - 20000325
SORIND - US,US,graph,Chart 12253
WATLEV - 3:always under water/submerged

Office Notes

SAR: Charted wreck not disproved. Compile: Retain wreck.

3.3) AWOIS 14705

Feature for AWOIS Item #14705

Search Position: 36° 46' 34.1" N, 076° 18' 00.7" W

Historical Depth: [None]

Search Radius: [unknown]

Search Technique: [unknown]

Technique Notes:

History Notes:

[unknown]

Survey Summary

Survey Position: 36° 46' 34.1" N, 076° 18' 00.7" W

Least Depth: [None]

TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]

Timestamp: 1981-001.00:00:00.000 (01/01/1981)

Dataset: H12285_Features.000

FOID: US 0002048918 00001(0226001F43960001)

Charts Affected: 12253_1, 12206_1, 12206_2, 12207_1, 13003_1

Remarks:

\$CSYMB/remrks: Nothing seen in SSS

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12285_Features.000	US 0002048918 00001	0.00	000.0	Primary

Hydrographer Recommendations

Delete Wk

S-57 Data

Geo object 1: Cartographic symbol (\$CSYMB)

Attributes: NINFOM - Delete wreck
NTXTDS - Chart 12253, ED47, NTM 20141018

Office Notes

SAR: Feature disproved at charted position with sidescan sonar. Compile: Delete wreck.

3.4) AWOIS 14699

Feature for AWOIS Item #14699

Search Position: 36° 48' 02.4" N, 076° 17' 23.0" W

Historical Depth: [None]

Search Radius: [unknown]

Search Technique: [unknown]

Technique Notes:

History Notes:

[unknown]

Survey Summary

Survey Position: 36° 48' 02.4" N, 076° 17' 23.0" W

Least Depth: [None]

TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]

Timestamp: 1981-001.00:00:00.000 (01/01/1981)

Dataset: H12285_Features.000

FOID: US 0002048919 00001(0226001F43970001)

Charts Affected: 12253_1, 12206_1, 12207_1, 12280_2, 13003_1

Remarks:

[None]

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12285_Features.000	US 0002048919 00001	0.00	000.0	Primary

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Cartographic symbol (\$CSYMB)

Attributes: NINFOM - Delete wreck
NTXTDS - Chart 12253, ED47, NTM 20141018

Office Notes

SAR: Feature disproved at charted position with sidescan and multibeam sonar. Compile: Delete wreck.

3.5) AWOIS 14693

Feature for AWOIS Item #14693

Search Position: 36° 50' 19.5" N, 076° 16' 11.0" W

Historical Depth: 2.96 m

Search Radius: [unknown]

Search Technique: [unknown]

Technique Notes:

History Notes:

[unknown]

Survey Summary

Survey Position: 36° 50' 19.5" N, 076° 16' 11.0" W

Least Depth: 2.96 m (= 9.71 ft = 1.619 fm = 1 fm 3.71 ft)

TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]

Timestamp: 2011-222.00:00:00.000 (08/10/2011)

Dataset: H12285_Features.000

FOID: 0_ 0000044384 00001(FFFE0000AD600001)

Charts Affected: 12253_1, 12206_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

[None]

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12285_Features.000	0_ 0000044384 00001	0.00	000.0	Primary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

9ft (12253_1, 12206_1, 12207_1, 12221_1, 12280_2)

1 ½fm (13003_1)

S-57 Data

Geo object 1: Wreck (WRECKS)
Attributes: CATWRK - 3:distributed remains of wreck
NINFOM - Add wreck
QUASOU - 9:value reported (not confirmed)
SORDAT - 20110810
SORIND - US,US,graph,H12285
VALSOU - 2.961 m
WATLEV - 3:always under water/submerged

Office Notes

SAR: Scattered debris is present but does not have significant shadow height, nor does the SSS and MB data provide evidence of a wreck. Charted symbology extents not fully ensonified with multibeam. Recommend to retain. The wreck may be sunken into the river sediment with no clear identification of wreck. Compile: Add distributed remains of wreck.

Feature Images

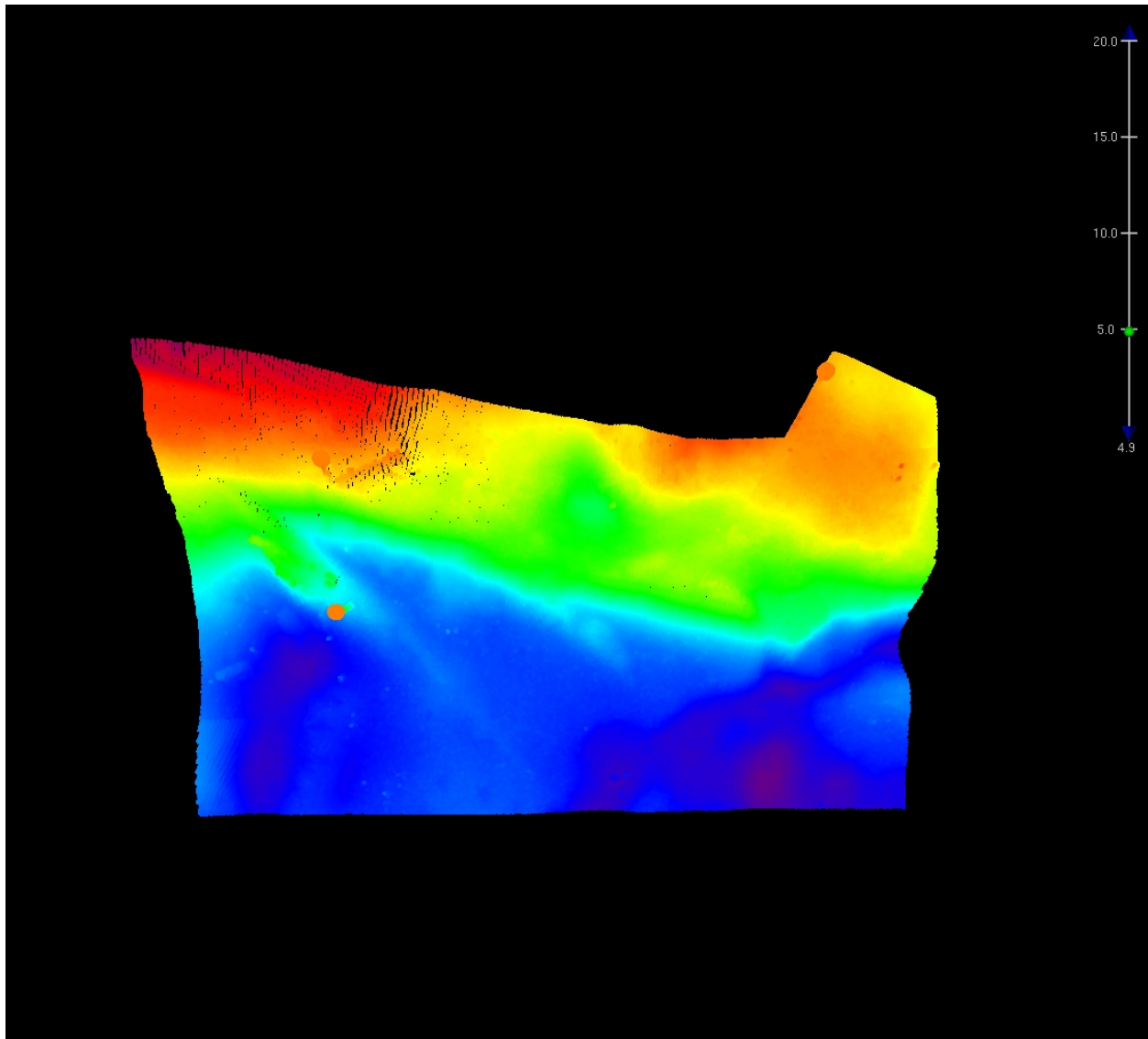


Figure 3.5.1



Figure 3.5.2

3.6) AWOIS 14694

Feature for AWOIS Item #14694

Search Position: 36° 50' 12.6" N, 076° 16' 07.6" W

Historical Depth: [None]

Search Radius: [unknown]

Search Technique: [unknown]

Technique Notes:

History Notes:

[unknown]

Survey Summary

Survey Position: 36° 50' 12.6" N, 076° 16' 07.6" W

Least Depth: [None]

TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]

Timestamp: 1981-001.00:00:00.000 (01/01/1981)

Dataset: H12285_Features.000

FOID: 0_ 0000044381 00001(FFFE0000AD5D0001)

Charts Affected: 12253_1, 12206_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

\$CSYMB/remrks: AWOIS 14694, wk not seen

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12285_Features.000	0_ 0000044381 00001	0.00	000.0	Primary

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Cartographic symbol (\$CSYMB)

Attributes: NINFOM - Delete wreck
NTXTDS - Chart 12253, ED47, NTM 20141018

Office Notes

SAR: Feature not observed with sidescan sonar or visual inspection. Compile: Delete wreck.

3.7) AWOIS 14695

Feature for AWOIS Item #14695

Search Position: 36° 50' 19.3" N, 076° 15' 48.8" W

Historical Depth: [None]

Search Radius: [unknown]

Search Technique: [unknown]

Technique Notes:

History Notes:

[unknown]

Survey Summary

Survey Position: 36° 50' 19.3" N, 076° 15' 48.8" W

Least Depth: [None]

TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]

Timestamp: 2011-222.00:00:00.000 (08/10/2011)

Dataset: H12285_Features.000

FOID: US 0002048914 00001(0226001F43920001)

Charts Affected: 12253_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

WRECKS/remrks: Wreck observed cover uncovers

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12285_Features.000	US 0002048914 00001	0.00	000.0	Primary

Hydrographer Recommendations

Add new WK, with new position

S-57 Data

Geo object 1: Wreck (WRECKS)

Attributes: CATWRK - 2:dangerous wreck
NINFOM - Add wreck
QUASOU - 2:depth unknown
SORDAT - 20110810
SORIND - US,US,graph,H12285
WATLEV - 4:covers and uncovers

Office Notes

SAR: Feature located at survey position with sidescan sonar and digitized based on sidescan imagery.
Compile: Add wreck.

Feature Images

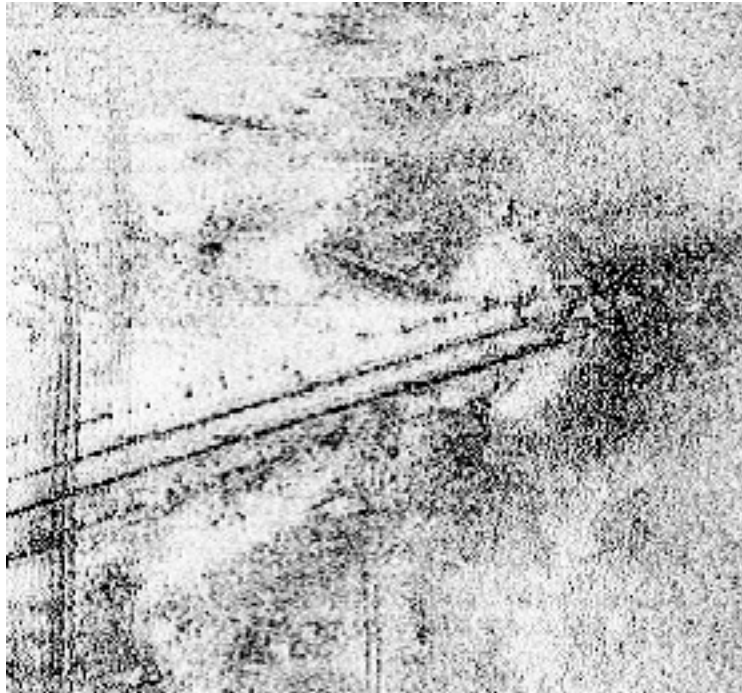


Figure 3.7.1



Figure 3.7.2

3.8) AWOIS 14696

Feature for AWOIS Item #14696

Search Position: 36° 50' 15.4" N, 076° 15' 37.1" W

Historical Depth: [None]

Search Radius: [unknown]

Search Technique: [unknown]

Technique Notes:

History Notes:

[unknown]

Survey Summary

Survey Position: 36° 50' 15.4" N, 076° 15' 37.1" W

Least Depth: [None]

TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]

Timestamp: 2000-085.00:00:00.000 (03/25/2000)

Dataset: H12285_Features.000

FOID: US 0002048916 00001(0226001F43940001)

Charts Affected: 12253_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

WRECKS/remrks: Not visible above water

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12285_Features.000	US 0002048916 00001	0.00	000.0	Primary

Hydrographer Recommendations

Update to Subm Wk

S-57 Data

Geo object 1: Wreck (WRECKS)

Attributes: CATWRK - 2:dangerous wreck
CONVIS - 2:not visual conspicuous
NINFOM - Revise wreck to submerged
QUASOU - 2:depth unknown
SORDAT - 20000325
SORIND - US,US,graph,Chart 12253
WATLEV - 3:always under water/submerged

Office Notes

SAR: Charted stranded wreck not observed visually, recommend to update to sunken wreck. Compile:
Revise to submerged wreck with depth unknown.

