F00505

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey **Basic Hydrographic**

(Navigable Area Concept)

Registry No. **F00505**

LOCALITY

State/Territory Maryland

General Locality Baltimore Harbor

Sub-locality Sparrows Point to Locust Point

2005

CHIEF OF PARTY
LT Charles Yoos, NOAA

LIBRARY & ARCHIVES

DATE

NOAA FORM 77-28

U.S. DEPARTMENT OF COMMERCE
(11-72)
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

HYDROGRAPHIC TITLE SHEET

REGISTRY NUMBER:

F00505

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

FIELD NUMBER: N/A

State/Territory:	**Maryland**		
General Locality:	**Baltimore Harbor**		
Sub-Locality:	**Sparrows Point to Locust Point**		
Scale:	**1:5,000 and 1:10,000**	Dates of Survey:	**05/24/05 to 07/28/05**
Instructions Dated:	May 12, 2005	Project Number:	**S-E906-BH**
Vessel:	**NOAA S/V BAY HYDROGRAPHER, S-5501**		
Chief of Party:	**LT Charles Yoos, NOAA**		
Surveyed by:	**BAY HYDROGRAPHER Personnel**		
Soundings by:	**ODOM ECHOTRAC MK III Echosounder** **Reson Seabat 8125 multibeam sonar**		
Graphic record scaled by:	**BAY HYDROGRAPHER Personnel**		
Graphic record checked by:	**BAY HYDROGRAPHER Personnel**		
Protracted by:	**N/A**	Automated Plot:	**N/A**
Verification by:	**Atlantic Hydrographic Branch** ***Personnel***		
Soundings in:	~~**Meters**~~ ***feet*** **at MLLW**		

Remarks: ***Red, bold, italic notes in the Descriptive Report were made during office processing.***

1) All Times are UTC.

2) This is a basic Hydrographic Survey under the Navigable Area Concept.

3) Projection is UTM Zone 18.

TABLE OF CONTENTS

DESCRIPTIVE REPORT

Hydrographic Report F00505

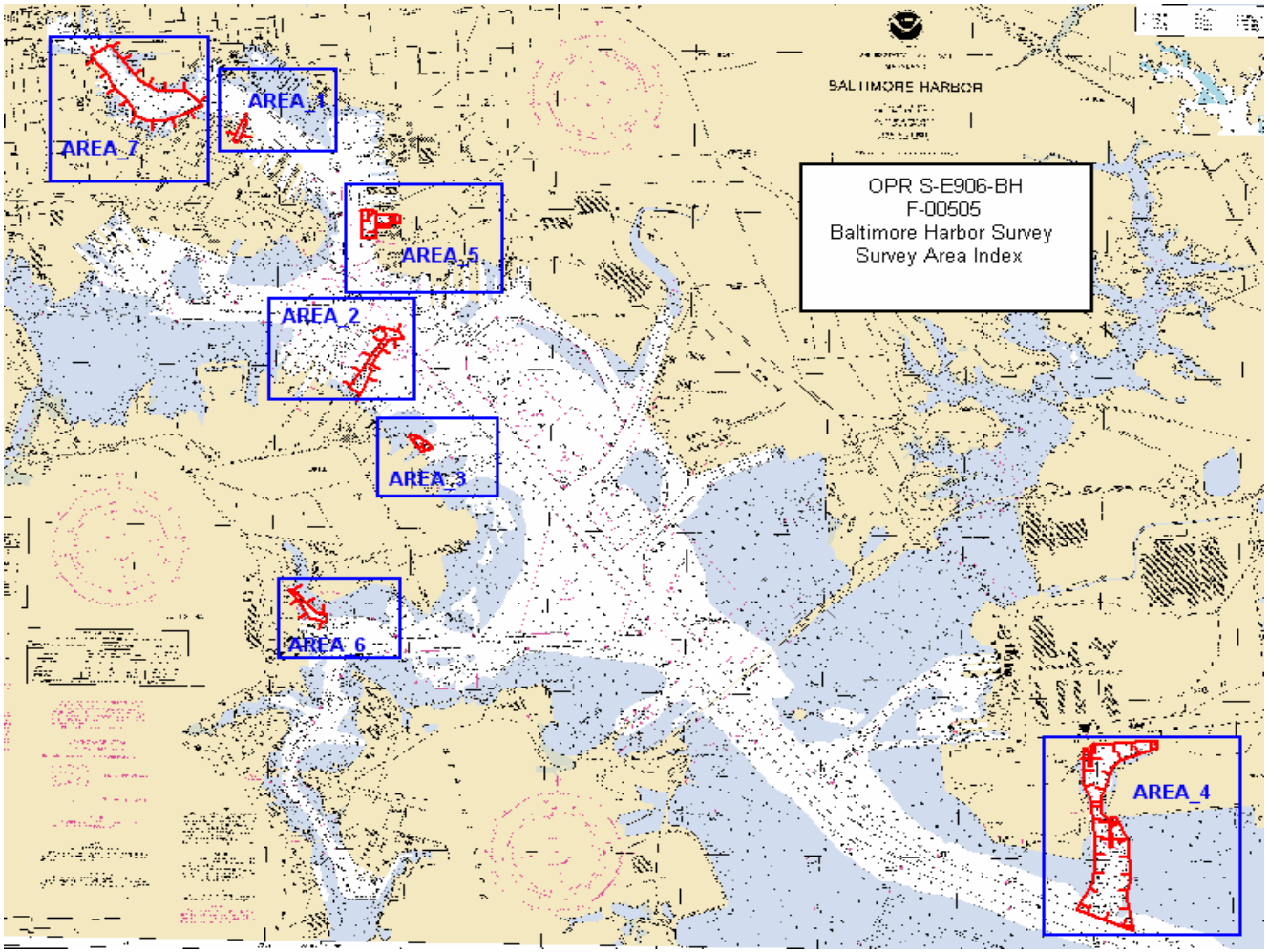
Scale: 1:5,000 and 1:10,000
Year of Survey: 2005
NOAA S/V BAY HYDROGRAPHER
LT Charles Yoos, Officer in Charge

A. AREA SURVEYED

This hydrographic survey was conducted in accordance with Hydrographic Project Instructions for S-E906-BH, Northern Chesapeake Bay – Baltimore Harbor, Maryland, dated May 12, 2005 as amended by Change N0. 2, dated June 23, 2005.

This descriptive report pertains to Survey F00505, Sparrows Point to Locust Point, Baltimore, Maryland. Survey F00505 is referenced to the letter instructions as Area-1 through Area-7 of project S-E906-BH.

The area surveyed covers select pier slips and harbor approaches within the Baltimore Harbor, which is included graphically on the following page.


BALTIMORE HARBOR
AREA_1
AREA_7
AREA_5
AREA_2
AREA_3
AREA_6
AREA_4
OPR S-E906-BH
F-00505
Baltimore Harbor Survey
Survey Area Index

B. DATA ACQUISTION AND PROCESSING *See also the Evaluation Report*

B.1. EQUIPMENT

The 17 Meter NOAA S/V BAY HYDROGRAPHER acquired all survey data for project S-E906-BH. All side scan sonar data were acquired using the Klein 5500 side scan sonar system. Swallow water multibeam data was acquired using the Reson Seabat 8125 shallow water multibeam sonar and all Vertical Beam Eco Sounder data were acquired using the ODOM ECHOTRAC MKIII. The positioning system used throughout the project was a TSS POS/MV Model 320, version 4, Position & Orientation System.

All velocity casts were taken using a manually deployed Sea-Bird SBE SEACAT Profiler instrument.

A Trimble TSC1 Asset Surveyor and a backpack-mounted Trimble GPS receiver were used to survey several bulkheads, pier faces, and shoreline due to a gross error in the charted shoreline of chart 12281 and 12278. All shoreline files are located in Appendix V*-Supplemental Survey Records\Shoreline Files. **** Filed with the original digital files.***

Refer to DAPR for detailed vessel configuration. ***Filed at the Atlantic Hydrographic Branch (AHB).***

B.2. QUALITY CONTROL

During survey operations in Area_1 (Locust Point), an uncharted submerged piling was struck damaging the apparatus securing the Reson 8125 multi beam sonar to the vessel. The sonar sustained no damage and the mounting apparatus was repaired. A patch test was conducted following the repairs of the system. ***Patch test Data not submitted.***

Side Scan Sonar Quality Control

Confidence checks were made daily with the side scan sonar system by observing real-time data acquisition and acceptable observations from known contacts or features across the entire range of the side scan trace.

Shallow Water Multibeam Quality Control

Confidence checks were made daily with the SWMB system in ISIS and compared to VBES data during real time acquisition. Comparisons between the two systems were monitored throughout the entire survey for discrepancies within the data.

Cross Lines

As a result of the location and nature of the project areas in survey S-E906-BH, cross lines were only possible in two areas. 10.7 planned linear nautical miles (lnm) were ran in area_7 with 0.62 lnm of cross lines resulting in 5.8% of SWMB main scheme data acquired for the survey area. 19.1 planned lnm were ran in area_4 with 1 lnm of cross lines equaling 5.2% of main scheme SWMB data acquired for the area.

Comment [bh1]: 0.62/10.7=.0579 = 5.8%

Comment [bh2]: 1.62/19.1=.0848 = 8.5%

Reports for Cross lines ran in Area_4 and Area_7 detailing the Beam Number, Ping Count, Min and Max difference, mean and Standard Deviation, and the percentage of soundings meeting Order 1 accuracy criteria for each beam were generated in CARIS. These reports are located in: OPR-S-E906-BH-5\F00505\Descriptive_Report\Seperates.*

Junctions

No contemporary surveys were available for junction comparison except for Sparrows Point (Area_4), which was compared with Survey F00495, Project S-E913-BH; dated 03/01/2004—03/25/2004. A detailed description of the comparison between the two surveys is located in section D.2. Additional Results – Prior Survey Comparisons of this report. ***Concur.***

B.3. CORRECTIONS TO ECHO SOUNDINGS

A table detailing all sound velocity casts is contained in Separates III* – Sound Velocity Profile Data. Sound velocity data have been submitted with the digital data package. Cast data are organized on the digital media as follows: day of cast / cast data.

C. VERTICAL AND HORIZONTAL CONTROL

Vertical Control

The tidal datum for this project is Mean Lower Low Water (MLLW). The operating National Water Level Observation Network (NWLON) tide station at Baltimore, MD (857-4680) served as the datum control for this survey.

**** Filed with the original digital files.***

Four Tidal zones were assigned for this project.

Zone Name	Time Corrector (min)	Range Ratio	Reference Station
NCB117	0	x0.96	857-4680
NCB122	+6	x 0.96	857-4680
NCB123	0	x 1.00	857-4680
NCB124	+12	x 0.91	857-4680

A request for Approved Tides was sent to N/OPS1 on September 27, 2005 (See Appendix IV)*. Verified tides from the N/OPS1 CO-OPS website were periodically downloaded by BAY HYDROGRAPHER personnel. Verified tidal data for this survey were concatenated into one file and applied to all sounding data. Copies of the Verified Tidal Data files have been included in OPR-S-E906-BH-05\F-0505\CARIS\Tide\ Verified Tides.

Preliminary zoning is accepted as the final zoning for project S-E906-BH-2005, F00505, during the time period of March 24 and July 28, 2005. A copy of the official memo is included in Appendix III *– Smooth_Tides_Request. ***Approved tides were applied during office processing.***

Horizontal Control ***See also the Evaluation Report.***

The horizontal datum used for this survey is the North American Datum of 1983 (NAD83), projected using UTM zone 18.

Sounding positional control was established using Global Positioning System (GPS) corrected with data from the nearest USCG differential GPS reference station. The differential beacon used for this survey was Annapolis, MD. No horizontal control stations were established for this survey.

The horizontal dilution of precision (HDOP) was monitored throughout the survey to ensure that HDOP values did not exceed 4.0 and to maintain adequate satellite geometry throughout operations.

**** Filed with the original digital files.***

D. RESULTS AND RECOMMENDATIONS *See Also the Evaluation Report.*

D.1. CHART COMPARISON

Two traditional NOS charts and two NOS electronic navigational charts (ENC) are affected by this survey.

Traditional charts:	12281, 50th edition, November 2004, 1:15,000
	12278, 74th edition, January 2005, 1:40,000
ENC charts:	12281, 2nd edition, updated May 26, 2005; **US5MD11M**
	12278, 5th edition, updated August 22, 2005; **US5MD12M**

General Agreement with Charted Soundings

The sounding data generally agrees with the existing charted depths. The Dangers to Navigation and Charted Features section describes individual features and discrepancies associated with specific charted depths found during the survey.
Significant variation in the charted depths adjacent to Area_3 has occurred as a result of dredge work in and around the channel. SSS and Single Beam were ran simultaneously over the area, the data files and a plot containing single beam soundings generated through Pydro can be located in: OPR-S-E906-BH-05\F-00505\Field_Products\Field Plots\MapInfo Plots\Digital Image Depth Plots and Mosaics\SB.

AWOIS Items and Item Investigations

There are five full investigation AWOIS items located within the survey limits. All AWOIS items and any additional investigated items are listed in the following pages.

AWOIS 13,243

Item Description: Submerged Obstruction with least depth of 6.5 ft.