4 - Dangers To Navigation

4.1) DTON 1.1

Survey Summary

Survey Position: 36° 47' 35.2" N, 076° 17' 41.2" W
Least Depth: 5.50 m (= 18.04 ft = 3.007 fm = 3 fm 0.04 ft)
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 2011-222.00:00:00.000 (08/10/2011)
Dataset: H12285_Features.000
FOID: US 0002048910 00001(0226001F438E0001)
Charts Affected: 12253_1, 12206_1, 12207_1, 13003_1

Remarks:

OBSTRN/remrks: Rectangular object. Underneath moored barge. No Bathy available. Object height is 1.0m (3.3ft)

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12285_Features.000	US 0002048910 00001	0.00	000.0	Primary

Hydrographer Recommendations

Add New Obstn at surveyed position

Cartographically-Rounded Depth (Affected Charts):

18ft (12253_1, 12206_1, 12207_1)

3fm (13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)
Attributes: NINFOM - Add obstruction
 QUASOU - 9:value reported (not confirmed)
 SORDAT - 20110810
 SORIND - US,US,graph,H12285
 VALSOU - 5.500 m
 WATLEV - 3:always under water/submerged

Office Notes

SAR: Feature located at survey position with sidescan sonar. Compile: Add obstruction.

Feature Images

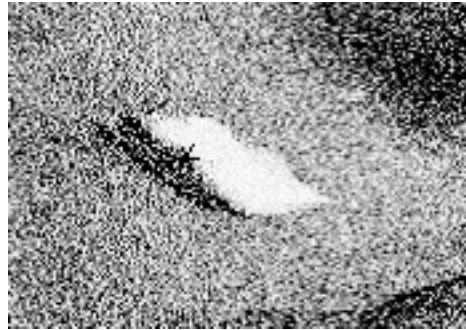


Figure 4.1.1

4.2) DTON 1.8

Survey Summary

Survey Position: 36° 48' 11.6" N, 076° 17' 33.8" W
Least Depth: 4.29 m (= 14.09 ft = 2.349 fm = 2 fm 2.09 ft)
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 2011-222.00:00:00.000 (08/10/2011)
Dataset: H12285_Features.000
FOID: US 0002048716 00001(0226001F42CC0001)
Charts Affected: 12253_1, 12206_1, 12207_1, 12280_2, 13003_1

Remarks:

OBSTRN/remrks: Submerged Pile. Obstn was covered by Reson 7125 MBES and corrected to MLLW using approved final water levels.

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12285_Features.000	US 0002048716 00001	0.00	000.0	Primary

Hydrographer Recommendations

Add New Obstn at surveyed position

Cartographically-Rounded Depth (Affected Charts):

14ft (12253_1, 12206_1, 12207_1, 12280_2)

2 ¼fm (13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)
Attributes: CATOBS - 1:snag / stump
 NINFOM - Add obstruction
 QUASOU - 6:least depth known
 SORDAT - 20110810
 SORIND - US,US,graph,H12285
 VALSOU - 4.295 m

WATLEV - 3:always under water/submerged

Office Notes

SAR: Feature located at survey position with sidescan and multibeam sonar. Compile: Add obstruction.

Feature Images

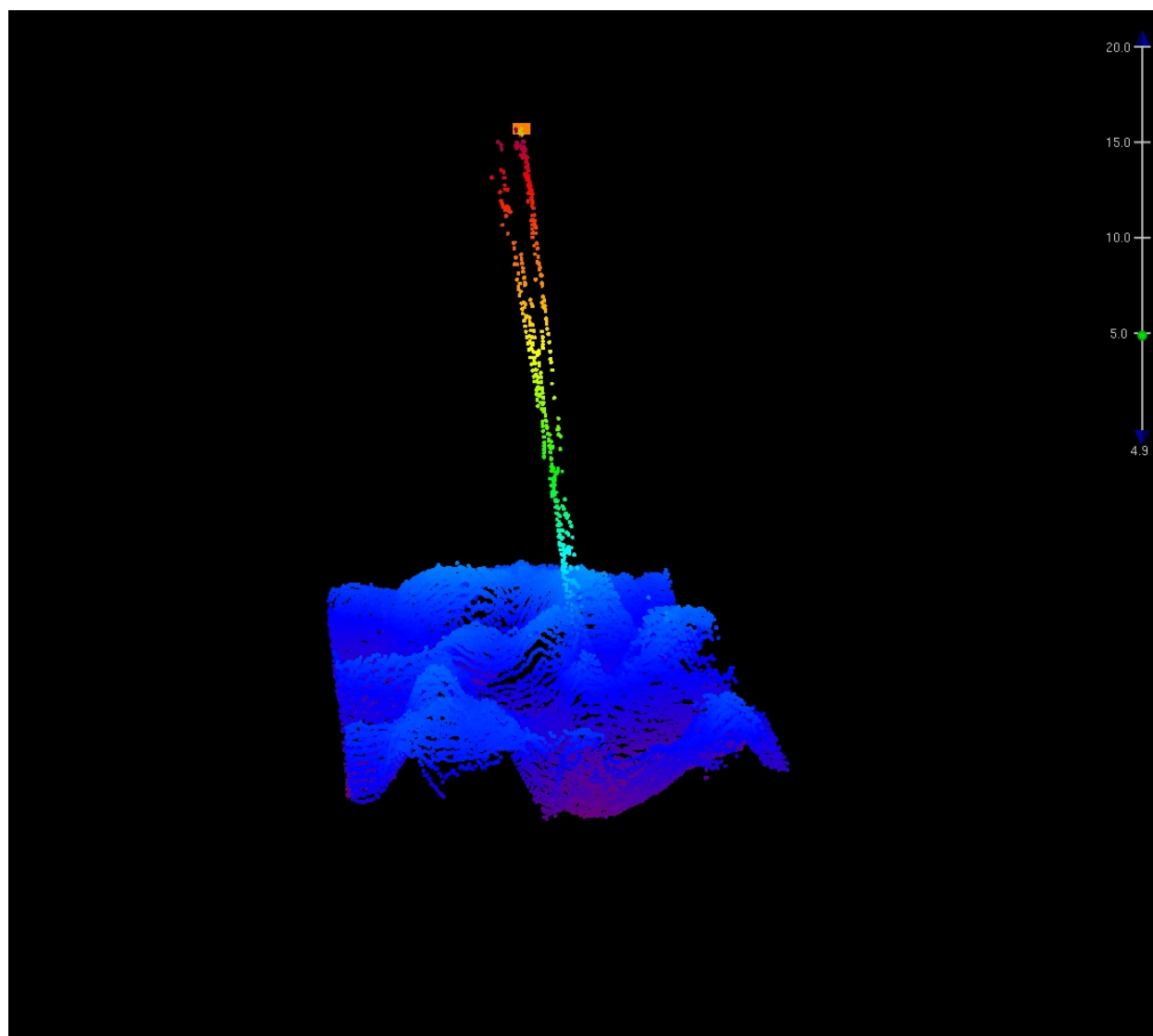


Figure 4.2.1

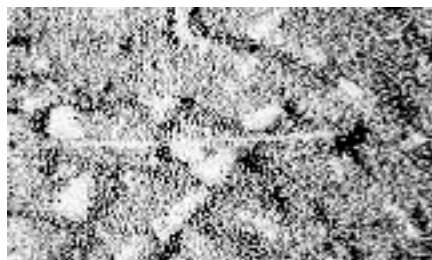


Figure 4.2.2

4.3) DTON 2.1

Survey Summary

Survey Position: 36° 47' 42.1" N, 076° 17' 33.0" W
Least Depth: 1.73 m (= 5.68 ft = 0.947 fm = 0 fm 5.68 ft)
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 2011-222.00:00:00.000 (08/10/2011)
Dataset: H12285_Features.000
FOID: US 0002048908 00001(0226001F438C0001)
Charts Affected: 12253_1, 12206_1, 12207_1, 13003_1

Remarks:

OBSTRN/remrks: Obstn found

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12285_Features.000	US 0002048908 00001	0.00	000.0	Primary

Hydrographer Recommendations

Add New Obstn at surveyed position

Cartographically-Rounded Depth (Affected Charts):

5ft (12253_1, 12206_1, 12207_1)

1fm (13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)
Attributes: CATOBS - 1:snag / stump
 NINFOM - Add obstructions plural
 QUASOU - 6:least depth known
 SORDAT - 20110810
 SORIND - US,US,graph,H12285
 VALSOU - 1.732 m
 WATLEV - 3:always under water/submerged

Office Notes

SAR: Feature located at survey position with sidescan and multibeam sonar. Compile: Add obstructions.

Feature Images

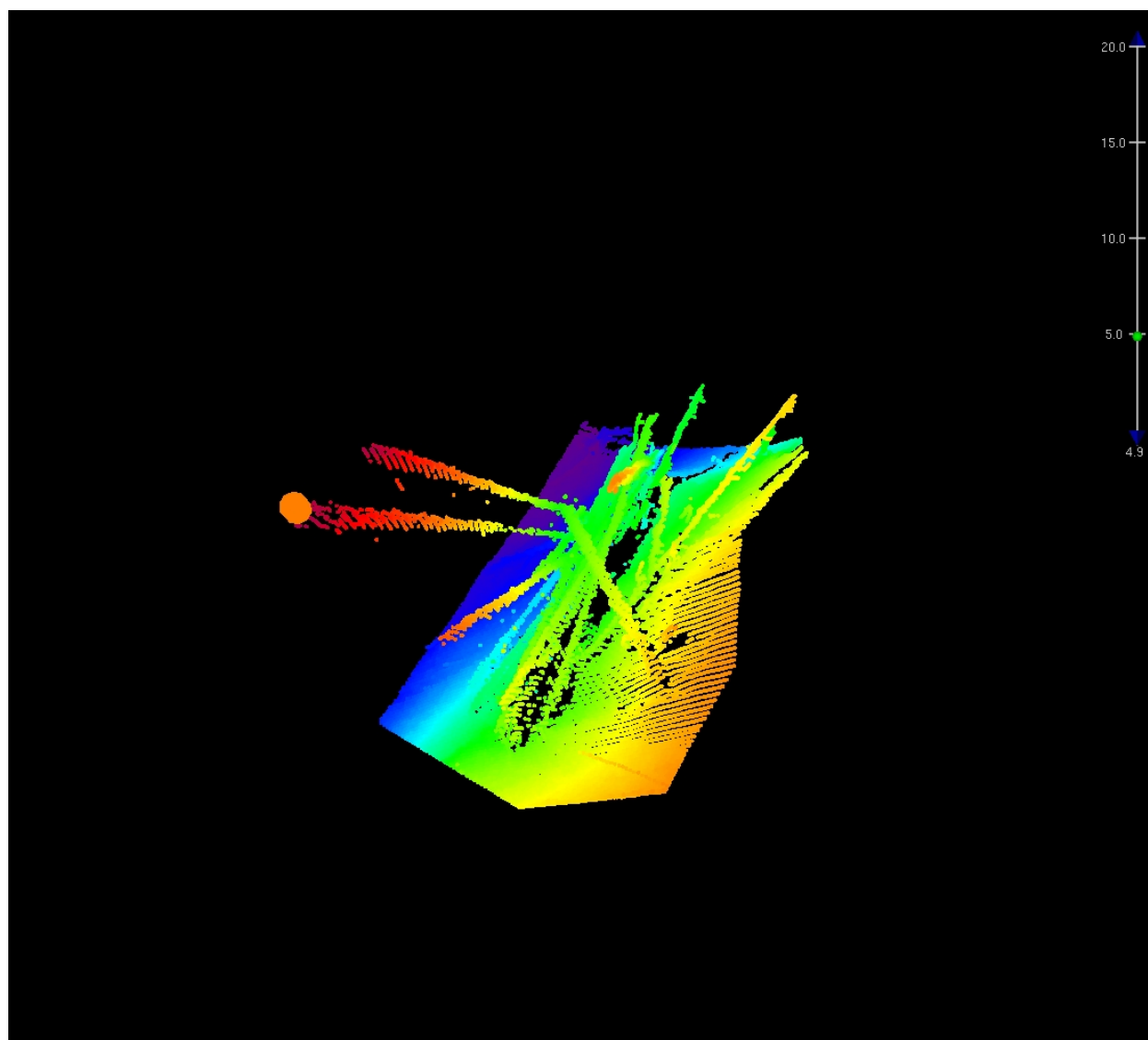


Figure 4.3.1



Figure 4.3.2

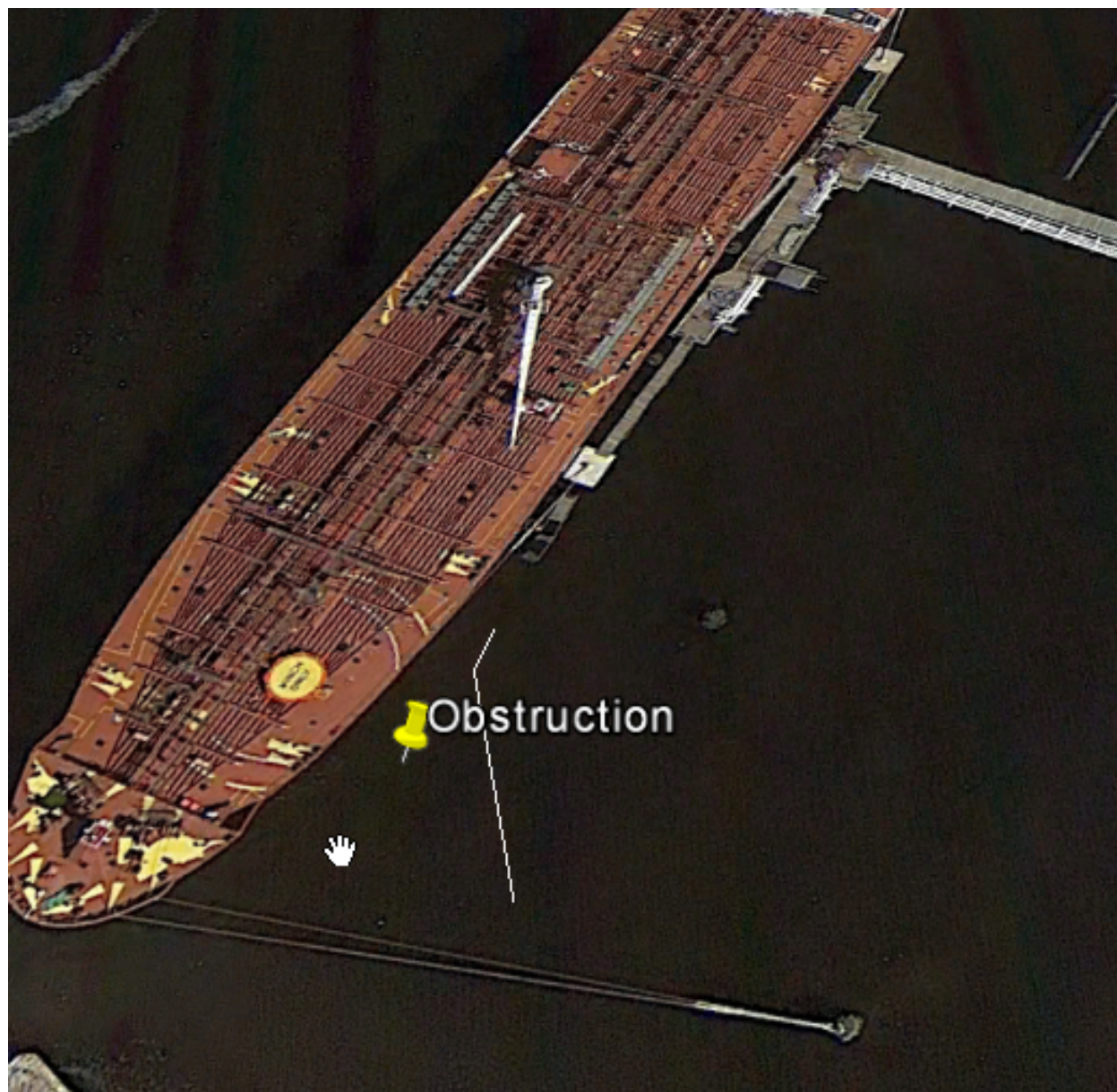


Figure 4.3.3

4.4) DTON 1.9

Survey Summary

Survey Position: 36° 49' 30.0" N, 076° 17' 32.6" W
Least Depth: 8.92 m (= 29.26 ft = 4.876 fm = 4 fm 5.26 ft)
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 2011-222.00:00:00.000 (08/10/2011)
Dataset: H12285_Features.000
FOID: US 0002048753 00001(0226001F42F10001)
Charts Affected: 12253_1, 12206_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

OBSTRN/remrks: Submerged Pile. Obstn was covered by Reson 7125 MBES and corrected to MLLW using approved final water levels.

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12285_Features.000	US 0002048753 00001	0.00	000.0	Primary

Hydrographer Recommendations

Add New Obstn at surveyed position

Cartographically-Rounded Depth (Affected Charts):

29ft (12253_1, 12206_1, 12207_1, 12221_1, 12280_2)

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

S-57 Data

Geo object 1: Obstruction (OBSTRN)
Attributes: CATOBS - 1:snag / stump
 NINFOM - Add obstruction
 QUASOU - 6:least depth known
 SORDAT - 20110810
 SORIND - US,US,graph,H12285
 VALSOU - 8.917 m

WATLEV - 3:always under water/submerged

Office Notes

SAR: Feature located at survey position with sidescan and multibeam sonar. Compile: Add obstruction.

Feature Images

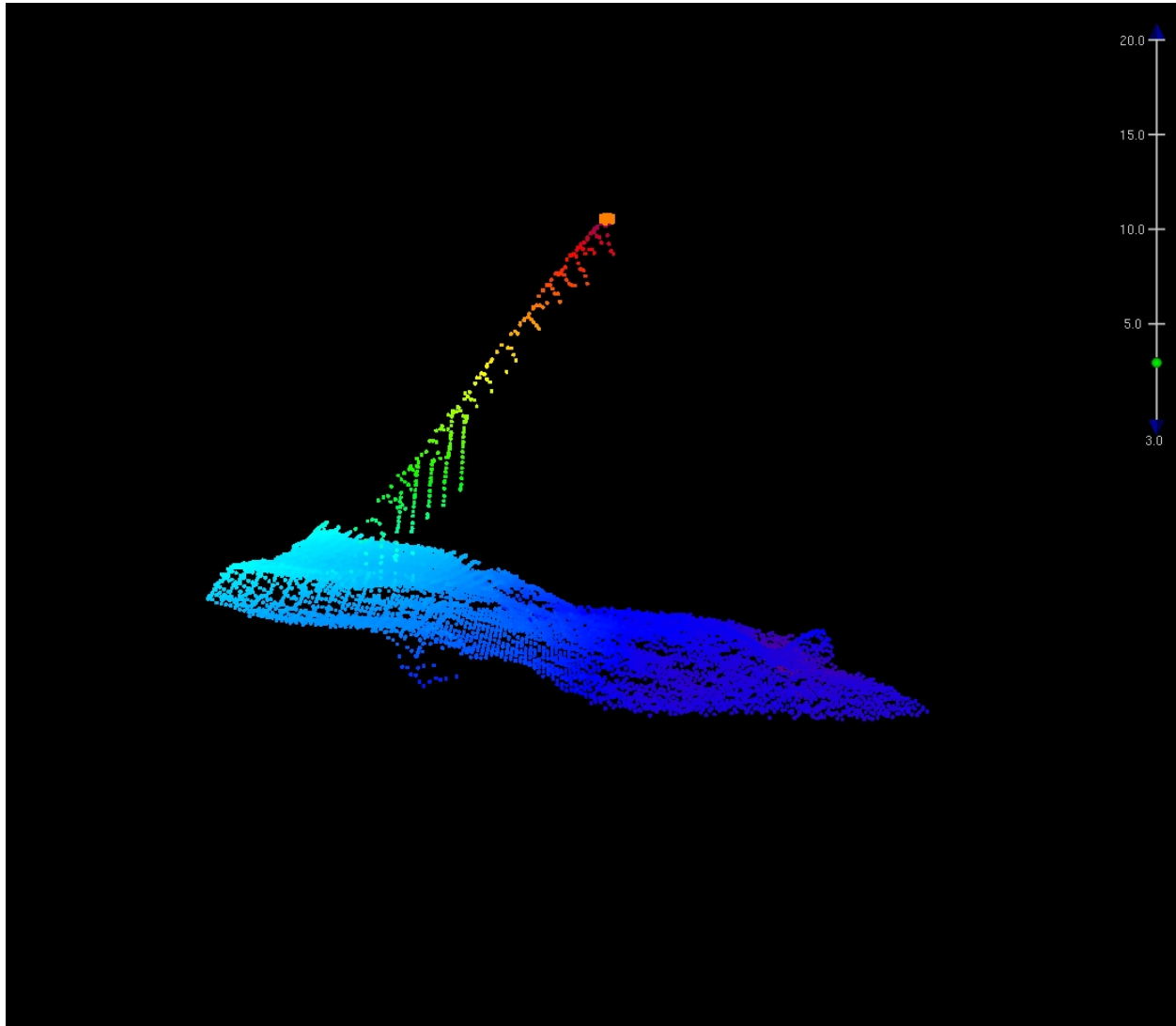


Figure 4.4.1



Figure 4.4.2

4.5) DTON 1.10

Survey Summary

Survey Position: 36° 49' 37.0" N, 076° 17' 27.6" W
Least Depth: 2.89 m (= 9.49 ft = 1.582 fm = 1 fm 3.49 ft)
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 2011-222.00:00:00.000 (08/10/2011)
Dataset: H12285_Features.000
FOID: US 0002048686 00001(0226001F42AE0001)
Charts Affected: 12253_1, 12206_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

OBSTRN/remrks: Submerged Pile. Obstn was covered by Reson 7125 MBES and corrected to MLLW using approved final water levels.

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12285_Features.000	US 0002048686 00001	0.00	000.0	Primary

Hydrographer Recommendations

Add New Obstn at surveyed position

Cartographically-Rounded Depth (Affected Charts):

9ft (12253_1, 12206_1, 12207_1, 12221_1, 12280_2)

1 ½fm (13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)
Attributes: CATOBS - 1:snag / stump
 NINFOM - Add obstructions plural
 QUASOU - 6:least depth known
 SORDAT - 20110810
 SORIND - US,US,graph,H12285
 VALSOU - 2.893 m

WATLEV - 3:always under water/submerged

Office Notes

SAR: Feature located at survey position with sidescan and multibeam sonar. The survey feature is offshore and seaward of a collapsed bulkhead. Compile: Add obstructions.