Source: FE00438/98, OPR-E346-AHP

Item Position: 39°15'49.97" N / 076°34'18.74" W

Item Status: Assigned

Required Investigation: SD, VS, S2, SWMB, DI Radius: 20

Charts Affected: 12281

INVESTIGATION

Contact No: None

Date(s): 2005_207

Least Depth Position Number: DN 2005_207, Line 804_2024, Ping 1000, Beam 240

Investigation: 200% SSS, SWMB

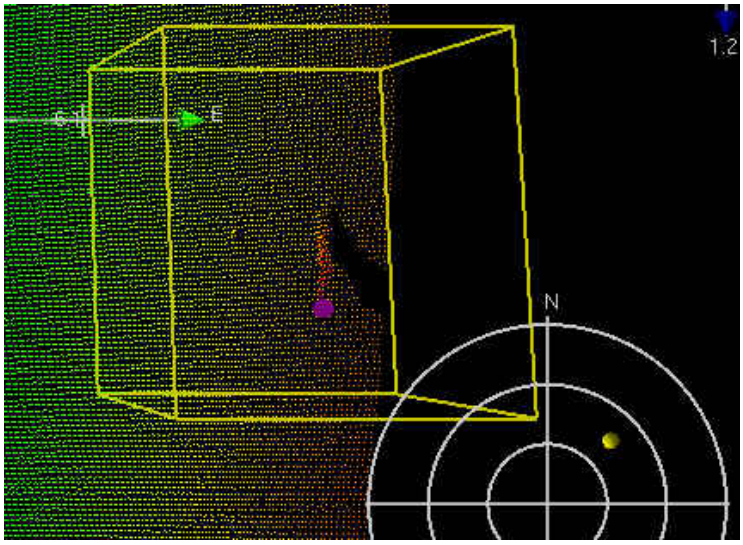
Surveyed Position: 39° 15' 49.37" N / 076° 34' 18.80"

Position Determined By: SWMB

Investigation Summary: Due to the shoal waters of the location of the item, the entire assigned search radius for this item could not be investigated. No contacts with 200% SSS where detected, however, a SWMB contact was identified within the search radius of the assigned item with a least depth of 4.027 m. in surrounding water of roughly 5.0 m. (A .jpg image of the SWMB contact has been inserted below.)
The least depth obtained from the SWMB system is deeper than the charted least depth, however, the sounding was observed with the outermost beam and it is possible that the object is shoaler than the surveyed depth of 4.027m. Due to the location of the obstruction, a closer survey line was deemed unsafe by the Officer in Charge.

CHARTING RECOMMENDATIONS

Due to the limited search radius of the item, the Hydrographer recommends retaining the current charted feature and least depth of 6 ft. ***Concur. Retain the dangerous 6 ft Obstn.***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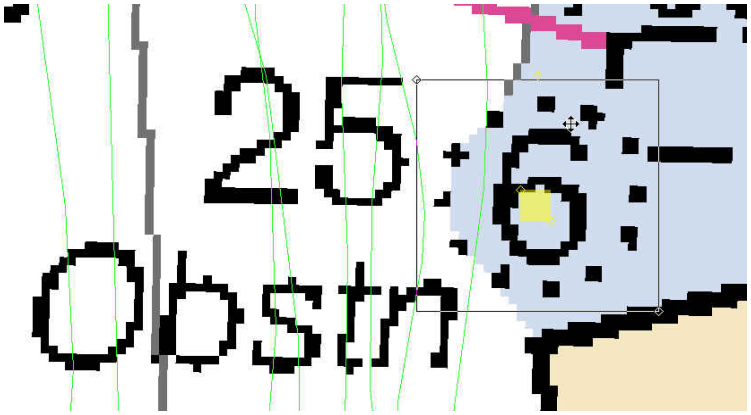

25.6
Obstn

AWOIS 12,941

Item Description: Obstructions, 9 Dolphins

Source: L843/82—USACE Permit

Item Position(s): 39-14-58.52N, 76-34-21.25W
39-14-57.40N, 76-34-21.64W
39-14-55.78N, 76-34-22.87W
39-14-53.77N, 76-34-24.45W
39-14-51.75N, 76-34-26.14W
39-14-53.30N, 76-34-22.47W
39-14-52.33N, 76-34-23.34W
39-14-51.14N, 76-34-24.24W
39-14-50.71N, 76-34-24.63W

Item Status: Assigned

Required Investigation: SD, VS, S2, SWMB, DI Radius: 30

Charts Affected: 12281

INVESTIGATION

Contact No: 2005_144/204_1414, 2005_144/205_1406

Date(s): 2005_144, 2005_193, 2005_207

Least Depth Position Number(s): DN 2005_193, Line 805_1859, Ping 522, Beam 240
DN 2005_207, Line 802_1803, Ping 1735, Beam 240
DN 2005_193, Line 805_1859, Ping 1785, Beam 240
DN 2005_193, Line 804_1907, Ping 3707, Beam 240

Investigation: 200% SSS, SWMB

Surveyed Position(s): 39° 14’ 57.84”N / 076° 34’ 21.95”W
39° 14’ 55.97”N / 076° 34’ 23.74”W
39° 14’ 54.99”N / 076° 34’ 24.03”W
‘ 39° 14’ 51.00”N / 076° 34’ 25.53”W

Position(s) Determined By: SWMB

Investigation Summary: Four of the nine listed items where located with SSS and developed with SWMB. No other Dolphins were located within the AWOIS limits. All four identified DOLs will need to be repositioned on the chart and centered on the GP's listed above in the *Surveyed Position* column.

CHARTING RECOMMENDATIONS

The Hydrographer recommends adding four Dols and corresponding text in the following positions: ***Concur. Add dolphins at the following positions.***

39° 14' 57.84"N / 076° 34' 21.95"W
39° 14' 55.97"N / 076° 34' 23.74"W
39° 14' 54.99"N / 076° 34' 24.03"W
39° 14' 51.00"N / 076° 34' 25.53"W

And removing nine Dols and the text Dols PA and Dol PA from the following positions:

39-14-58.52N, 76-34-21.25W
39-14-57.40N, 76-34-21.64W
39-14-55.78N, 76-34-22.87W
39-14-53.77N, 76-34-24.45W
39-14-51.75N, 76-34-26.14W
39-14-53.30N, 76-34-22.47W
39-14-52.33N, 76-34-23.34W
39-14-51.14N, 76-34-24.24W
39-14-50.71N, 76-34-24.63W

Concur. Delete the nine dolphin symbols. Delete the notations Dols PA and Dol PA in Latitude 39-14-55.18N, Longitude 76-34-22.30W and Latitude 39-14-58.49N, Longitude 76-34-18.40W respectively.

AWOIS 11,302

Item Description: Obstruction; Eastern most of two obstructions.

Source: Air Photo, 1953—10/2/05;

Item Position: 39° 12’ 34.43” / 76° 29’ 02.50”

Item Status: Assigned

Required Investigation: SD, VS, S2, SWMB, DI

Charts Affected: 12281

INVESTIGATION

Contact Number: 2005_145/221_1553

DATE(s): 2005_144, 2005_145, 2005_201

Least Depth Position Number: DN 2005_201, Line 827_2135, Ping 619, Beam 231

Investigation: Full, 200% SSS, SWMB

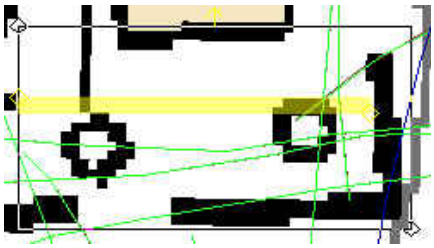
Surveyed Position: LAT 39-12-34.32N, LONG 076-29-03.92W (NAD 83)

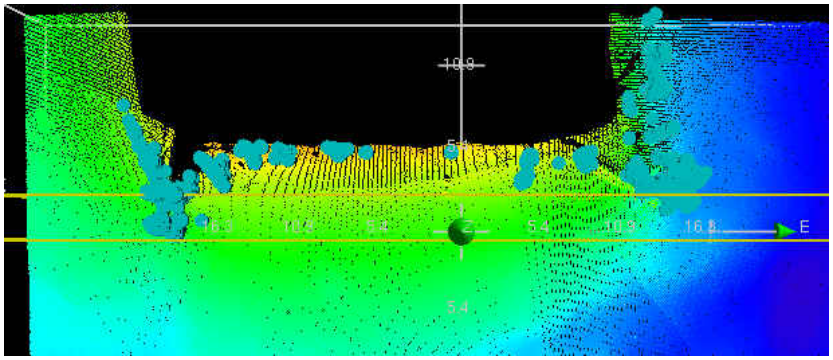
Position Determined By: SWMB

Investigation Summary: The charted Obstructions were identified with 200% SSS coverage during the item investigation and developed with SWMB. Both DOLs were located against the pier face with no navigable water between the DOLs and the structure of the pier. The Hydrographer notes that the items are referenced to a source of Aerial Photography dated 10/2/1953 and that the AWOIS history notes, “SCALED OFF THE CHART IN THE FOLLOWING POSITONS:
LAT 39-12-34.32N, LONG 076-29-03.92W (NAD 83)
LAT 39-12-34.43N, LONG 076-29-02.50W (NAD 83).”
The pier is currently charted incorrectly; please refer to section D.2. Additional Results regarding erroneous shore-line data on chart 12281 and 12278. ***Concur.***

CHARTING RECOMMENDATION

The Hydrographer recommends revising the pier and repositioning the two obstructions against the pier face; centering the DOLS at:
LAT 39-12-34.52N, LONG 076-29-02.72W (NAD83)
LAT 39-12-34.43N, LONG 076-29-04.04W (NAD83)
Concur. Retain the two dolphins as charted. Defer to Marine Charting Division (MCD) Update Service Branch for revision of the pier and shoreline.





Deleted: ¶

AWOIS 11,296

Item Description: Obstruction, 3 Dolphins.

Source: BP146771/91--08/03/91

Item Position: 39-13-29.82N, 076-34-47.77W
39-13-29.47N, 076-34-46.59W
39-13-28.75N, 076-34-46.57W
Item Status: Assigned

Required Investigation: SD, VS, S2, SWMB, DI

Charts Affected: 12281

INVESTIGATION

Contact Number: N/A

DATE(s): 2005_207

Least Depth Position Number: DN 2005_207, Line 800_1622, Ping 899, Beam 181
DN 2005_207, Line 800_1622, Ping 300, Beam 215

Investigation: 200% SSS, SWMB

Surveyed Position: 39-13-28.75N / 076-34-46.57W
39-13-29.82N, 076-34-47.77W
39-13-29.47N, 076-34-46.59W

Position Determined By: SWMB

Investigation Summary: Two of the three charted items where identified with SWMB and there GP's are listed below.

CHARTING RECOMMENDATION

The Hydrographer recommends the removal of charted DOL at given GP of 39-13-29.47N, 076-34-46.59W as a result from lack of detection in either SSS or SWMB imagery and the repositioning of charted DOLs centered at 39-13-29.82N, 076-34-47.77W to **39° 13' 29.77" N / 076° 34' 47.94"W** and DOL centered at 39-13-28.75N, 076-34-46.57W to **39° 13' 28.71" N / 076° 34' 46.76" W**. ***Concur in part. Delete the dolphin as recommended by the hydrographer. Retain the two dolphins as charted.***

AWOIS 11297

Item Description: Obstruction, Dolphin.

Source: BP95602-TP-00842--0625/75

Item Position: 39° 13’ 26.91” / 076° 34’ 44.49”

Item Status: Assigned

Required Investigation: SD, VS, S2, SWMB, DI

Charts Affected: 12281

INVESTIGATION

Contact Number: bh_s5501_reson8125/2005-207/800_1622

DATE(s): SWMB: 2005-207, 2005-208, SSS: 2005-144

Least Depth Position Number: DN 2005_207, Line 800_1622, Ping 1698, Beam 234

Investigation: 200% SSS, SWMB

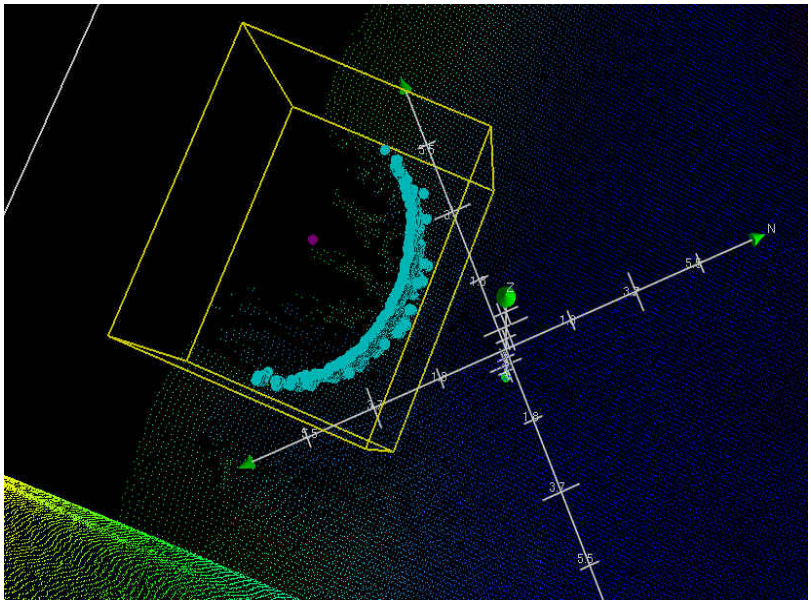
Surveyed Position: 39° 13’ 26.91” / 076° 34’ 44.49”

Position Determined By: SWMB

Investigation Summary: The item was identified in 200% SSS coverage at the current charted location and SWMB developments further confirm the positioning of the obstruction.

CHARTING RECOMMENDATION

The Hydrographer recommends retaining the position of the charted obstruction.
Concur. Retain the dolphin as charted.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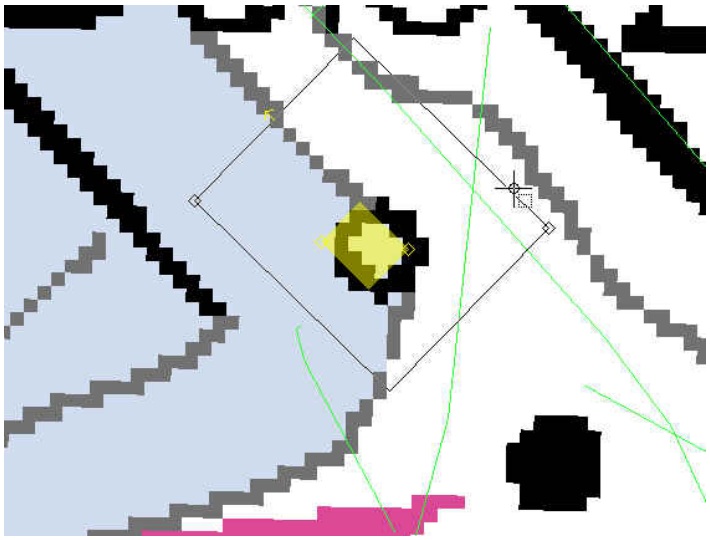


Charted Features

The following item(s) is a significant feature that falls out-side of the assigned survey limits:

Item Description: Three Obstructions

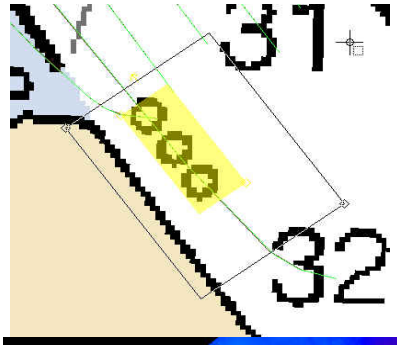
Item Position: Centered at – 39° 14’ 27.61” N / 076° 33’ 54.67” W

Investigation Used: SWMB, SSS

Investigation: SWMB was ran directly over three charted Obstructions which were not identifiable in the data.

Charting Recommendation

The Hydrographer recommends the removal of three charted obstructions centered at 39° 14’ 27.61” N / 076° 33’ 54.67” W. (Screen grabs have been provided below)
Concur. Delete 3 pile symbols centered at the above position.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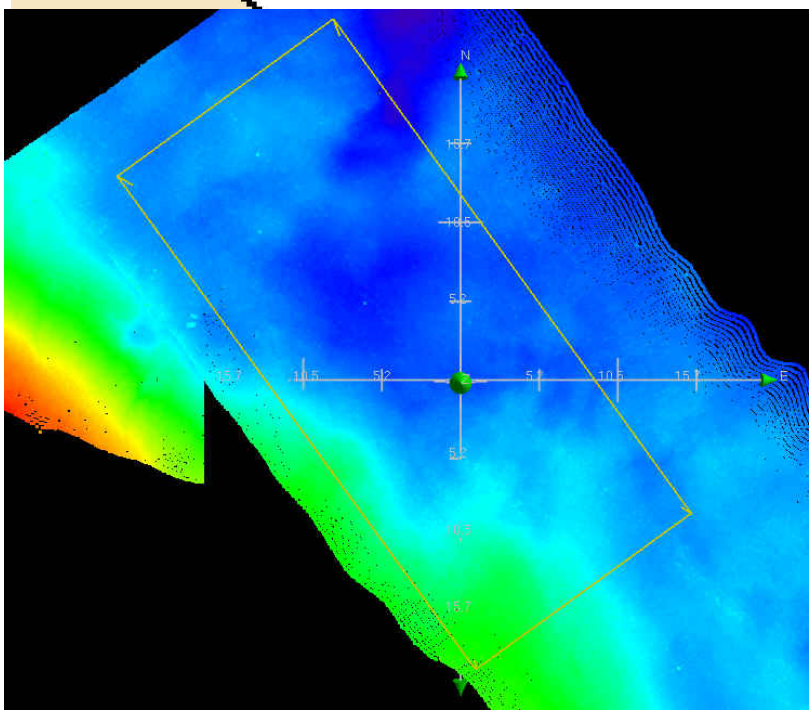
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Dangers to Navigation ***See also the Evaluation Report.***

One item associated with this survey was submitted to N/CS33 as a Danger to Navigation (DTON's). This item is summarized in the following table. A copy of the submitted DTON report has been included in Appendix IV* – Supplemental Survey Records.
The item was reported to the Baltimore office of the Army Corp of Engineers and was removed by Marine Technologies Inc.
Corresponding e-mail between Greg Barnes of the U.S. Army Corp of Engineers and Lt. Charles Yoos have been included in Appendix IV* – SUPPLEMENTAL SURVEY RECORDS of this report. **** Appended to this Report.***

DANGERS TO NAVIGATION			
DTON #	**LEAST DEPTH (FEET)**	**LEAST DEPTH POSITION**	**DESCRIPTION**
1	7.01 m	039° 15' 53.576" N / 76° 34' 20.228" W	Obstruction

D.2. ADDITIONAL RESULTS

Bottom Samples

No bottom samples where taken in support of project S-E906-BH.

Aids to Navigation (ATON's)

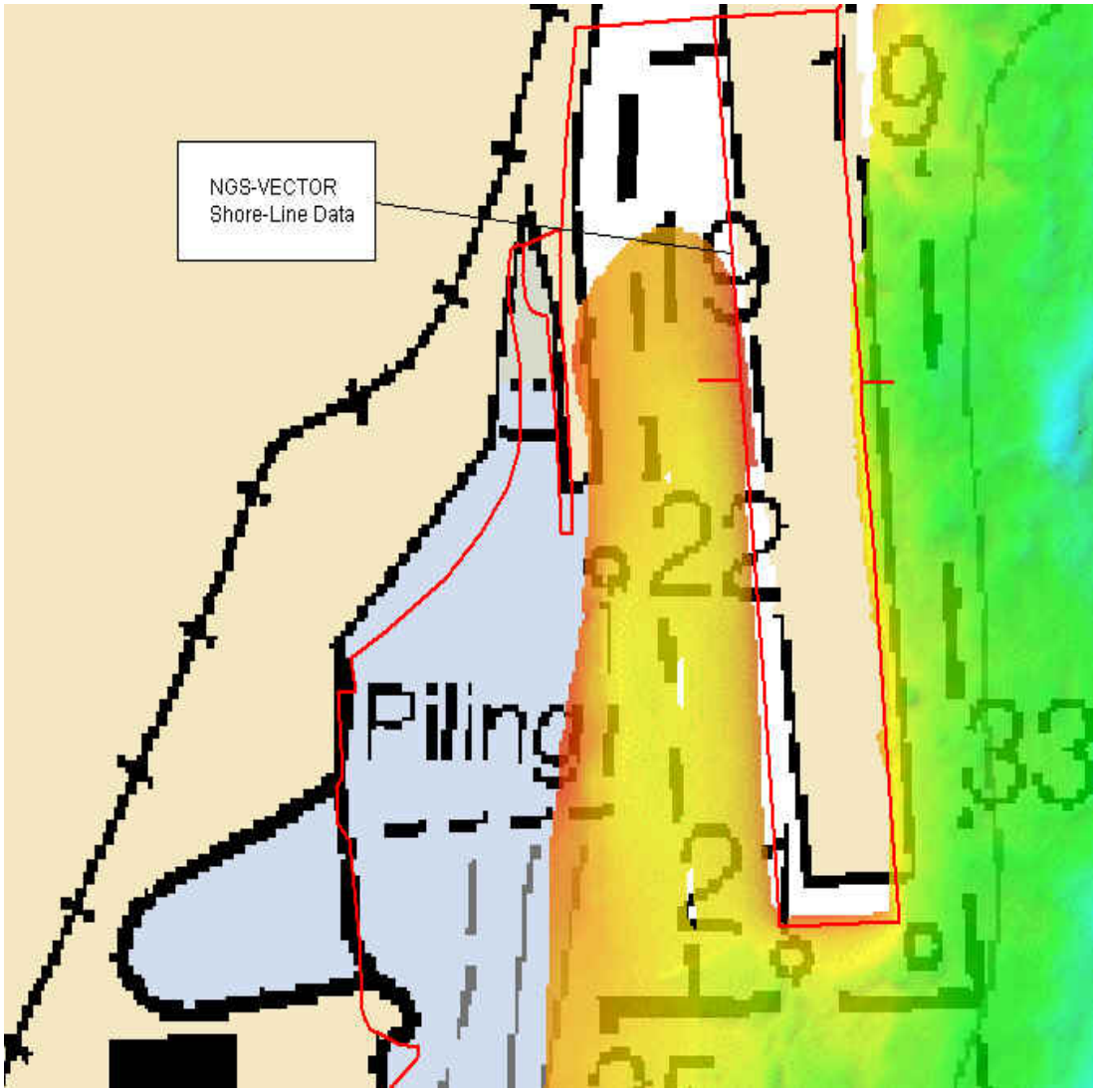
A comparison of all Aids to Navigation within the survey limits of project S-E906-BH and chart 12281, 50th Ed. Nov. 2004 are in agreement with Light List Vol. II, 2005 and were found as charted.