Feature Images

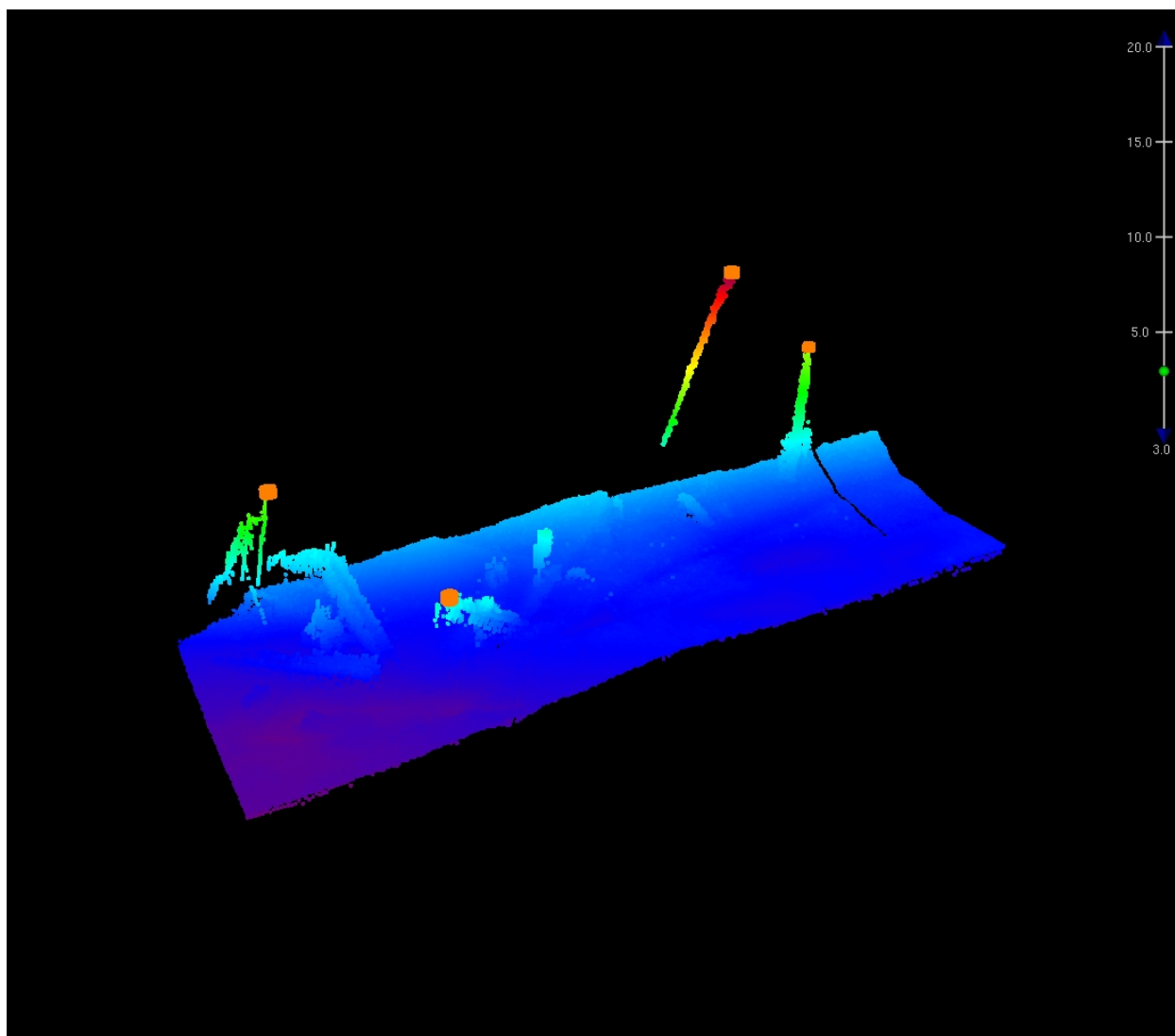


Figure 4.5.1



Figure 4.5.2

4.6) DTON 1.11

Survey Summary

Survey Position: 36° 47' 52.4" N, 076° 17' 27.3" W
Least Depth: 4.42 m (= 14.49 ft = 2.415 fm = 2 fm 2.49 ft)
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 2011-222.00:00:00.000 (08/10/2011)
Dataset: H12285_Features.000
FOID: US 0002048881 00001(0226001F43710001)
Charts Affected: 12253_1, 12206_1, 12207_1, 13003_1

Remarks:

OBSTRN/remrks: Several Obstns found at 14, 15, and 18ft. The the 14ft item appears to be an outflow pipe and can be seen continuing under the concrete pier in multibeam imagery. Obstn was covered by Reson 7125 MBES and corrected to MLLW using approved final water levels.

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12285_Features.000	US 0002048881 00001	0.00	000.0	Primary

Hydrographer Recommendations

Add New Obstn at surveyed position

Cartographically-Rounded Depth (Affected Charts):

14ft (12253_1, 12206_1, 12207_1)

2 ¼fm (13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)
Attributes: CATOBS - 1:snag / stump
 NINFOM - Add obstruction
 QUASOU - 6:least depth known
 SORDAT - 20110810
 SORIND - US,US,graph,H12285
 VALSOU - 4.416 m

WATLEV - 3:always under water/submerged

Office Notes

SAR: Feature located at survey position with sidescan and multibeam sonar. Compile: Add obstruction.

Feature Images

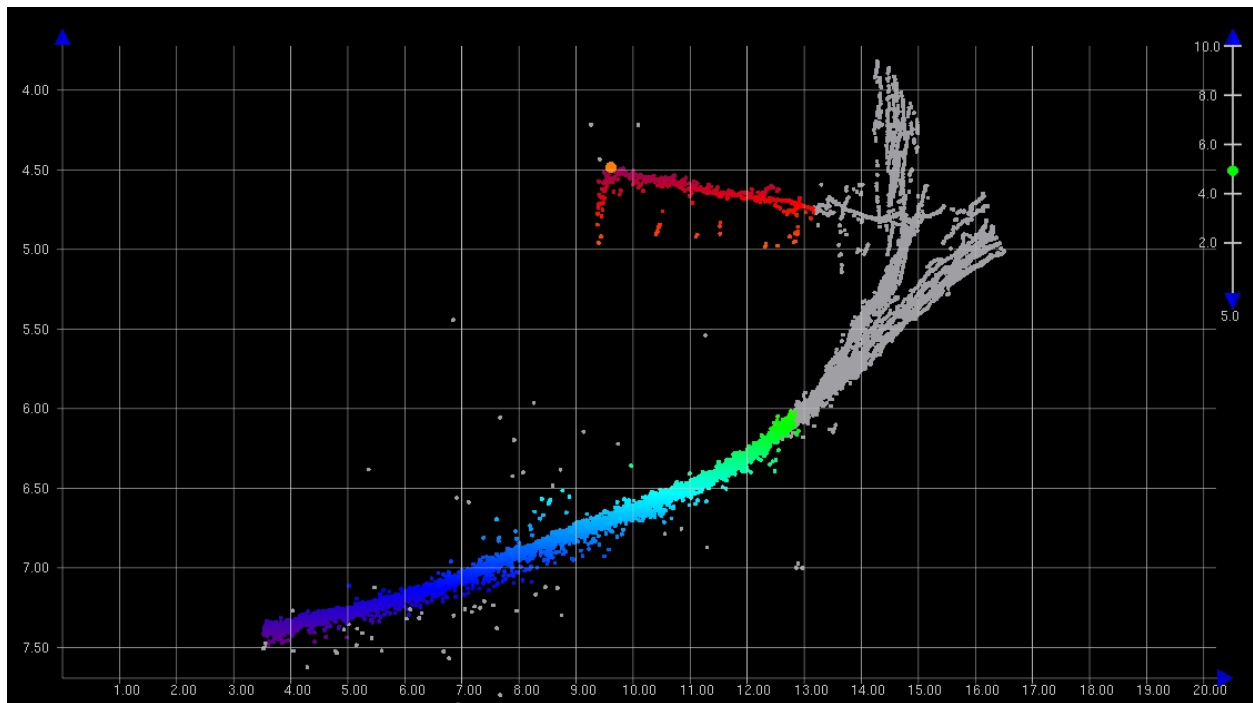


Figure 4.6.1



Figure 4.6.2

4.7) DTON 1.4

Survey Summary

Survey Position: 36° 48' 29.7" N, 076° 17' 26.4" W
Least Depth: 5.25 m (= 17.23 ft = 2.872 fm = 2 fm 5.23 ft)
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 2011-222.00:00:00.000 (08/10/2011)
Dataset: H12285_Features.000
FOID: US 0002048736 00001(0226001F42E00001)
Charts Affected: 12253_1, 12206_1, 12207_1, 12280_2, 13003_1

Remarks:

[None]

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12285_Features.000	US 0002048736 00001	0.00	000.0	Primary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

17ft (12253_1, 12206_1, 12207_1, 12280_2)

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

S-57 Data

Geo object 1: Obstruction (OBSTRN)
Attributes: NINFOM - Add obstruction
 QUASOU - 6:least depth known
 SORDAT - 20110810
 SORIND - US,US,graph,H12285
 VALSOU - 5.253 m
 WATLEV - 3:always under water/submerged

Office Notes

SAR: Feature located at survey position with sidescan and multibeam sonar. Compile: Add obstruction.

Feature Images

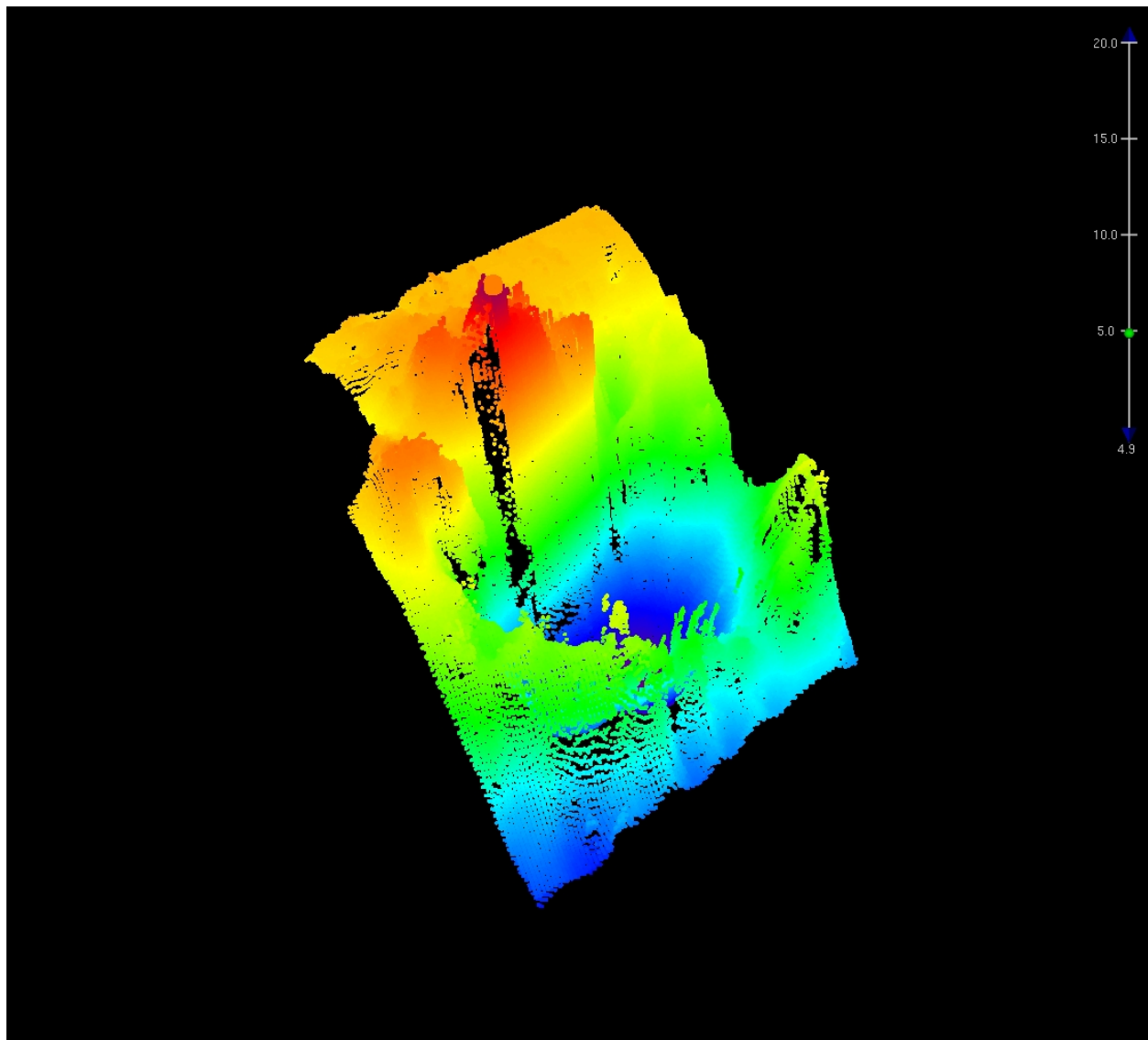


Figure 4.7.1

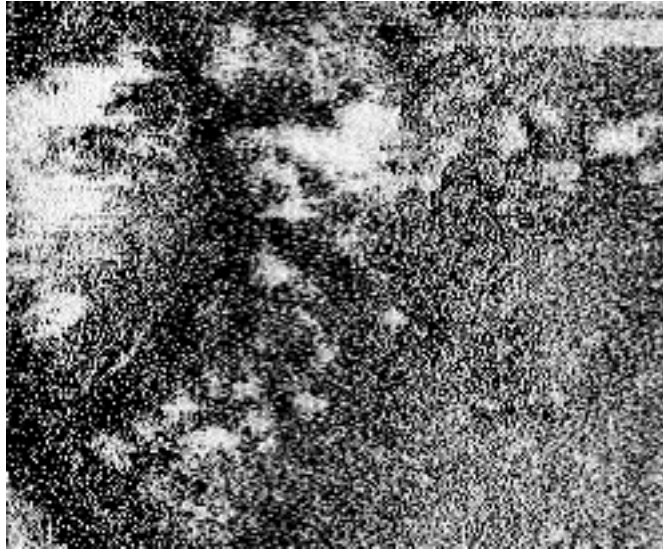


Figure 4.7.2

4.8) DTON 1.12

Survey Summary

Survey Position: 36° 49' 33.6" N, 076° 17' 18.6" W
Least Depth: [None]
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 2011-222.00:00:00.000 (08/10/2011)
Dataset: H12285_Features.000
FOID: US 0002049047 00001(0226001F44170001)
Charts Affected: 12253_1, 12206_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

SLCONS/remrks: This area was covered by MB and SSS. Numerous Ostructions of pier ruins abound in the area and fall outside the charted ruins.

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12285_Features.000	US 0002049047 00001	0.00	000.0	Primary

Hydrographer Recommendations

Recommend expanding the ruins.