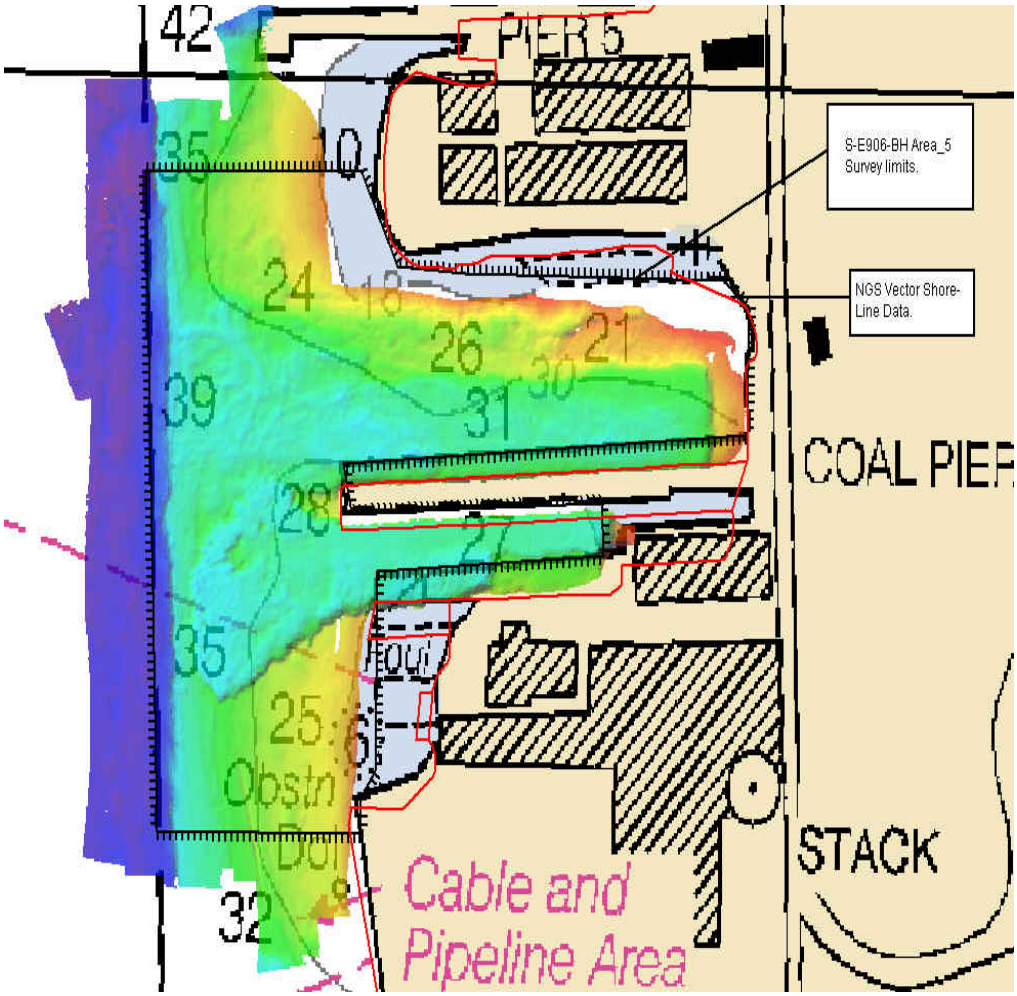
Shoreline

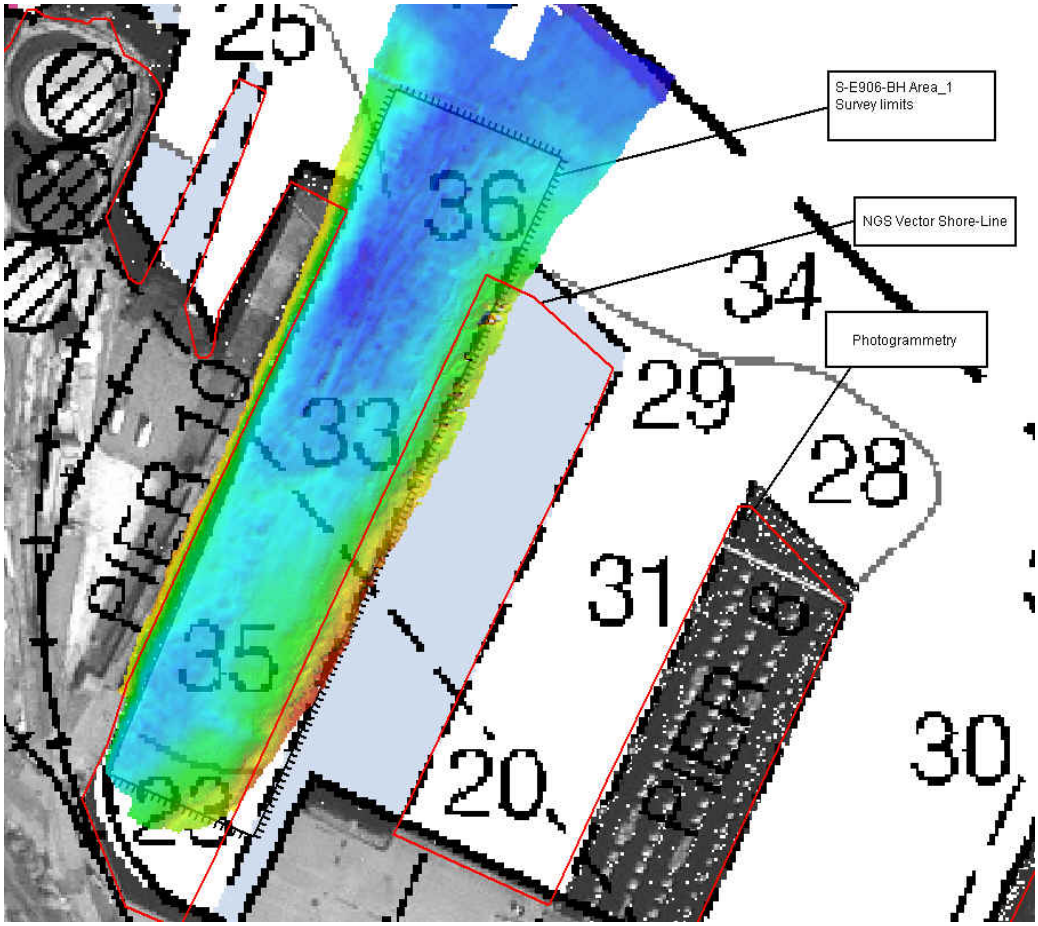
A discrepancy in the charted shoreline of chart 12281 was noted throughout survey S-E906-BH, Baltimore Harbor. The error was originally noticed while gathering SWMB data and further investigated using a portable Trimble TSC1 Asset Surveyor GPS system. Four piers were walked while continually recording data on the Trimble GPS unit. The SWMB and GPS unit data were in agreement with the correlating Photogrammetry and NGS Vector shoreline files.
The Hydrographer recommends revising the charted shoreline of Charts 12281 and 12278 with the most current data. ***Concur.***
These files can be obtained from the National Geodetic Survey at:
http://geodesy.noaa.gov/RSD/shoredata/NGS_shoreline_products.htm

Due to gross errors in the charted shoreline for charts 12281 and 12278, it was deemed necessary to re-survey shoreline and features that lie adjacent to or within the assigned project areas. Several piers, dolphins, and other structures were surveyed using a Trimble TSC1 Asset Surveyor and a backpack-mounted Trimble GPS receiver. The surveys were conducted by walking along pier faces, bulkheads, and shoreline, while logging GPS data to the TSC1 Asset Surveyor. Upon finishing the surveys, the data was transferred to a computer, and processed using Trimble's GPS Pathfinder Office 2.9, an application that plots GPS data acquired using the TSC1 Asset Surveyor. The data were then exported to MapInfo MIF/MID files, and imported into MapInfo. The two MapInfo tables contain line data and point data collected for all surveyed areas. All shoreline files associated with Project S-E906-BH are located in Appendix IV*-Supplemental Survey Records\Shoreline Files.

Refer to: **Appendix IV* - Supplemental Survey Records\Shoreline Files** for additional corresponding shoreline files and plots.
(Several screen grabs have been attached below.)
**** Filed with the original field digital data.***


NGS-VECTOR
Shore-Line Data
Piling


42
PIER 5
35
10
24
18
26
21
30
39
31
28
27
35
25
Obstn
32
S-E906-BH Area_5
Survey limits.
NGS Vector Shore-
Line Data.
COAL PIER
STACK
Cable and
Pipeline Area


S-E906-BH Area_1
Survey limits
NOS Vector Shore-Line
Photogrammetry
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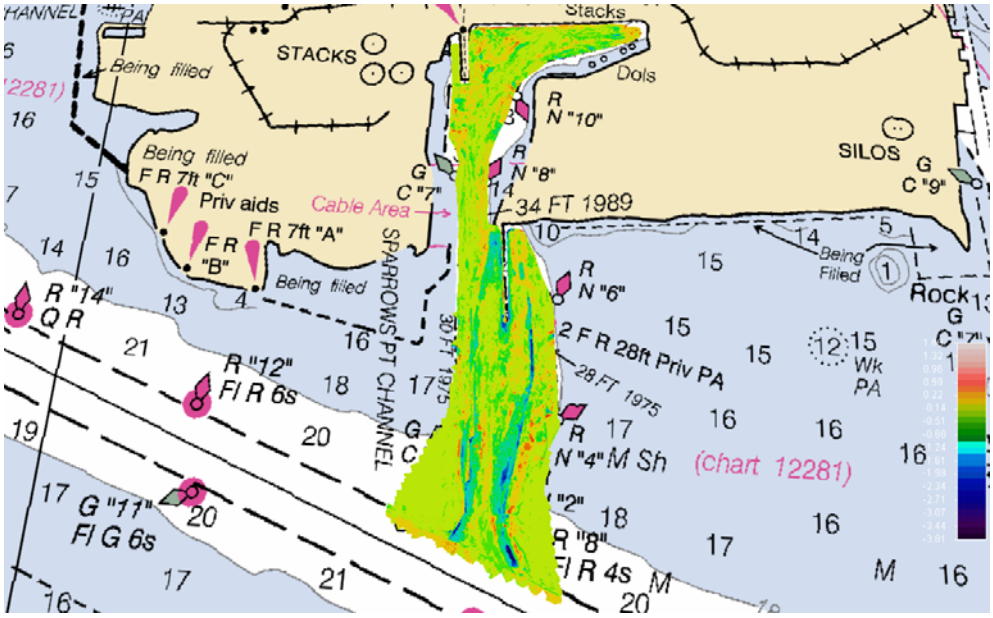
Prior Survey Comparisons

A SWMB comparison of Sparrows Point (Area_4) was made with Survey F00495, Project S-E913-BH dated03/01/2004 – 03/25/2004 to determine if any significant changes have occurred since the timing of the previous survey. Analysis of the fully processed SWMB data from the current survey (S-E906-BH) resulted in significant changes due to dredge work in the region.
A difference surface for the Sparrows Point area was created by subtracting data collected in 2003 from data collected for E906 in 2005. The surface was created using IVS Fledermaus software. It should be noted that since both surfaces are measured in meters below MLLW, and that soundings are therefore negative values, a negative value in the difference surface represents an area that is deeper in 2005 than it was when surveyed in 2003. Areas with positive values on the difference surface are shoaler in 2005 than they were when surveyed in 2003.
A screen grab of the difference surface over chart 12278 is included below.
All files associated with the survey comparison are located in:
Appendices IV Supplemental Survey Records\Shoreline Files\sparrows pt diff. *



** Filed with the original digital data.*

Bridges, Overhead Cables and Overhead Pipelines

No bridges or overhead cables are located within the survey limits. ***Concur.***

Ferry Routes
27
No ferry routes or ferry terminals are located within the survey limits. ***Concur.***

Submarine Cables and Pipelines

Charted **Cable Area** located in Sparrows Point Channel centered at
39° 12’ 19.25” N / 76° 29’ 00.35” W. ***Concur.***

A portion of the survey limits from Area_5 – Lazaretto Point, falls within a charted **Cable and Pipeline Area**. The area extends
from: 39° 15’ 50.54” N / 76° 34’ 18.74” W
to: 39° 15’ 52.28” N / 76° 34’ 26.52” W AND
from: 39° 15’ 47.65” N / 76° 34’ 26.52 W
to: 39° 15’ 46.82” N / 76° 34’ 18.93” W
Concur.

Drilling Structures, Platforms and Well Heads

No drilling structures, platforms or wellheads were charted or observed within the survey area. ***Concur.***

E. APPROVAL SHEET

S-E906-BH
Baltimore Harbor
Maryland

Survey Registry No. F00505

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.

This survey is adequate to supersede all prior surveys in common areas, and for application to the relevant NOS nautical charts.

Submitted: _____
Paul Turner
Physical Scientist

Submitted: _____
Eric Moore, NOAA
Physical Scientist

Approved and Forwarded: _____
LT Charles Yoos, NOAA
Officer-in-Charge

APPENDIX

DANGERS TO NAVIGATION REPORTS

A copy of the dangers to navigation report, identifying one DTON within the survey area, is included in this appendix.
The DTON **was extracted** by Marine Technologies Inc. , a professional dive company contracted by the Army Corp of Engineers in Baltimore.
Corresponding e-mail between Greg Barnes of the U.S. Army Corp of Engineers and Lt. Charles Yoos has been attached in Appendix V of this report.

S-E906-BH Danger to Navigation

Registry Number: N/A

State: Maryland Locality: Baltimore Harbor

Sub-locality: N/A

Project Number: S-E906-BH

Survey Date: July 26, 2005

On July 26, 2005, the BAY HYDROGRAPHER located a long, narrow contact off the Baltimore Harbor coal pier. At least 20 ft. in length, the object appears to be a pipe or piling that protrudes away from the pier face toward the dredged area north of the pier. A least depth of 23 ft was observed on the object, and it is recommended that this object be removed or charted as an obstruction. Please see the accompanying graphics for further details.

Features

Feature Type	Survey Depth	Survey Latitude	Survey Longitude
Pile	7.01 m	039° 15’ 53.576” N	76° 34’ 20.228” W

Generated by Pydro v5.2.1 on Wed Jul 27 15:52:14 2005 [UTC]

1 - Danger To Navigation

S-E906-BH Danger to Navigation 1 - Danger To Navigation

1.1) Profile/Beam - 225/154 from s_e906_bh / bh_s5501_reson8125 / 2005-207 / 022_2012

DANGER TO NAVIGATION

Survey Summary

Survey Position: 039° 15' 53.576" N, 76° 34' 20.228" W

Least Depth: 7.01 m

Timestamp: 2005-207.20:13:01.577 (07/26/2005)

Survey Line: s_e906_bh / bh_s5501_reson8125 / 2005-207 / 022_2012

Profile/Beam: 225/154

Charts Affected: [no CHAPP data available]

Remarks:

Long, narrow object, possible pipe or piling, located approx. 50 ft west of coal pier. This object is approx. 15 ft in length, and projects out of the mud into the dredged area to the north. Least depth of 23 ft., in 35 ft. surrounding depth.

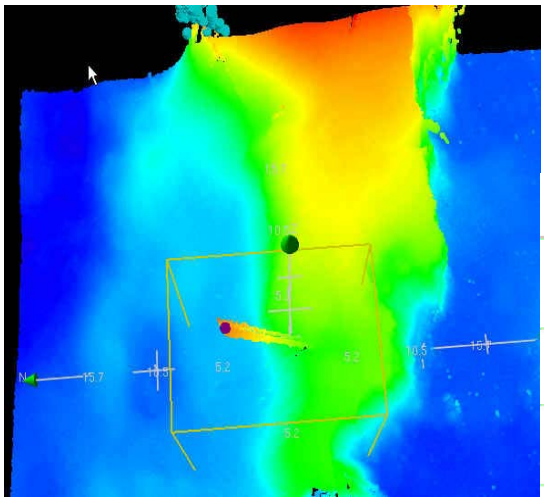
Feature Correlation

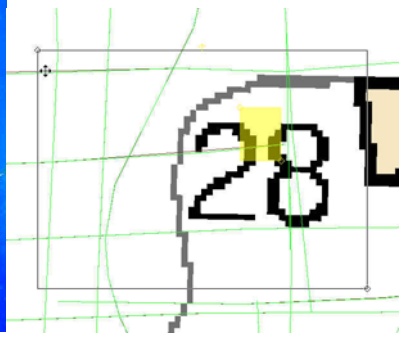
Address	Feature	Range	Azimuth	Status
S_e906_bh/bh_s5501_reson8125/2005-207/022_2012	225/154	0.00	000.0	Primary

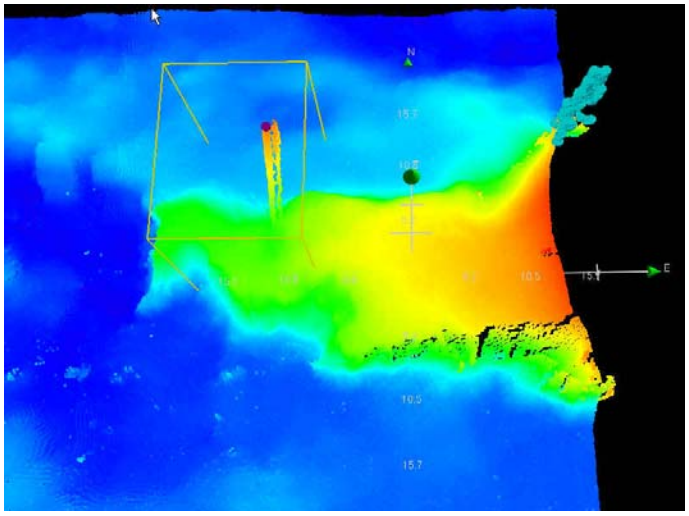
Hydrographer Recommendations

Chart as a 23 ft obstruction with danger circle. Pass information along to USACE for possible removal.