S-57 Data

Geo object 1: Shoreline Construction (SLCONS)
Attributes: CATSLC - 4:pier (jetty)
 CONDTN - 2:ruined
 NINFOM - Add pier in ruin
 SORDAT - 20110810
 SORIND - US,US,graph,H12285
 WATLEV - 3:always under water/submerged

Office Notes

SAR: Feature located at survey position with sidescan and multibeam sonar. Compile: Add pier in ruin.

Feature Images

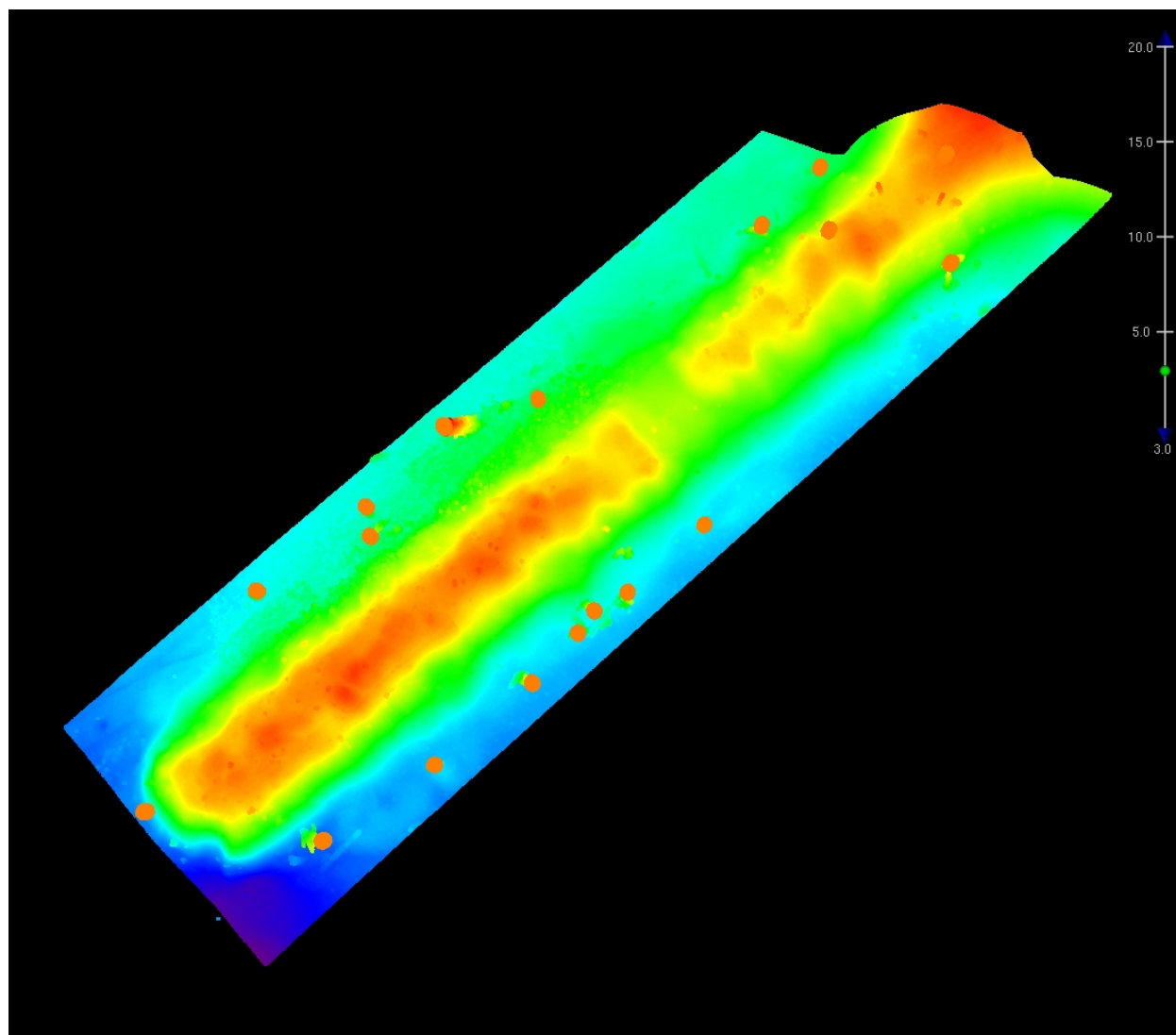


Figure 4.8.1



Figure 4.8.2

4.9) DTON 1.5

Survey Summary

Survey Position: 36° 48' 29.9" N, 076° 17' 22.5" W
Least Depth: 5.63 m (= 18.48 ft = 3.080 fm = 3 fm 0.48 ft)
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 2011-222.00:00:00.000 (08/10/2011)
Dataset: H12285_Features.000
FOID: US 0002048710 00001(0226001F42C60001)
Charts Affected: 12253_1, 12206_1, 12207_1, 12280_2, 13003_1

Remarks:

[None]

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12285_Features.000	US 0002048710 00001	0.00	000.0	Primary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

18ft (12253_1, 12206_1, 12207_1, 12280_2)

3fm (13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)
Attributes: NINFOM - Add obstruction
 QUASOU - 6:least depth known
 SORDAT - 20110810
 SORIND - US,US,graph,H12285
 VALSOU - 5.633 m
 WATLEV - 3:always under water/submerged

Office Notes

SAR: Feature located at survey position with sidescan and multibeam sonar. Possible bridge construction debris. Compile: Add obstruction.

Feature Images

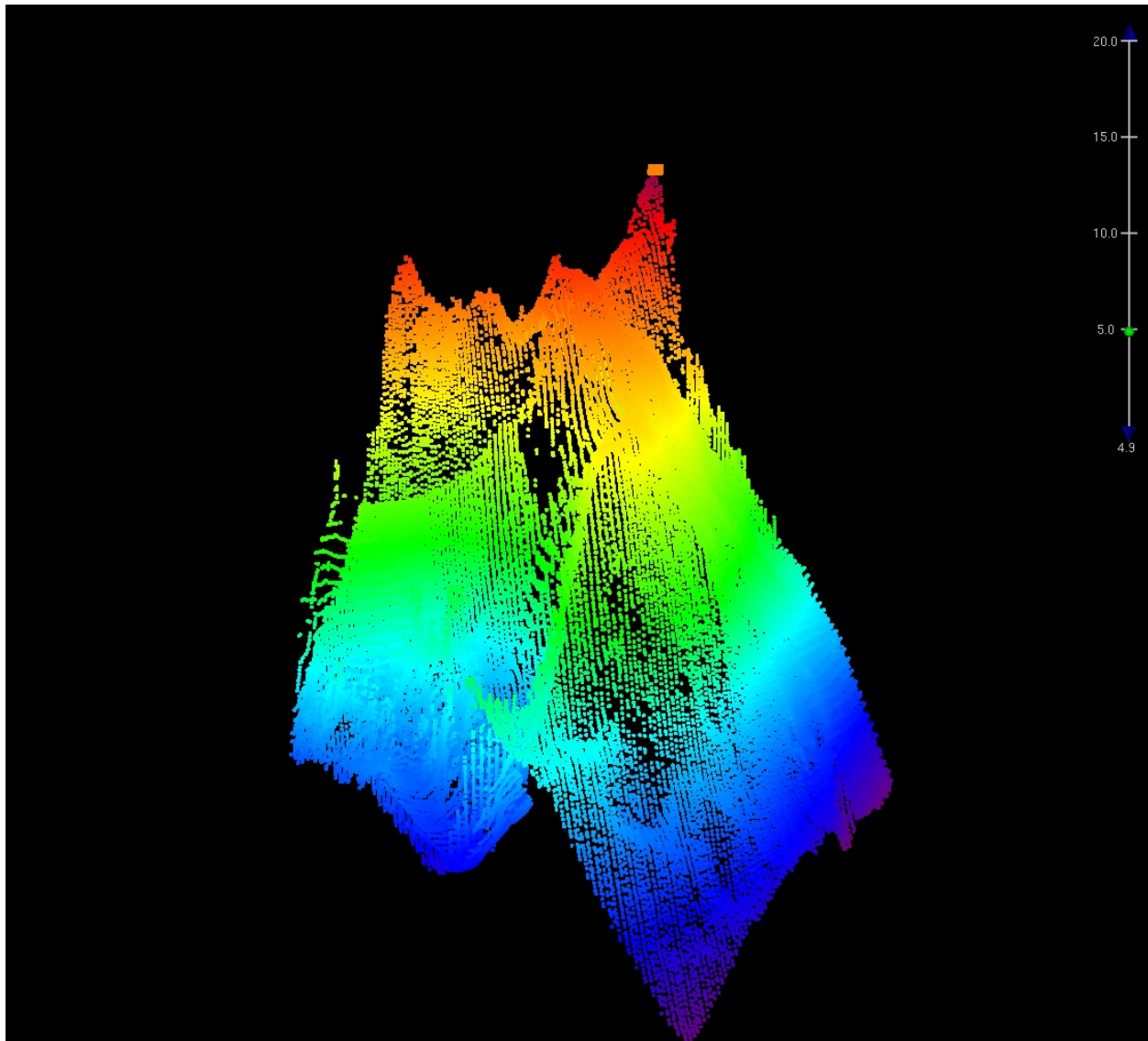


Figure 4.9.1



Figure 4.9.2

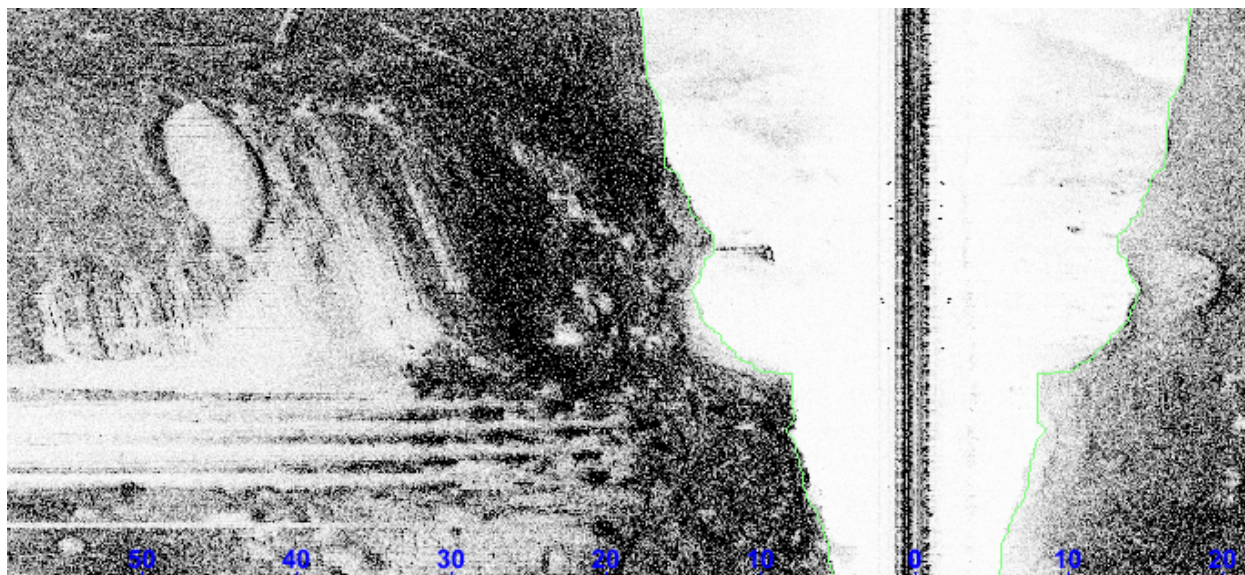


Figure 4.9.3

4.10) DTON 1.13

Survey Summary

Survey Position: 36° 49' 29.8" N, 076° 17' 19.1" W
Least Depth: [None]
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 2011-222.00:00:00.000 (08/10/2011)
Dataset: H12285_Features.000
FOID: US 0002049040 00001(0226001F44100001)
Charts Affected: 12253_1, 12206_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

SLCONS/remrks: This area was covered by MB and SSS. Numerous Ostructions of pier ruins abound in the area and fall outside the charted ruins.

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12285_Features.000	US 0002049040 00001	0.00	000.0	Primary

Hydrographer Recommendations

Recommend expanding the ruins

S-57 Data

Geo object 1: Shoreline Construction (SLCONS)
Attributes: CATSLC - 4:pier (jetty)
 CONDTN - 2:ruined
 NINFOM - Add pier in ruin
 SORDAT - 20110810
 SORIND - US,US,graph,H12285
 WATLEV - 3:always under water/submerged

Office Notes

SAR: Feature located at survey position with sidescan and multibeam sonar. Compile: Add pier in ruin.

Feature Images

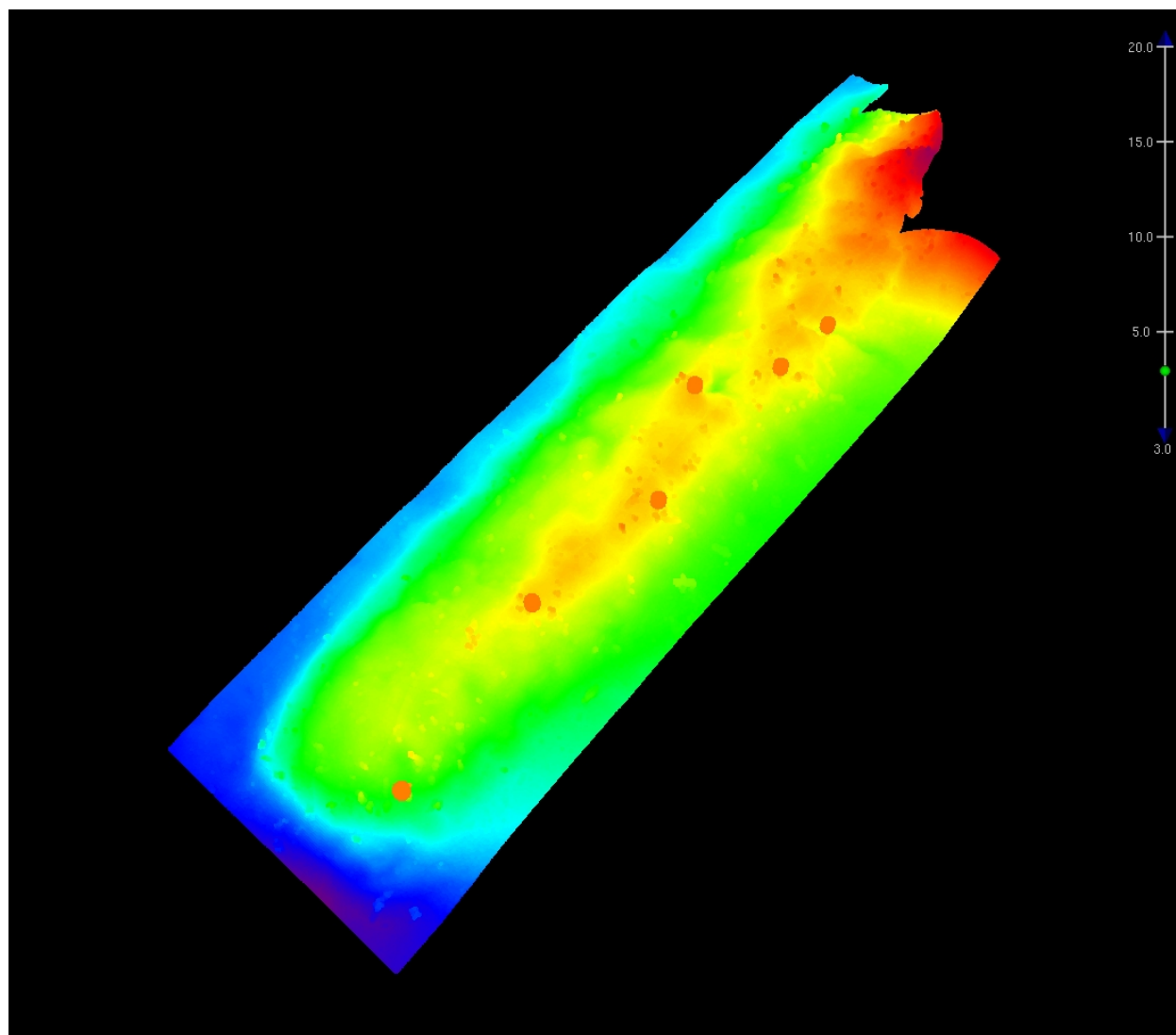


Figure 4.10.1



Figure 4.10.2

4.11) DTON 1.7

Survey Summary

Survey Position: 36° 49' 33.4" N, 076° 17' 21.0" W
Least Depth: 6.70 m (= 21.99 ft = 3.666 fm = 3 fm 3.99 ft)
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 2011-222.00:00:00.000 (08/10/2011)
Dataset: H12285_Features.000
FOID: US 0002048684 00001(0226001F42AC0001)
Charts Affected: 12253_1, 12206_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

OBSTRN/remrks: Submerged Pile. Obstn was covered by Reson 7125 MBES and corrected to MLLW using approved final water levels.

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12285_Features.000	US 0002048684 00001	0.00	000.0	Primary

Hydrographer Recommendations

Add New Obstn at surveyed position

Cartographically-Rounded Depth (Affected Charts):

22ft (12253_1, 12206_1, 12207_1, 12221_1, 12280_2)

3 ½fm (13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)
Attributes: CATOBS - 1:snag / stump
 NINFOM - Add obstruction
 QUASOU - 6:least depth known
 SORDAT - 20110810
 SORIND - US,US,graph,H12285
 VALSOU - 6.704 m

WATLEV - 3:always under water/submerged

Office Notes

SAR: Feature located at survey position with sidescan and multibeam sonar. Compile: Add obstruction.

Feature Images

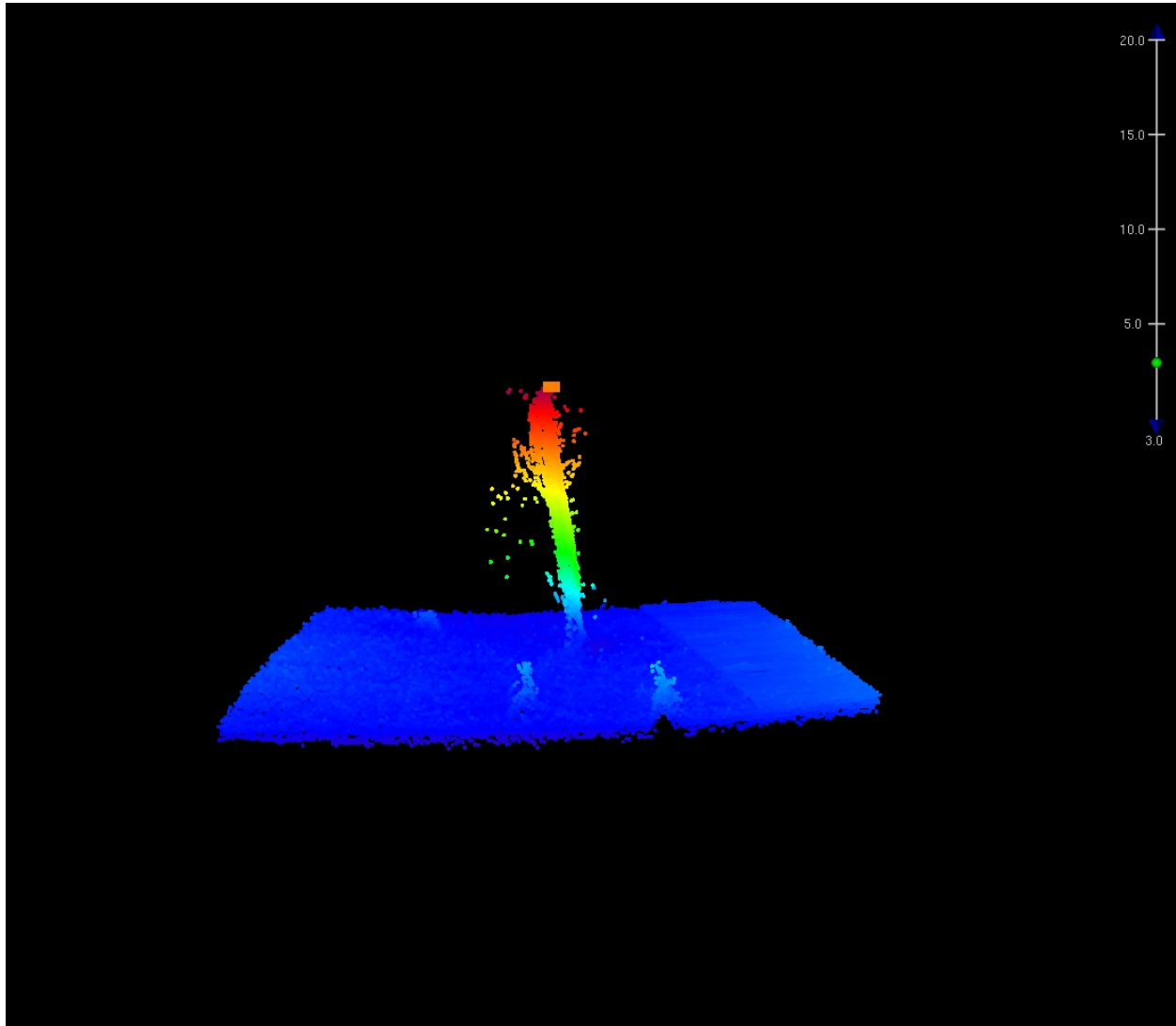


Figure 4.11.1

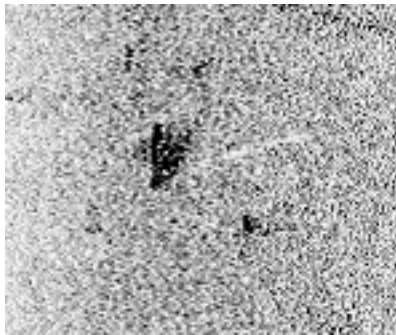


Figure 4.11.2

4.12) DTON 1.14

Survey Summary

Survey Position: 36° 49' 25.8" N, 076° 17' 19.0" W
Least Depth: [None]
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 2011-222.00:00:00.000 (08/10/2011)
Dataset: H12285_Features.000
FOID: US 0002048691 00001(0226001F42B30001)
Charts Affected: 12253_1, 12206_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

SLCONS/remrks: This area was covered by MB and SSS. Numerous Ostructions of pier ruins abound in the area.

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12285_Features.000	US 0002048691 00001	0.00	000.0	Primary

Hydrographer Recommendations

Recommend adding ruins.

S-57 Data

Geo object 1: Shoreline Construction (SLCONS)
Attributes: CATSLC - 4:pier (jetty)
 CONDTN - 2:ruined
 NINFOM - Add pier in ruin
 SORDAT - 20110810
 SORIND - US,US,graph,H12285
 WATLEV - 2:always dry

Office Notes

SAR: Feature located at survey position with sidescan and multibeam sonar. Compile: Add pier in ruin.

Feature Images

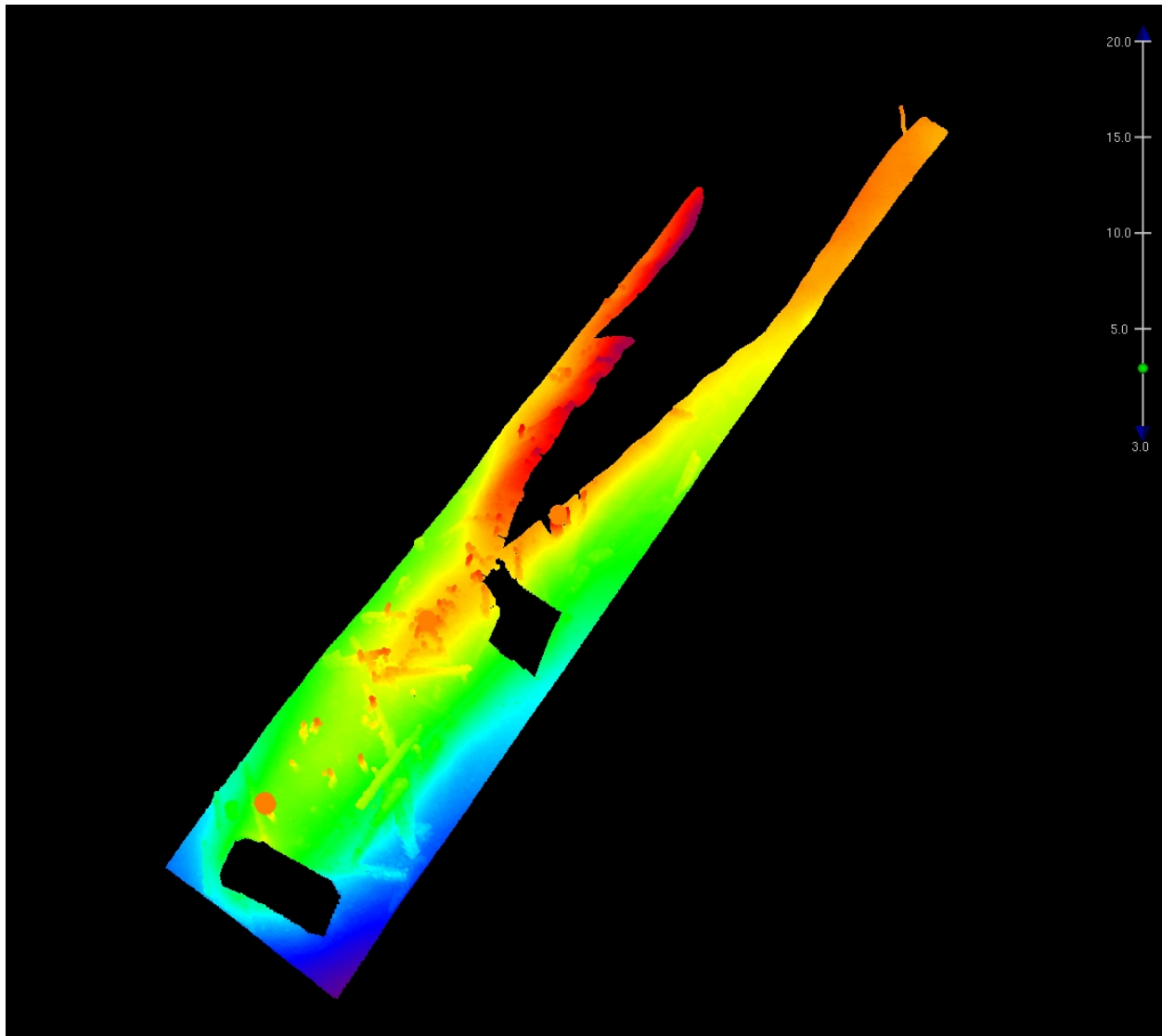


Figure 4.12.1



Figure 4.12.2

4.13) DTON 1.15

Survey Summary

Survey Position: 36° 49' 23.1" N, 076° 17' 20.1" W
Least Depth: [None]
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 2011-222.00:00:00.000 (08/10/2011)
Dataset: H12285_Features.000
FOID: US 0002048756 00001(0226001F42F40001)
Charts Affected: 12253_1, 12206_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

SLCONS/remrks: Scattered Ruins covered by MB and SSS.