The Obstruction has been removed. See the correspondence appended to this Danger to Navigation.




28



APPENDIX IV

SUPPLEMENTAL SURVEY RECORDS

The following supplemental records and correspondences have been included within this appendix:

E-mail regarding the removal of the submitted DTON is attached below:

Removal of DTON in E906

----- Original Message -----
From "Barnes, Greg NAB02" <Greg.Barnes@nab02.usace.army.mil>
Date Fri, 12 Aug 2005 16:07:30 -0400
To "Charles Yoos" <Charles.Yoos@noaa.gov>
Subject RE: Location of Obstruction

Jake,

We surveyed the area extensively on Monday utilizing an Odom Hydrotrac single beam (3 degree 200khz) system and also a GeoAcoustics GeoSwath system on a 22' vessel. Minimum depth recorded in the area was 27 feet. No particular object was observed, the soundings showed more of a bottom peak as if material was dumped overboard sometime.

We re-surveyed the area today Friday, 12 August utilizing a Klein 3000 side-scan system and an Odom Echotrac MKII (3 degree 200khz)system on our 45 foot survey launch Linthicum. The minimum depth recorded is 27 feet in the area. Single beam data trace matched the previous survey performed on Monday. Again, no particular object was observed, the soundings showed more of a bottom peak as if material was dumped overboard sometime.

The minimum depths of 27' were basically 45' westward and dead center of the pier out to 65'.

Please see the attached e-mail concerning what the divers recovered in the area of the wreck buoy.

Greg Barnes

Chief, Survey / Debris Removal Section
Navigation Branch, Operations Division
PH: 410-962-3664
Cell: 410-598-1851
FAX: 410-962-6033
E-Mail: greg.barnes@usace.army.mil

-----Original Message-----
From: Charles Yoos [mailto:Charles.Yoos@noaa.gov]
Sent: Friday, August 12, 2005 3:20 PM
To: Barnes, Greg NAB02
Subject: Location of Obstruction

Greg,

Attached are the images I sent John Olgeirson at Mclean contracting.

One is a view of the pier with the middle of the obstruction marked as a red dot. The other two views are from the multibeam data - the mouse cursor shows exactly the location that is plotted with the red star in the first picture.

The GP of that point (in the middle of the beam, NOT the least depth) is 39-15-53.47 N, 076-34-20.2 W.

Thanks again for checking the area out . . . it makes it a lot easier for me to initiate the process of removing the charted obstruction knowing that competant surveyors have taken a look.

If you could respond to this email with some quick text about the when and where and how (side scan?) of your survey, I would really appreciate it. I've got to get my paperwork in order for HQ.

Thanks again,
Jake

----- Original Message -----
From "John Olgeirson" <JOlgeirs@mcleancont.com>
Date Fri, 12 Aug 2005 14:57:07 -0400
To "Zelen, Sandy NAB02" <Sandy.Zelen@nab02.usace.army.mil>
Subject Obstruction at Rukert Beth "C" pier

USACE Baltimore
Enforcement Division
Attn: Ms Sandy Selen August 12, 2005
Subject: Obstruction

at Rukert Terminal

Berth "C" Clinton

Street, Baltimore, MD
Ms. Zelen...

McLean contracting was contacted to find and remove an obstruction previously indicated by survey, position approximately 50'-70' West (Outboard) of the NW corner of Rukert Terminal Berth "C" Pier. We obtained the services of a diver and dispaced a floating derrick to the site at approximately 1100 this date. The diver made a submarine survey, sweeping in an arc of about 200 degrees from the NW corner of the pier. from N to S. An old timber fender pile was encountered at approximately the location of the obstruction. The pile was about 40' long and laying on the mud bottom of the harbort in a North-South orientation. THis pile was buoyed and removed to the deck of McLeans floating derrick barge. The diver continued his search, with no further results.

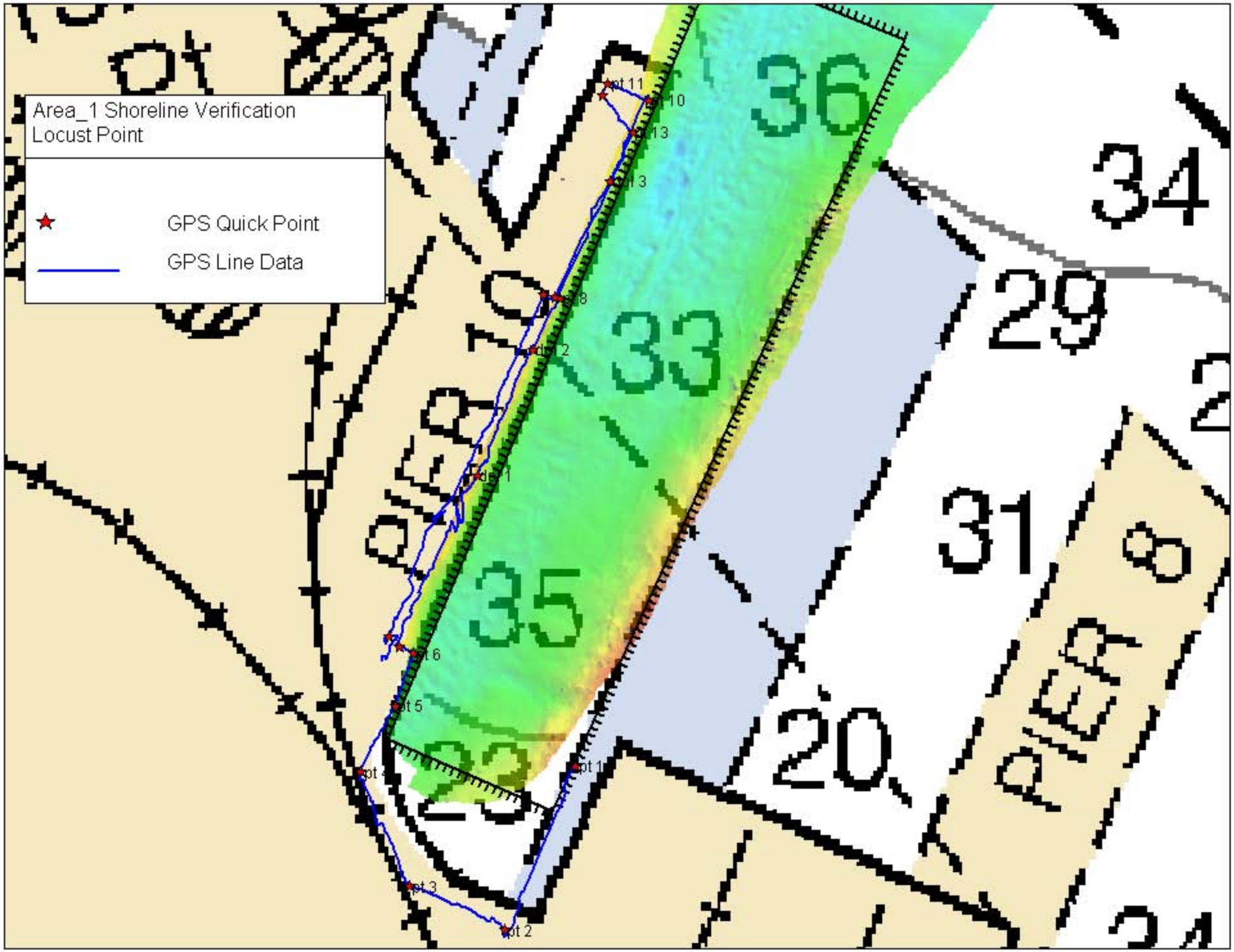
Based on the above, and Mr. Greg Barnes' communication to me that a side scan sonar survey was accomplished this morning (8/12/05) with no indication of obstruction in the location indicated, it is our belief that the obstruction has been removed.

Please arrange with USCG to remove the red wreck buoy that is presently off the SW corner of the Berth "C" Pier. Also advise pilots and/or other interested parties of our actions, so shipping scheduled due on 8/14/05 my use this berth

Thank you for your attention...

John W. Olgeirson, Jr.
Contract Manager
McLean Contracting Company
6700 McLean Way
Glen Burnie, MD 21060 410-553-6700

Refer to the Appendix IV folder, Supplemental Survey Records/Shoreline Files for additional files and plots pertaining to the shoreline discrepancy. ***Attached to this report. Defer to MCD for charting disposition of the shoreline.***


Area_1 Shoreline Verification
Locust Point
GPS Quick Point
GPS Line Data
36
34
33
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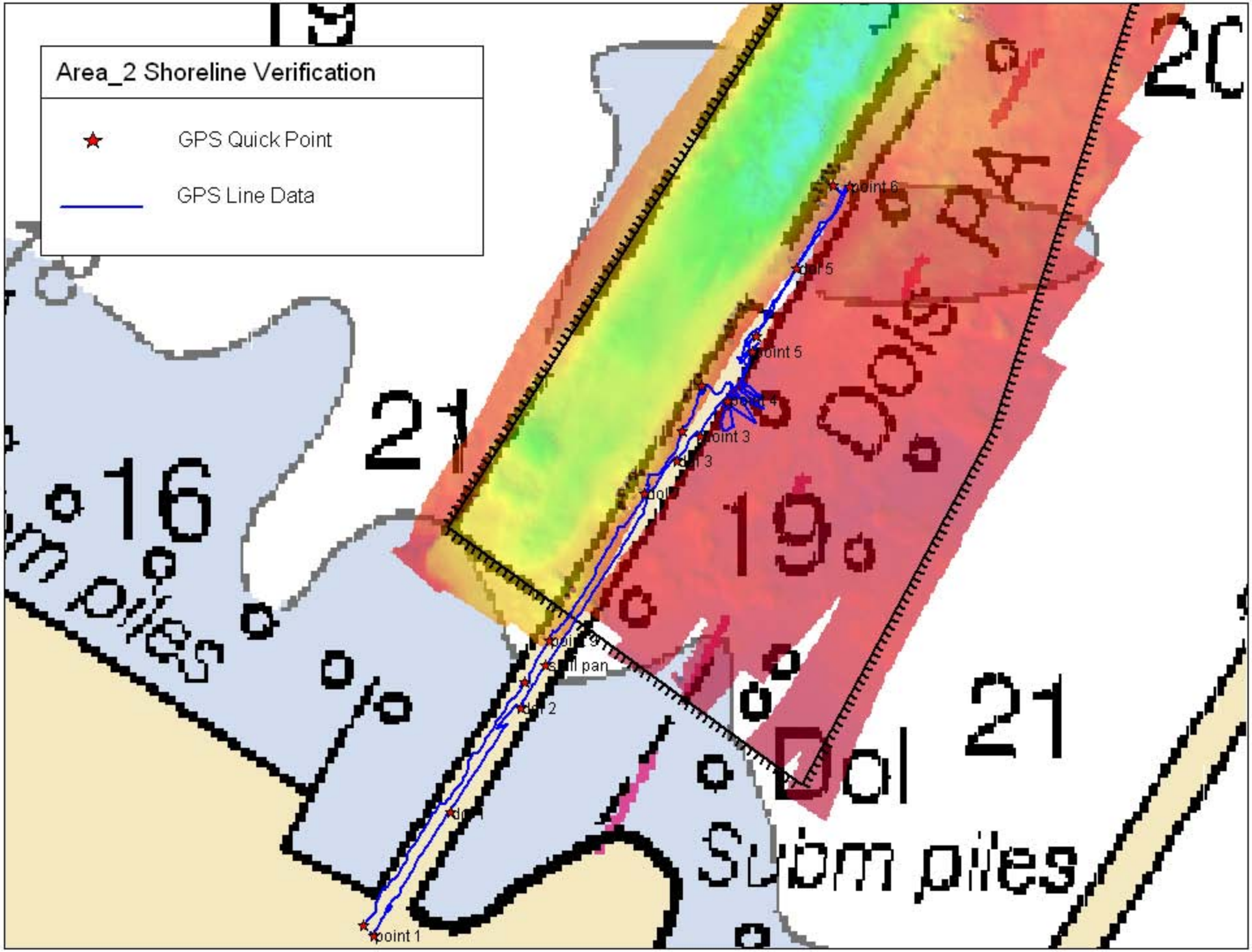
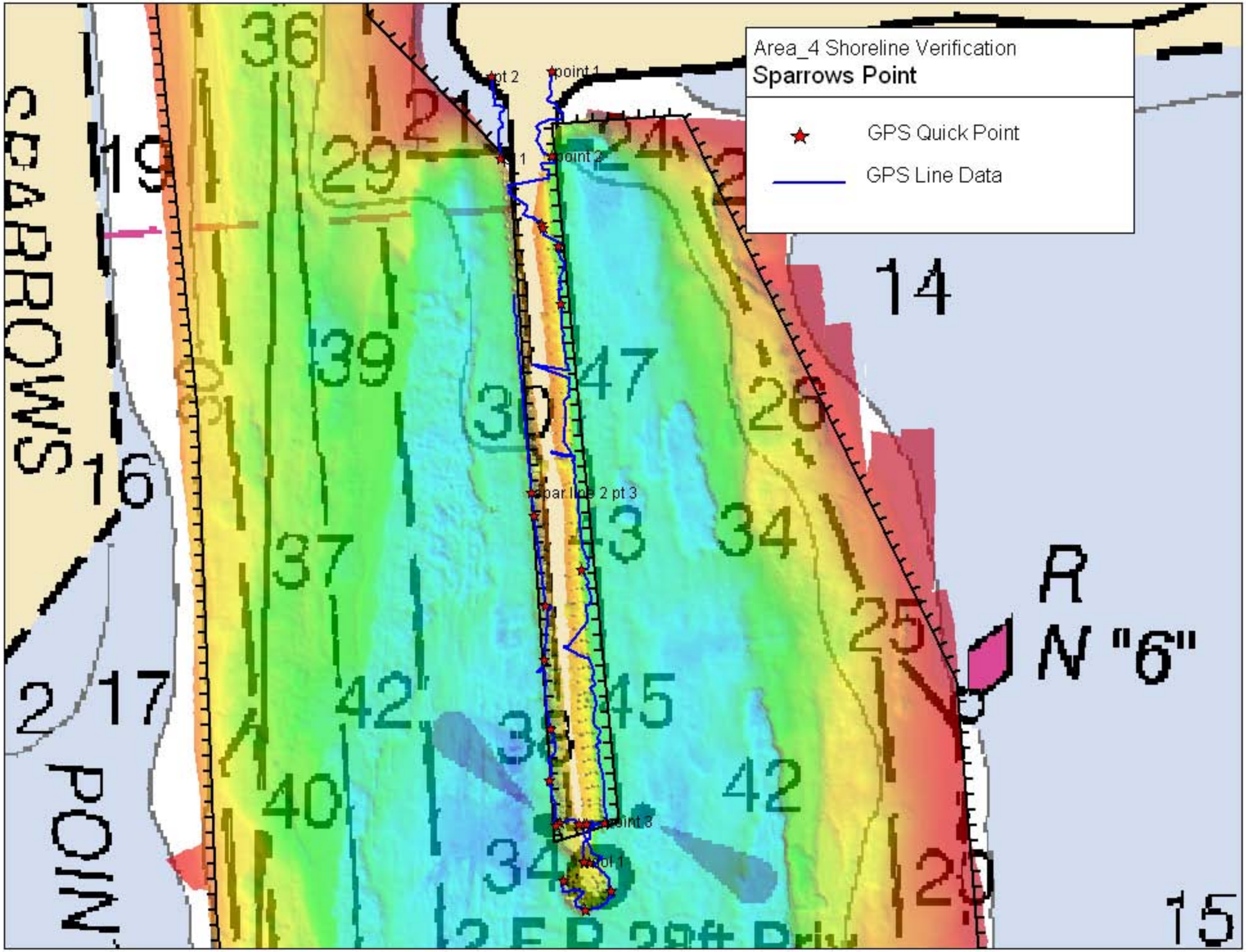
35
31
20
23
pt 11
pt 10
pt 13
pt 3
pt 8
pt 2
pt 1
pt 6
pt 5
pt 4
pt 1
pt 3
pt 2


Area_2 Shoreline Verification
GPS Quick Point
GPS Line Data
point 6
dol 5
point 5
point 4
point 3
dol 3
dol 2
point 1
Dol 21
Suom piles


Area_4 Shoreline Verification
Sparrows Point
GPS Quick Point
GPS Line Data
point 1
pt 2
point 2
spar line 2 pt 3
point 8
pol 1
SPARROWS POINT
14
15
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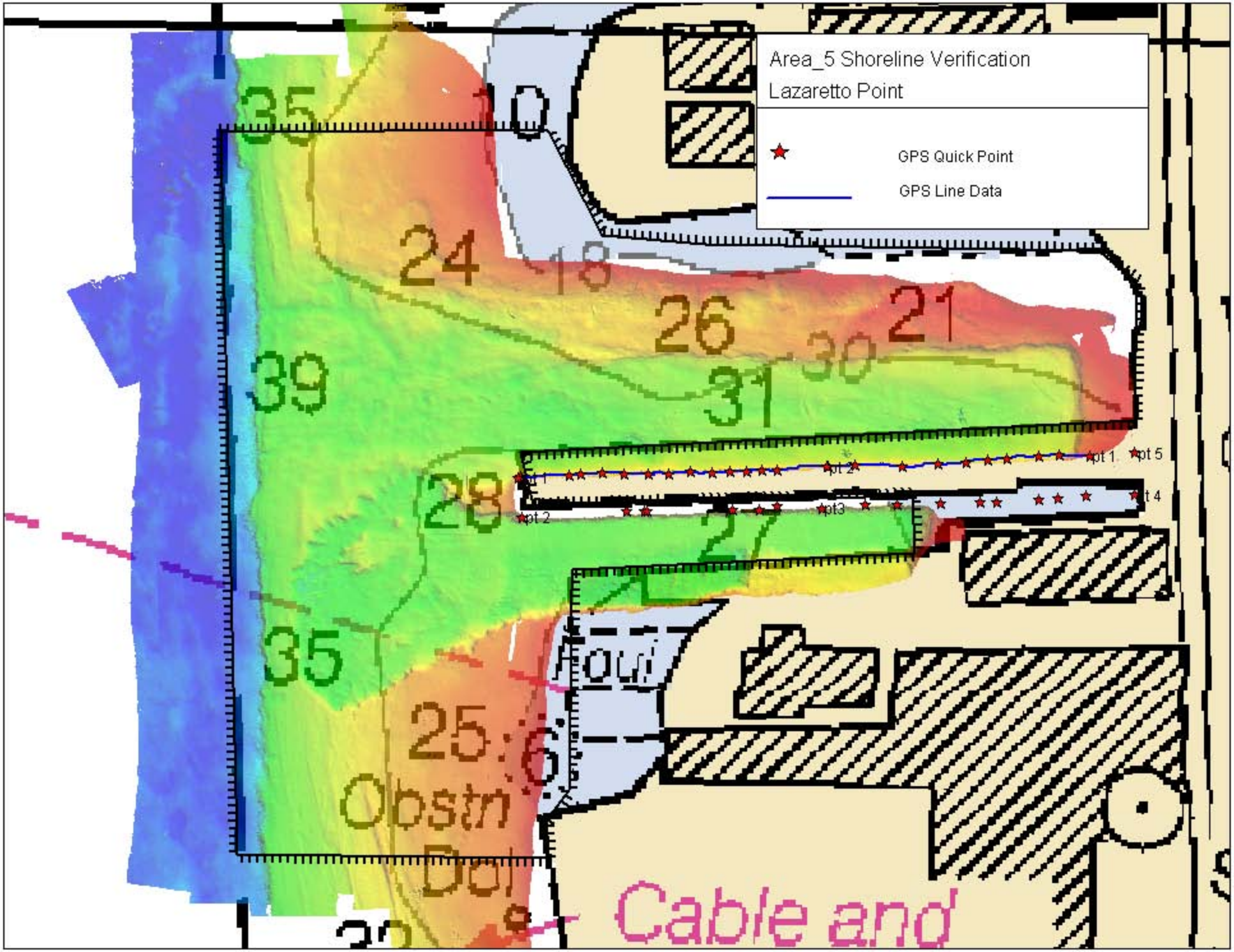
N "6"


Area_5 Shoreline Verification
Lazaretto Point
GPS Quick Point
GPS Line Data
35
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pt 2
pt 3
pt 4
pt 5

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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE : April 14, 2006

HYDROGRAPHIC BRANCH: Atlantic
HYDROGRAPHIC PROJECT: S-E906-BH-2006
HYDROGRAPHIC SHEET: F00515

LOCALITY: Patapsco River Pier Ruins and Inner Harbor, Baltimore, MD
TIME PERIOD: March 20 - March 23, 2006

TIDE STATION USED: 857-4680 Baltimore, MD
Lat. 39° 16.0'N Long. 76° 34.7' W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 0.415 meters

REMARKS: RECOMMENDED ZONING

Preliminary zoning is accepted as the final zoning for project S-E906-BH-2006, F00515, during the time period between March 20 to March 23, 2006.

Please use the zoning file "E906TJ2006CORP" submitted with the project instructions for E906BH2006. This project was originally designated as a Thomas Jefferson project. The file name, E906TJ2006CORP, was not changed even after the Bay Hydrographer was designated as the survey vessel.

Zone NCB123 is the applicable zone for F00515.

Refer to attachments for zoning 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).

CHIEF, PRODUCT AND SERVICES DIVISION

ATLANTIC HYDROGRAPHIC BRANCH
EVALUATION REPORT FOR F00505 (2005)

This Evaluation Report has been written to supplement and/or clarify the original Descriptive Report. Sections in this report refer to the corresponding sections of the Descriptive Report.

During office processing, two smooth sheets were created to depict the survey area.

B. DATA ACQUISITION AND PROCESSING

B.1 EQUIPMENT

The following software was used to process data at the Atlantic Hydrographic Branch:

Hydrographic Processing System
MicroStation J, version 07.01.04.16
I/RAS B, version 07.01.0.18)-1
MapInfo, version 8.0
CARIS HIPS/SIPS 6.0
PYDRO, version 6.4.9-HF8

C. VERTICAL AND HORIZONTAL CONTROL

Horizontal Control

Horizontal control used for this survey during data acquisition is based upon the North American Datum of 1983 (NAD83), UTM Zone 18N. Office processing of this survey is based on these values.

D. RESULTS AND RECOMMENDATIONS

D.1. CHART COMPARISONS

12281 (50th Ed., Nov /04)
Corrected through NM Nov. 20/04
Corrected through LNM Nov. 9/04

The charted hydrography originates with prior surveys and requires no further consideration. The hydrographer makes an adequate chart comparison in section D. of the Descriptive Report. The following should be noted:

1. An uncharted dangerous obstruction with a depth of 17 feet was located by the hydrographer in Latitude 39°16′31.56″N, Longitude 76°35′59.18″W. It is recommended that a dangerous obstruction with a depth of 17 feet (17 Obstn) be charted as shown on the present survey.

2. A charted dolphin in Latitude 39°15′47.23″N, Longitude 76°34′18.96″W was verified by the hydrographer. It is recommended that the dolphin be retained as charted.

3. The hydrographer located the following three features:

Feature	Latitude(N)	Longitude(W)
Dol	39°14′53.91″	76°34′25.52″
Dol	39°14′52.90″	76°34′26.38″
Dol	39°14′51.88″	76°34′26.97″

It is recommended that these three features be charted as shown on the present survey.

4. Two submerged piles were located by the hydrographer. The shoaler of the two piles has a depth of 24 feet in Latitude 39°14′27.47″N, Longitude 76°33′55.65″W. It is recommended that dangerous obstructions with a depth of 24 feet (24 Obstns) be charted as shown on the present survey.

5. The hydrographer located 3 piles in Latitude 39°13′29.43″N, Longitude 76°34′47.61″W. To eliminate congestion on the chart it is recommended that a pile symbol and the notation piles be charted at the above location.

6. An area with the notation “piling” in the vicinity of Latitude 39°12′36.50″N, Longitude 76°29′07.00″W was verified by the hydrographer. It is recommended that the area be retained as charted.

7. The hydrographer located a dangerous obstruction with a depth of 44 feet in Latitude 39°12′13.09″N, Longitude 76°28′52.80″W. It is recommended that a dangerous obstruction with a depth of 44 feet (44 Obstn) be charted at the above location.

8. During office processing a dangerous obstruction with

a depth of 15 feet was located in Latitude 39°12′26.79″N, Longitude 76°28′54.86″W. It is recommended that a dangerous obstruction with a depth of 15 feet (15 Obstn) be charted at the above location.

9. The foul limits in the vicinity of Latitude 39°16′26.30″N, Longitude 76°35′17.00″W were verified by the hydrographer. It is recommended that the foul limits be extended to the west. Extend the limits from the southwest position, Latitude 39°16′23.75″N, Longitude 76°35′19.64″W, to the northwest position, Latitude 39°16′30.00″N, Longitude 76°35′16.07″W.

10. The charted channel with 35 ft rep 1991, in Latitude 39°15′00.00″N, Longitude 76°34′21.52″W was developed by the hydrographer. Present survey depths show 31 to 37 feet. It is recommended that the channel note be revised to 31 ft Jul 2005.

Dangers to Navigation

One Danger to Navigation Report was submitted by the hydrographer to the Marine Chart Division (MCD), Silver Spring, Maryland for inclusion in the Local Notice to Mariners. A copy of the report and correspondence are appended to the Descriptive Report.

During office processing fifteen Danger to Navigation Reports were submitted to MCD, Silver Spring, Maryland for inclusion in the Local Notice to Mariners. Copies of these reports are appended to this report.

D.2. ADDITIONAL RESULTS

Aids to Navigation

The hydrographer located one fixed and seven floating aids to navigation. These aids appear adequate to serve their intended purposes.

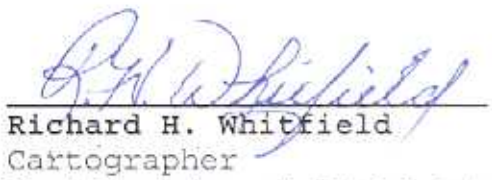
ADEQUACY OF SURVEY

This is an adequate hydrographic survey. No additional work is recommended.