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12285_Features.000	US 0002048756 00001	0.00	000.0	Primary

Hydrographer Recommendations

Recommend adding ruins.

S-57 Data

Geo object 1: Shoreline Construction (SLCONS)
Attributes: CATSLC - 4:pier (jetty)
 CONDTN - 2:ruined
 NINFOM - Add pier in ruin
 SORDAT - 20110810
 SORIND - US,US,graph,H12285
 WATLEV - 3:always under water/submerged

Office Notes

SAR: Feature located at survey position with sidescan and multibeam sonar. Compile: Add pier in ruin.

Feature Images

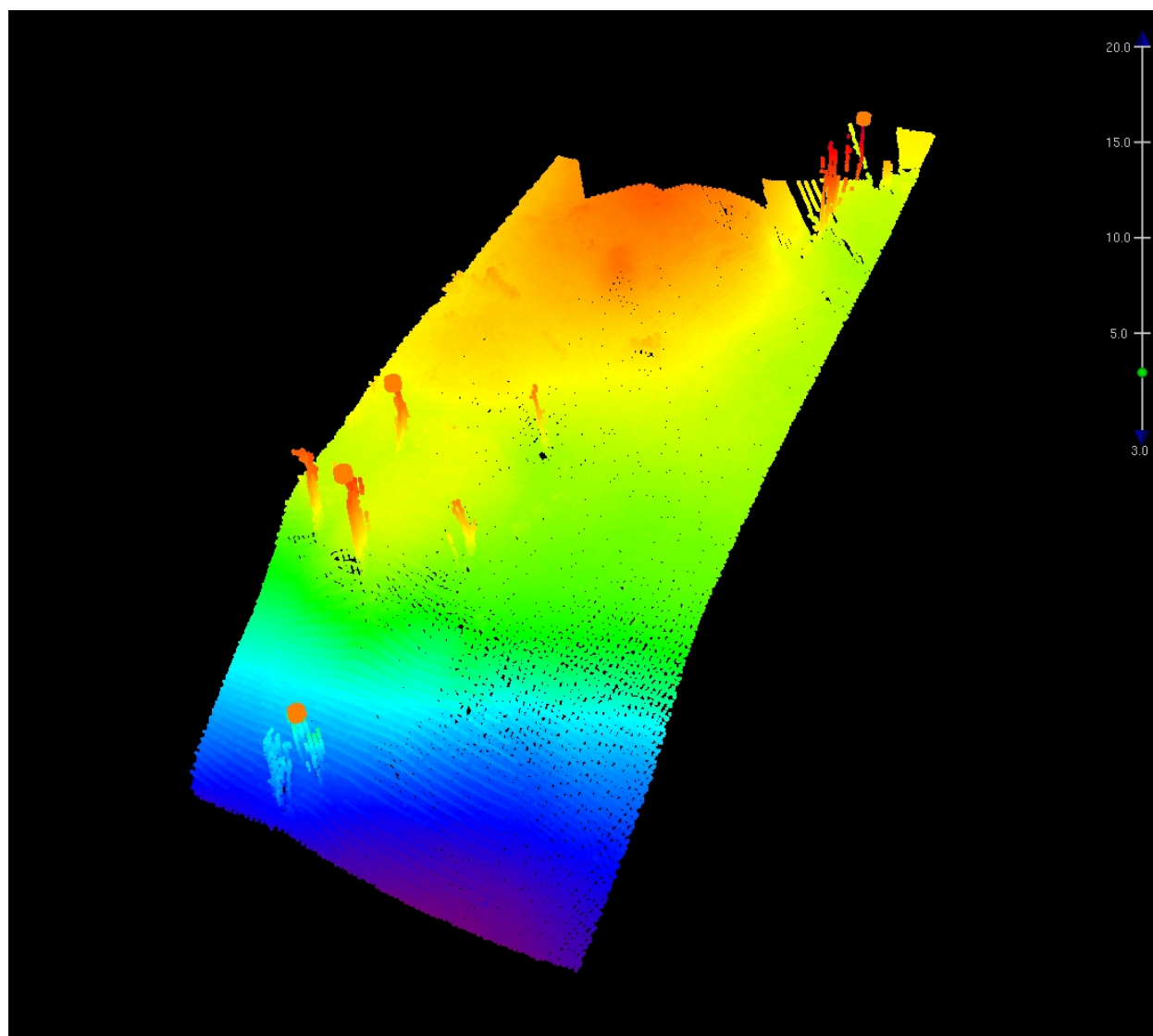


Figure 4.13.1

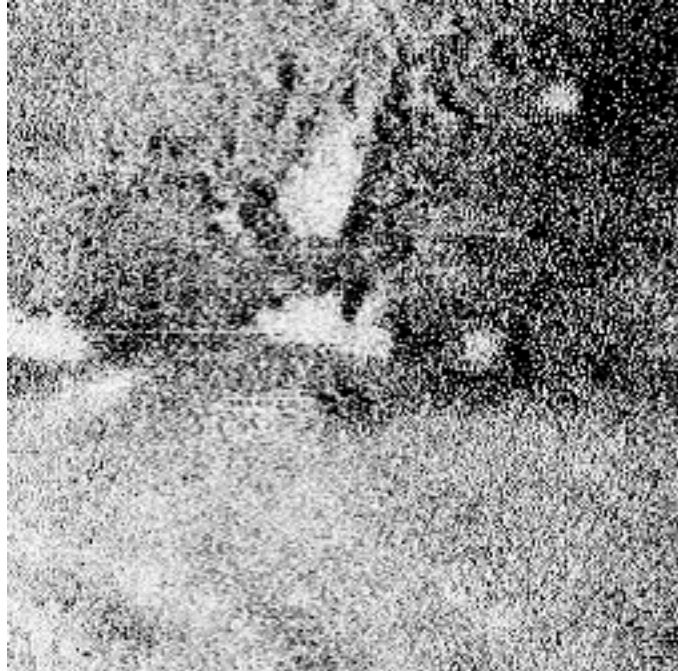


Figure 4.13.2

4.14) DTON 1.16

Survey Summary

Survey Position: 36° 49' 24.6" N, 076° 17' 18.2" W
Least Depth: [None]
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 2011-222.00:00:00.000 (08/10/2011)
Dataset: H12285_Features.000
FOID: US 0002049053 00001(0226001F441D0001)
Charts Affected: 12253_1, 12206_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

SLCONS/remrks: Scattered Ruins covered by MB and SSS.

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12285_Features.000	US 0002049053 00001	0.00	000.0	Primary

Hydrographer Recommendations

Recommend adding ruins.

S-57 Data

Geo object 1: Shoreline Construction (SLCONS)
Attributes: CATSLC - 4:pier (jetty)
 CONDTN - 2:ruined
 NINFOM - Add pier in ruin
 SORDAT - 20110810
 SORIND - US,US,graph,H12285
 WATLEV - 3:always under water/submerged

Office Notes

SAR: Feature located at survey position with sidescan and multibeam sonar. Compile: Add pier in ruin.

Feature Images

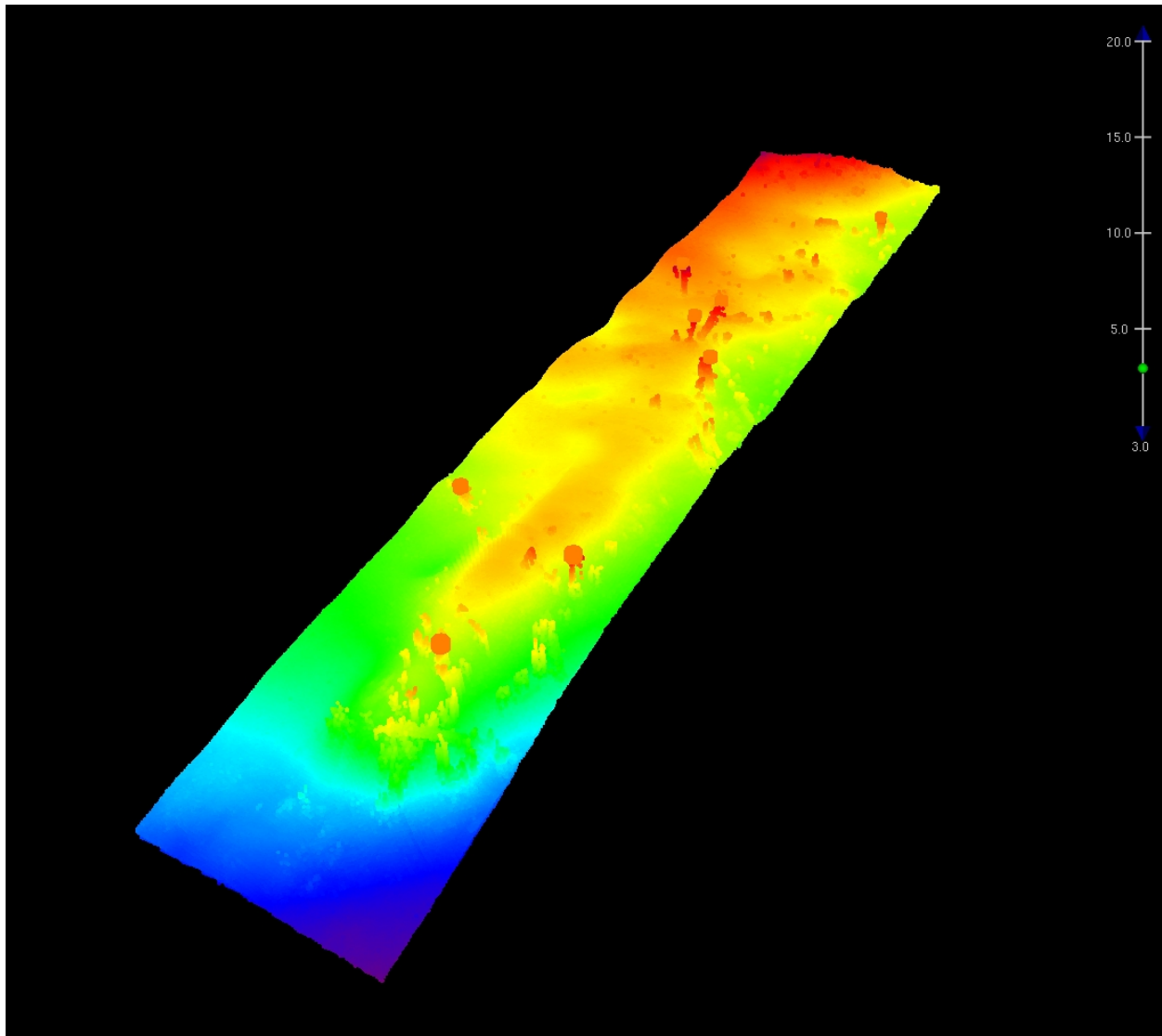


Figure 4.14.1



Figure 4.14.2

4.15) DTON 1.17

Survey Summary

Survey Position: 36° 49' 24.1" N, 076° 17' 18.3" W
Least Depth: [None]
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 2011-222.00:00:00.000 (08/10/2011)
Dataset: H12285_Features.000
FOID: US 0002048687 00001(0226001F42AF0001)
Charts Affected: 12253_1, 12206_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

SLCONS/remrks: Scattered Ruins covered by MB and SSS.