MISCELLANIOUS

Chart compilation was done by Atlantic Hydrographic Branch personnel in Norfolk, Virginia. Compilation data will be forwarded to Marine Chart Division, Silver Spring, Maryland. The following NOS chart was used for compilation of the present survey:

12281 (50th Ed. Nov/04) corrected thru NM Nov 20/04
corrected thru LNM Nov 09/04



Richard H. Whitfield
Cartographer
Verification of Field Data
Evaluation and Analysis

APPROVAL SHEET
F00505 (2005)

The completed survey has been inspected with regard to survey coverage, delineation of depth curves, development of critical depths, cartographic symbolization, and verification or disproval of charted data. The digital data have been completed and all revisions and additions made to the smooth sheet during survey processing have been entered in the digital data for this survey. The survey records and digital data comply with NOS requirements except where noted in the Evaluation Report.

Norris A. Wike, Cartographer,
Atlantic Hydrographic Branch

Date: 8/24/06

I have reviewed the smooth sheet, accompanying data, and reports. This survey and accompanying digital data meet or exceed NOS requirements and standards for products in support of nautical charting except where noted in the Evaluation Report.

Approved:

P. Tod Schattgen
Commander, NOAA
Chief, Atlantic Hydrographic Branch

Date: 8/24/06

Paul Turner
AWOIS and SURF check
Operations Branch
2006.08.31 11:29:00
-04'00'

F00505 Dangers to Navigation

Registry Number: F00505
State: Maryland
Locality: Baltimore Harbor
Sub-locality: Sparrows Point to Locust Point
Project Number: S-E906-BH
Survey Dates: 07/12/2005 - 07/27/2005

Atlantic Hydrographic Branch Survey Verification DtoN Submission

Charts Affected

Number	Version	Date	Scale
12281	50th Ed.	11/01/2004	1:15000
12278	74th Ed.	01/01/2005	1:40000
12273	55th Ed.	05/01/2004	1:80000
12280	5th Ed.	10/01/2004	1:200000
13003	48th Ed.	10/01/2004	1:1200000

Features

No.	Name	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	area7 subm piles 14-ft 2867/226	Pile	4.48 m	039° 16' 47.813" N	76° 36' 15.927" W	---
1.2	Area7 subm piles 12-ft 2962/14	Pile	3.86 m	039° 16' 47.785" N	76° 36' 15.534" W	---
1.3	Area7 subm Obstns 14-ft 4774/89	Obstruction	4.37 m	039° 16' 42.070" N	76° 35' 57.371" W	---
1.4	area7 subm piles 14ft 5018/213	Pile	4.32 m	039° 16' 47.723" N	76° 36' 16.303" W	---
1.5	Area5 26ft Subm Pile 106/228	Pile	8.10 m	039° 15' 55.885" N	76° 34' 19.408" W	---
1.6	Area7 16-ft Subm Pile 525/199	Pile	4.84 m	039° 16' 48.112" N	76° 36' 15.480" W	---
1.7	Area7 Obstn-2subm piles 11-ft 6180/73	Pile	3.40 m	039° 16' 58.524" N	76° 36' 16.280" W	---
1.8	Area 7 20-ft Obstn 212/208	Obstruction	6.29 m	039° 16' 59.383" N	76° 36' 18.172" W	---
1.9	Area7 19-ft Subm Pile 824/10	Pile	5.73 m	039° 17' 00.220" N	76° 36' 20.628" W	---
1.10	Area7 17-ft Obstns 1102/190	Obstruction	5.12 m	039° 17' 00.954" N	76° 36' 21.477" W	---
1.11	Area2 subm pile #1 23-ft 80/238	Pile	7.05 m	039° 14' 51.937" N	76° 34' 28.540" W	---
1.12	Area3 29-ft Obstn 291/4	Obstruction	9.03 m	039° 14' 26.542" N	76° 33' 53.953" W	---
1.13	Area1 25-ft Obstn 372/143	Obstruction	7.71 m	039° 16' 23.699" N	76° 35' 20.417" W	---
1.14	Area7 21-ft Subm Pile 4/195	Pile	6.58 m	039° 16' 58.836" N	76° 36' 18.846" W	---
1.15	Area7 Subm Pile 15-ft 1467/122	Pile	4.64 m	039° 16' 47.750" N	76° 36' 14.302" W	---

Generated by Pydro v6.2.9 on Mon Apr 17 14:42:50 2006 [UTC]

1.1) area7 subm piles 14-ft 2867/226

DANGER TO NAVIGATION

Survey Summary

Survey Position: 039° 16' 47.813" N, 76° 36' 15.927" W

Least Depth: 4.48 m

Timestamp: 2005-202.17:24:21.132 (07/21/2005)

Survey Line: s_e906_bh / bh_s5501_reson8125 / 2005-202 / 800_1722

Profile/Beam: 2867/226

Charts Affected: 12281_1, 12278_1, 12273_1, 12280_1, 13003_1

Remarks:

Submerged piles located with SSS and developed with SWMB.

Feature Correlation

Address	Feature	Range	Azimuth	Status
s_e906_bh/bh_s5501_reson8125/2005-202/800_1722	2867/226	0.00	000.0	Primary
s_e906_bh/bh_s5501_klein5000_sss100/2005-203/100_1606	0003	2.56	180.6	Secondary

Hydrographer Recommendations

Recommend charting a Subm Piles with least depth of 4.479m (14-ft).

Cartographically-Rounded Depth (Affected Charts):

14ft (12281_1, 12278_1, 12273_1, 12280_1)

2 ½fm (13003_1)

S-57 Data

Geo object 1: Pile (PILPNT)

Attributes: CATPLE - 3:post

CONVIS - 2:not visual conspicuous

INFORM - Submerged Pile

OBJNAM - 14ft Subm Pile

Office Notes

Do not concur. Do not chart due to chart scale. See DtoN 1.2 for charting recommendation.

Feature Images

Figure 1.1.1

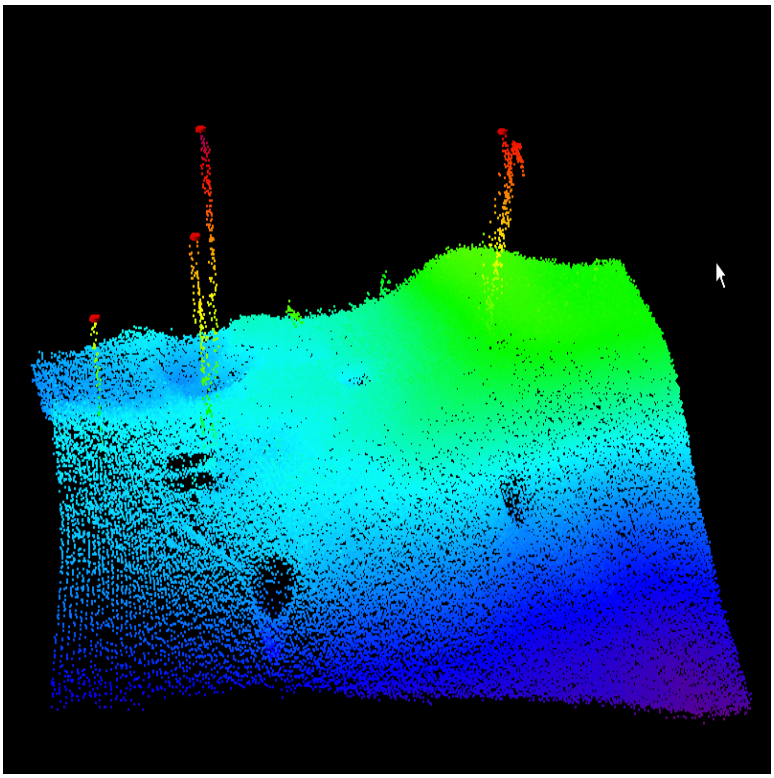


Figure 1.1.2

1.2) Area7 subm piles 12-ft 2962/14

DANGER TO NAVIGATION

Survey Summary

Survey Position: 039° 16' 47.785" N, 76° 36' 15.534" W

Least Depth: 3.86 m

Timestamp: 2005-202.17:24:24.298 (07/21/2005)

Survey Line: s_e906_bh / bh_s5501_reson8125 / 2005-202 / 800_1722

Profile/Beam: 2962/14

Charts Affected: 12281_1, 12278_1, 12273_1, 12280_1, 13003_1

Remarks:

Cluster of submerged piles located with SSS and developed with SWMB.

Feature Correlation

Address	Feature	Range	Azimuth	Status
s_e906_bh/bh_s5501_reson8125/2005-202/800_1722	2962/14	0.00	000.0	Primary
s_e906_bh/bh_s5501_klein5000_sss100/2005-203/100_1606	0002	2.86	169.9	Secondary
s_e906_bh/bh_s5501_klein5000_sss200/2005-203/200_1741	0001	5.33	326.8	Secondary
s_e906_bh/bh_s5501_klein5000_sss100/2005-203/100_1606	0001	24.85	259.4	Secondary

Hydrographer Recommendations

Recommend charting Subm Pile with least depth of 3.860m (12-ft).

Cartographically-Rounded Depth (Affected Charts):

12ft (12281_1, 12278_1, 12273_1, 12280_1)

2fm (13003_1)

S-57 Data

Geo object 1: Pile (PILPNT)

Attributes: CATPLE - 3:post

CONVIS - 2:not visual conspicuous

HORACC - 5 m

INFORM - 12ft Submerged Pile

OBJNAM - 12ft Subm Pile

VERACC - 0.25 m

Office Notes

Concur. The pile is the shoalest of a cluster of subm piles. Due to the scale of the chart it is recommended that a dangerous 12-ft Obstn be charted.

Feature Images

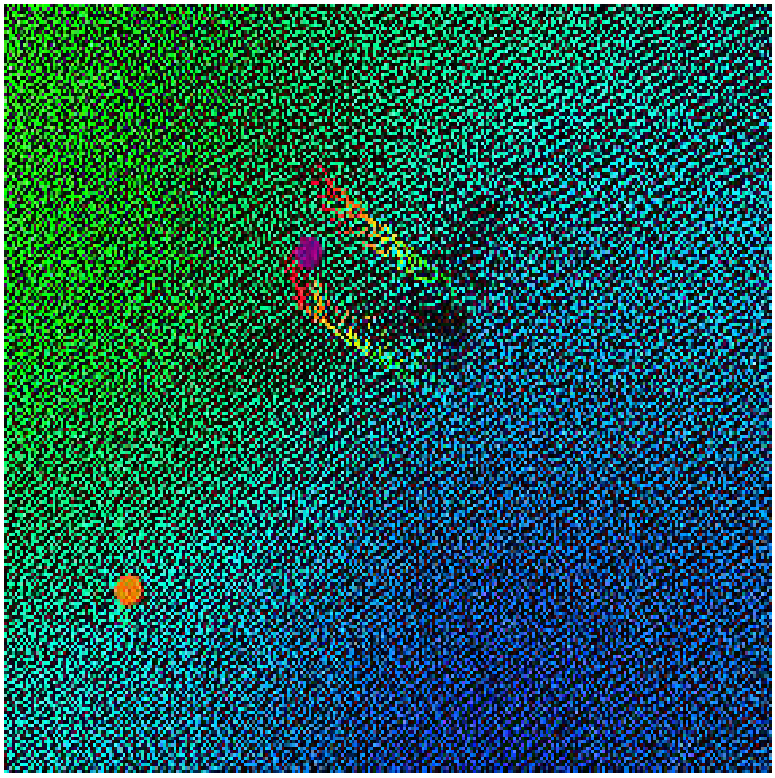


Figure 1.2.1

1.3) Area7 subm Obstns 14-ft 4774/89

DANGER TO NAVIGATION

Survey Summary

Survey Position: 039° 16' 42.070" N, 76° 35' 57.371" W

Least Depth: 4.37 m

Timestamp: 2005-193.16:52:21.487 (07/12/2005)

Survey Line: s_e906_bh / bh_s5501_reson8125 / 2005-193 / 807_1648

Profile/Beam: 4774/89

Charts Affected: 12281_1, 12278_1, 12273_1, 12280_1, 13003_1

Remarks:

Feature highlight during office review. Bathy and SS data indicates 2 Subm Obstn.

Feature Correlation

Address	Feature	Range	Azimuth	Status
s_e906_bh/bh_s5501_reson8125/2005-193/807_1648	4774/89	0.00	000.0	Primary
s_e906_bh/bh_s5501_klein5000_sss100/2005-203/101_1642	0004	4.94	287.8	Secondary

Hydrographer Recommendations

Chart 14-ft Subm Obstns.

Cartographically-Rounded Depth (Affected Charts):

14ft (12281_1, 12278_1, 12273_1, 12280_1)

2 ¼fm (13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes:

HORACC - 5.0 m

INFORM - Two Submerged Obstructions

OBJNAM - 14-ft Subm Obstns

QUASOU - 1:depth known

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

VALSOU - 4.374 m

VERACC - 0.25 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Concur. Chart dangerous 14-ft Obstns.