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12285_Features.000	US 0002048687 00001	0.00	000.0	Primary

Hydrographer Recommendations

Recommend adding ruins.

S-57 Data

Geo object 1: Shoreline Construction (SLCONS)
Attributes: CATSLC - 4:pier (jetty)
 CONDTN - 2:ruined
 NINFOM - Add pier in ruin
 SORDAT - 20110810
 SORIND - US,US,graph,H12285
 WATLEV - 3:always under water/submerged

Office Notes

SAR: Feature located at survey position with sidescan and multibeam sonar. Compile: Add pier in ruin.

Feature Images

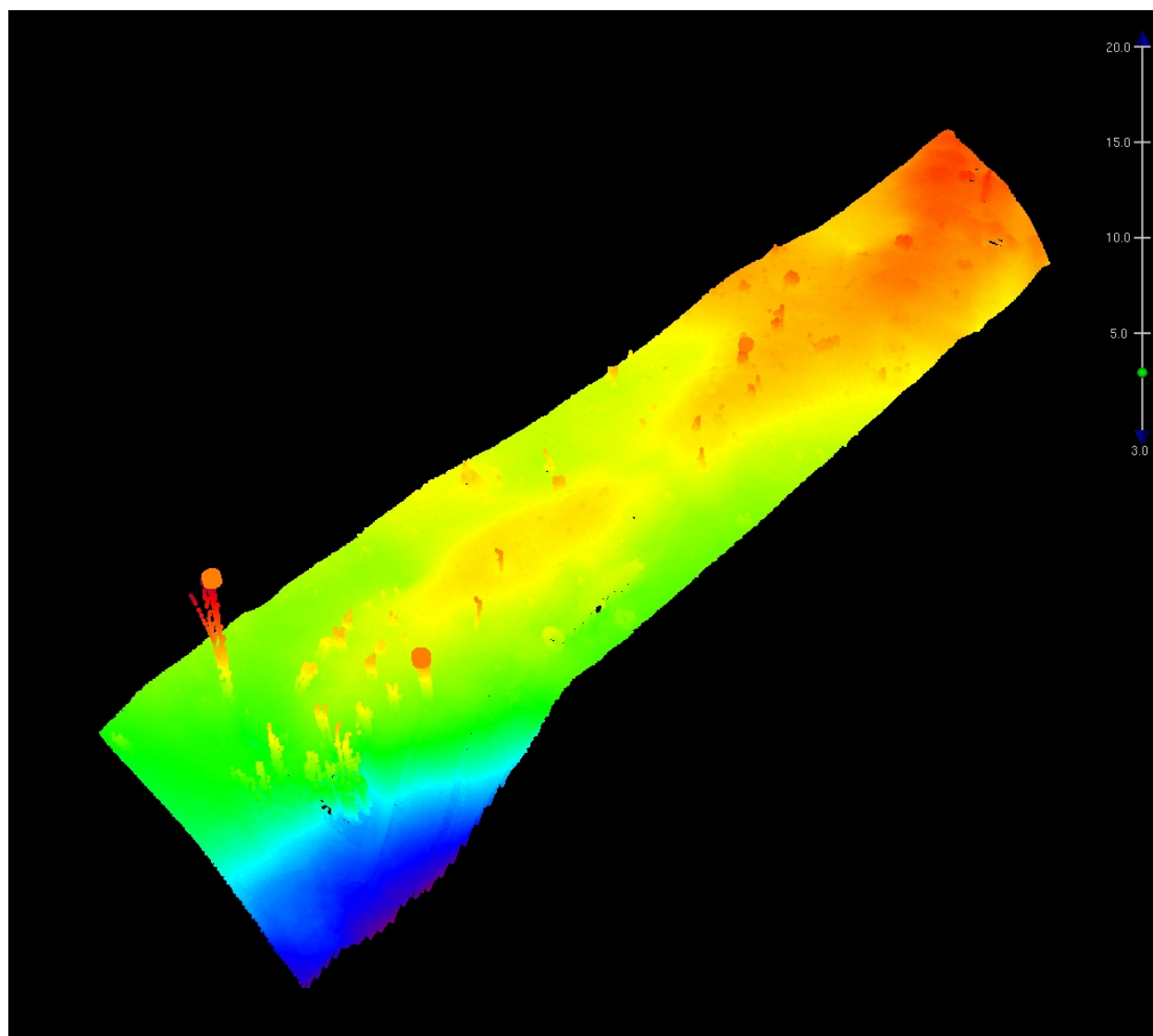


Figure 4.15.1

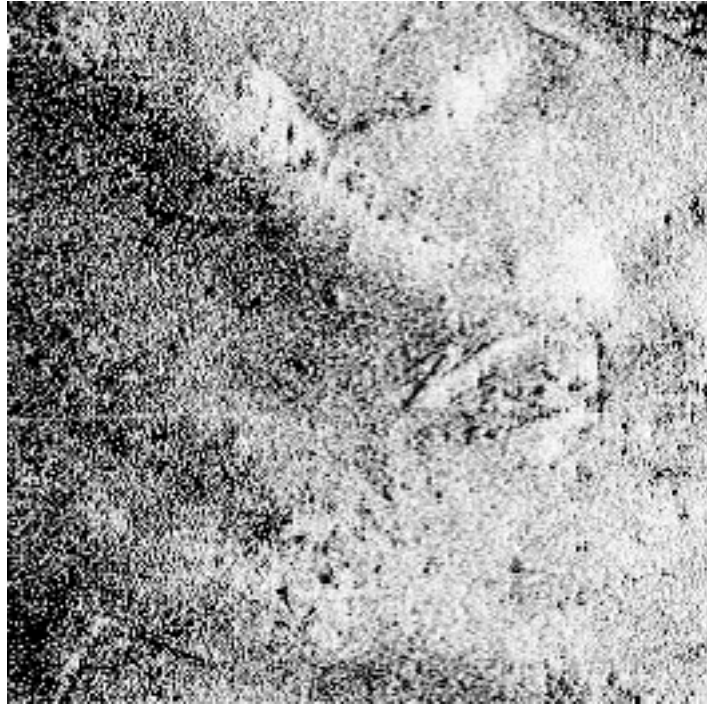


Figure 4.15.2

4.16) DTON 1.2

Survey Summary

Survey Position: 36° 50' 19.4" N, 076° 15' 54.1" W
Least Depth: [None]
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 2011-222.00:00:00.000 (08/10/2011)
Dataset: H12285_Features.000
FOID: US 0002049043 00001(0226001F44130001)
Charts Affected: 12253_1, 12206_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

WRECKS/remrks: End of Wk found below surface, portions of Wk on south side are exposed 2.0m above MLLW

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12285_Features.000	US 0002049043 00001	0.00	000.0	Primary

Hydrographer Recommendations

Add New Wk

S-57 Data

Geo object 1: Wreck (WRECKS)
Attributes: CATWRK - 5:wreck showing any portion of hull or superstructure
 NINFOM - Add wreck
 SORDAT - 20110810
 SORIND - US,US,graph,H12285
 WATLEV - 2:always dry

Office Notes

SAR: Feature located at survey position with sidescan and multibeam sonar. Height estimated by field unit as 2.0m above MLLW, which is 1.085m above MHW (0.915m separation from Tide Note). Compile:

Add wreck.

Feature Images

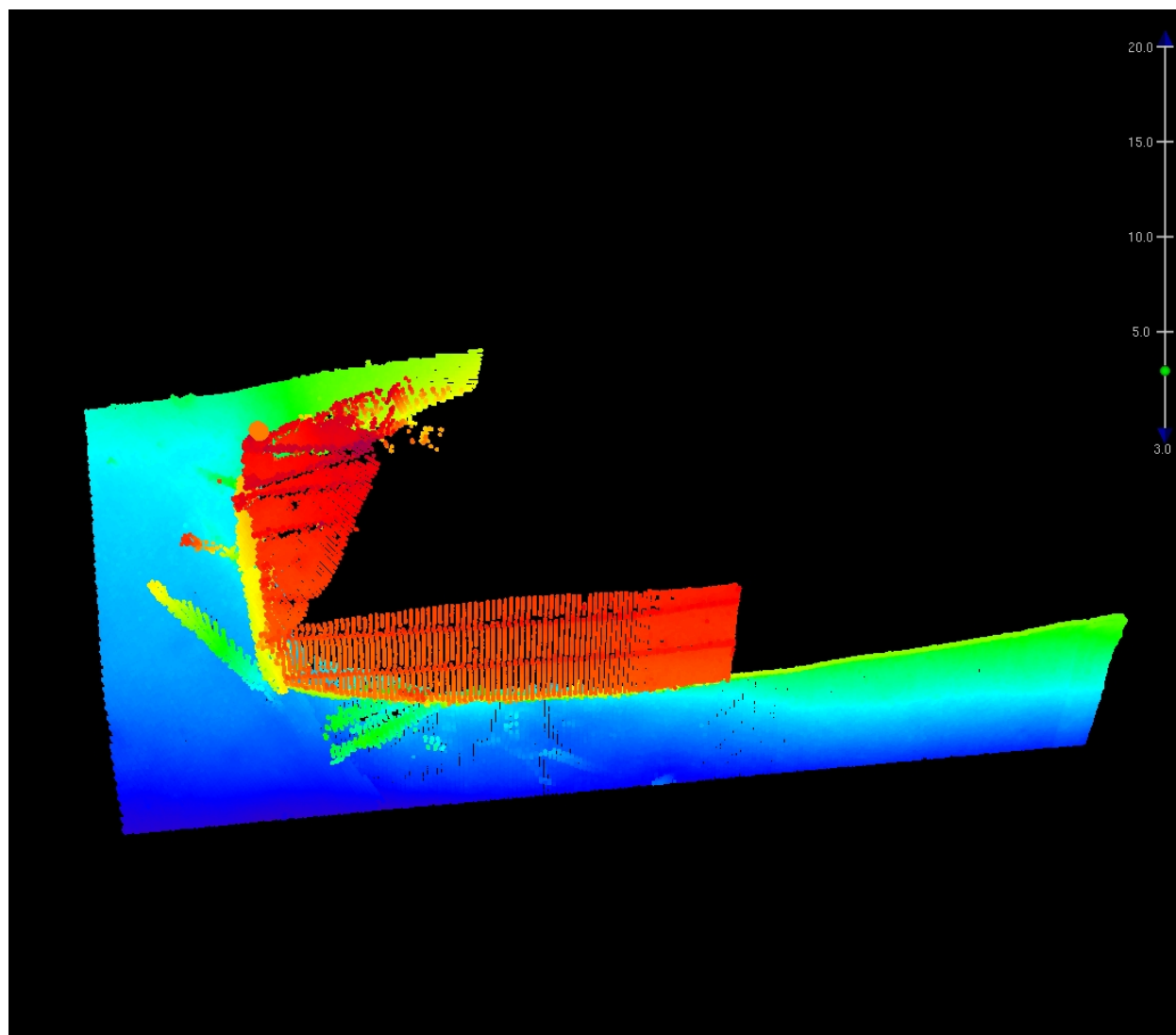


Figure 4.16.1

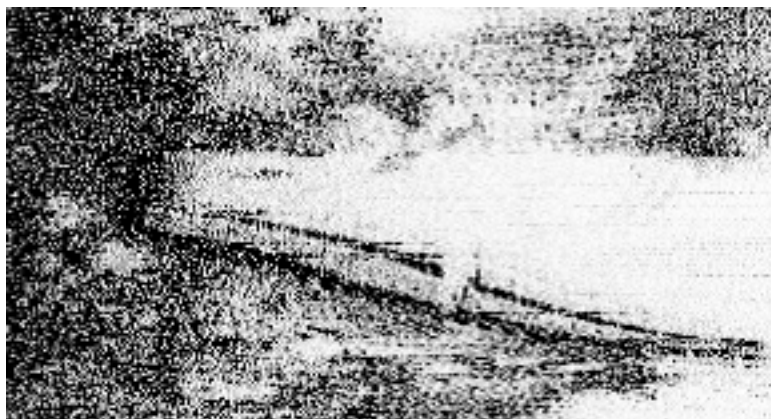


Figure 4.16.2



Figure 4.16.3



Figure 4.16.4

APPROVAL PAGE

H12285

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

The following products will be sent to NGDC for archive

- H12285_DR.pdf
- Collection of depth varied resolution BAGS
- Processed survey data and records

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

Approved: _____

LCDR Matthew Jaskoski, NOAA
Chief, Atlantic Hydrographic Branch