Feature Images

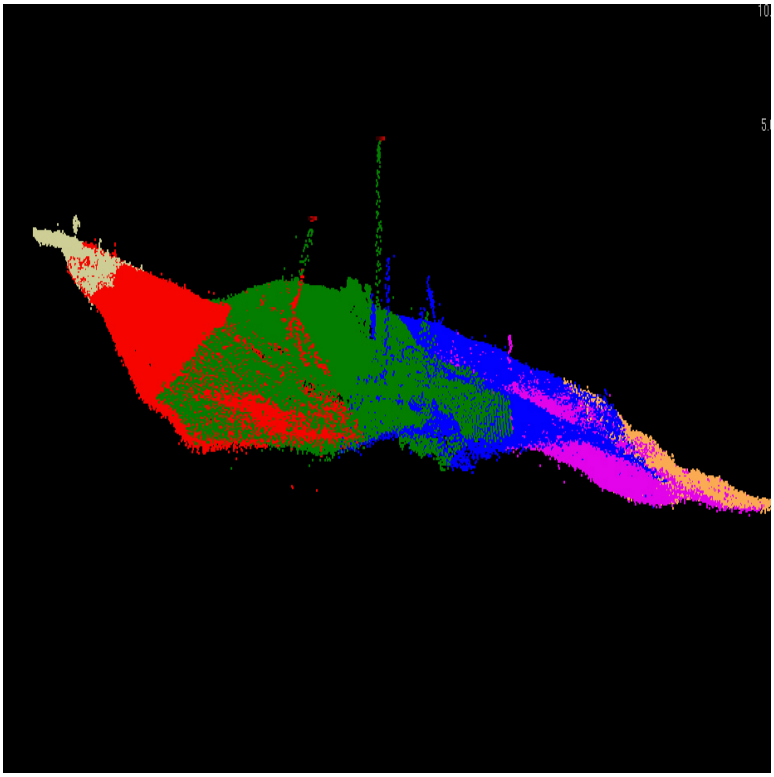


Figure 1.3.1

1.4) area7 subm piles 14ft 5018/213

DANGER TO NAVIGATION

Survey Summary

Survey Position: 039° 16' 47.723" N, 76° 36' 16.303" W

Least Depth: 4.32 m

Timestamp: 2005-202.18:09:42.085 (07/21/2005)

Survey Line: s_e906_bh / bh_s5501_reson8125 / 2005-202 / 836_1806

Profile/Beam: 5018/213

Charts Affected: 12281_1, 12278_1, 12273_1, 12280_1, 13003_1

Remarks:

Locataed subm piles offshore from charted subm piles. Append chart with new data.

Feature Correlation

Address	Feature	Range	Azimuth	Status
s_e906_bh/bh_s5501_reson8125/2005-202/836_1806	5018/213	0.00	000.0	Primary

Hydrographer Recommendations

chart subm pile 14-ft (4.32m)

Cartographically-Rounded Depth (Affected Charts):

14ft (12281_1, 12278_1, 12273_1, 12280_1)

2 ¼fm (13003_1)

S-57 Data

Geo object 1: Pile (PILPNT)

Attributes:

CATPLE - 3:post

CONDTN - 2:ruined

CONVIS - 2:not visual conspicuous

HORACC - 5.0 m

INFORM - 14ft Subm Pile

OBJNAM - 14ft Subm Pile

VERACC - 0.25 m

Office Notes

Do not concur. Do not chart due to chart scale. See DtoN 1.2 for charting recommendations.

Feature Images

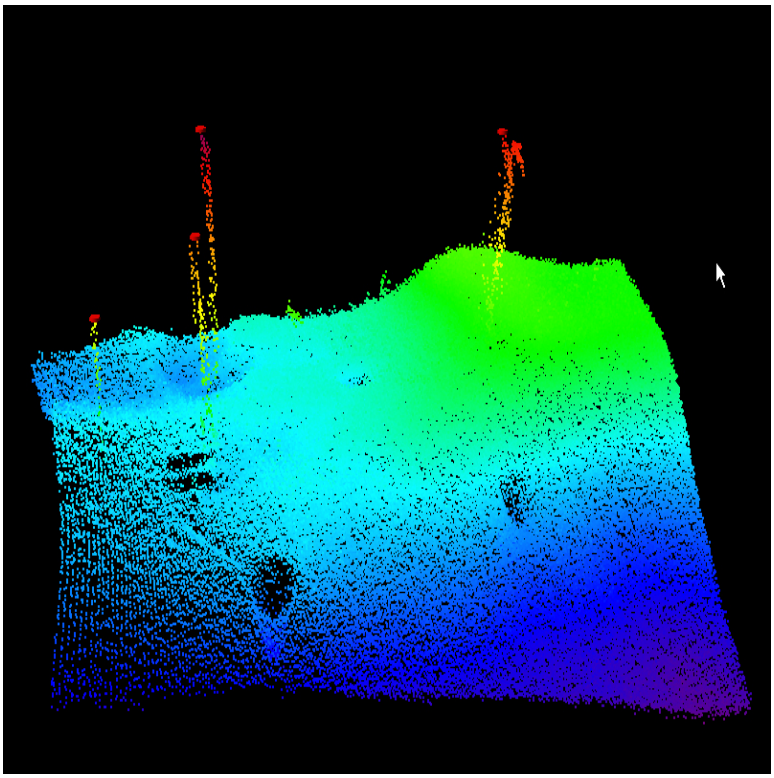


Figure 1.4.1

1.5) Area5 26ft Subm Pile 106/228

DANGER TO NAVIGATION

Survey Summary

Survey Position: 039° 15' 55.885" N, 76° 34' 19.408" W

Least Depth: 8.10 m

Timestamp: 2005-207.19:43:45.928 (07/26/2005)

Survey Line: s_e906_bh / bh_s5501_reson8125 / 2005-207 / 808_1943

Profile/Beam: 106/228

Charts Affected: 12281_1, 12278_1, 12273_1, 12280_1, 13003_1

Remarks:

Not addressed by field unit; office processing revealed Subm Pile; LD= 26.56-ft (8.1m).

Feature Correlation

Address	Feature	Range	Azimuth	Status
s_e906_bh/bh_s5501_reson8125/2005-207/808_1943	106/228	0.00	000.0	Primary
s_e906_bh/bh_s5501_klein5000_sss100/2005-144/020_1320	0001	17.92	303.2	Secondary

Hydrographer Recommendations

Chart 26-ft Subm Pile; submit Danger to Navigation.

Cartographically-Rounded Depth (Affected Charts):

26ft (12281_1, 12278_1, 12273_1, 12280_1)

4 ¼fm (13003_1)

S-57 Data

Geo object 1: Pile (PILPNT)

Attributes: CATPLE - 3:post

CONDTN - 2:ruined

CONVIS - 2:not visual conspicuous

HORACC - 5.0 m

INFORM - 26ft submerged Pile

OBJNAM - 26ft Subm pile

VERACC - 0.25 m

Office Notes

Concur in part. Chart a dangerous 26-ft Obstn.

Feature Images

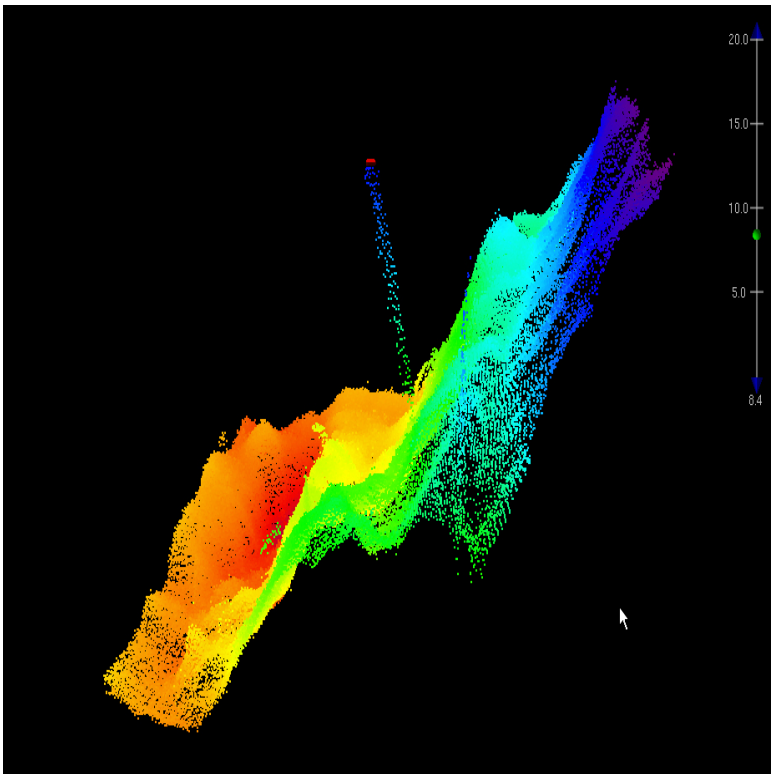


Figure 1.5.1

1.6) Area7 16-ft Subm Pile 525/199

DANGER TO NAVIGATION

Survey Summary

Survey Position: 039° 16' 48.112" N, 76° 36' 15.480" W

Least Depth: 4.84 m

Timestamp: 2005-208.14:56:05.387 (07/27/2005)

Survey Line: s_e906_bh / bh_s5501_reson8125 / 2005-208 / 804_1455

Profile/Beam: 525/199

Charts Affected: 12281_1, 12278_1, 12273_1, 12280_1, 13003_1

Remarks:

Verification of field data indicates subm pile existing that was not addressed by field unit. LD= 4.841, (15.88-ft)

Feature Correlation

Address	Feature	Range	Azimuth	Status
s_e906_bh/bh_s5501_reson8125/2005-208/804_1455	525/199	0.00	000.0	Primary

Hydrographer Recommendations

Chart 16-ft Subm Pile. Submit as Danger to Navigation.

Cartographically-Rounded Depth (Affected Charts):

16ft (12281_1, 12278_1, 12273_1, 12280_1)

2 ½fm (13003_1)

S-57 Data

Geo object 1: Pile (PILPNT)

Attributes: CATPLE - 3:post

CONDTN - 2:ruined

CONVIS - 2:not visual conspicuous

HORACC - 5.0 m

INFORM - 16ft Submerged Pile

OBJNAM - 16ft Subm Pile

VERACC - 0.25 m

Office Notes

Do not concur. Do not chart due to chart scale. See DtoN 1.2 for charting recommendation.

Feature Images

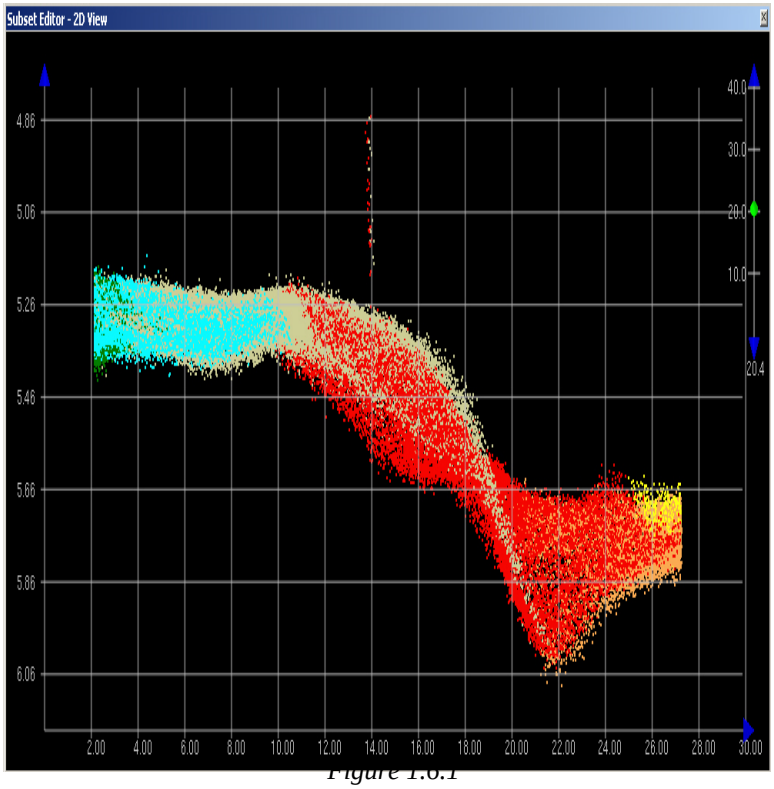


Figure 1.6.1

1.7) Area7 Obstn-2subm piles 11-ft 6180/73

DANGER TO NAVIGATION

Survey Summary

Survey Position: 039° 16' 58.524" N, 76° 36' 16.280" W

Least Depth: 3.40 m

Timestamp: 2005-208.14:36:01.589 (07/27/2005)

Survey Line: s_e906_bh / bh_s5501_reson8125 / 2005-208 / 807_1432

Profile/Beam: 6180/73

Charts Affected: 12281_1, 12278_1, 12273_1, 12280_1, 13003_1

Remarks:

2 Submerged piles located in bathy data during AHB processing.

Feature Correlation

Address	Feature	Range	Azimuth	Status
s_e906_bh/bh_s5501_reson8125/2005-208/807_1432	6180/73	0.00	000.0	Primary
s_e906_bh/bh_s5501_klein5000_sss200/2005-203/202_1732	0002	3.22	181.9	Secondary
s_e906_bh/bh_s5501_reson8125/2005-202/827_1617	0001	4.29	132.5	Secondary
s_e906_bh/bh_s5501_klein5000_sss100/2005-203/101_1642	0002	11.93	329.9	Secondary

Hydrographer Recommendations

Chart and submit as DtoN: 11-ft Subm Piles (3.397m) least depth.

Cartographically-Rounded Depth (Affected Charts):

11ft (12281_1, 12278_1, 12273_1, 12280_1)

1 ¾fm (13003_1)

S-57 Data

Geo object 1: Pile (PILPNT)

Attributes: CATPLE - 3:post

CONDTN - 2:ruined

CONVIS - 2:not visual conspicuous

HORACC - 5.0 m

INFORM - 11ft Subm Piles

OBJNAM - 11ft Subm Piles

VERACC - 0.25 m

Office Notes

Concur in part. Chart as a dangerous 11-ft Obstns.

Feature Images

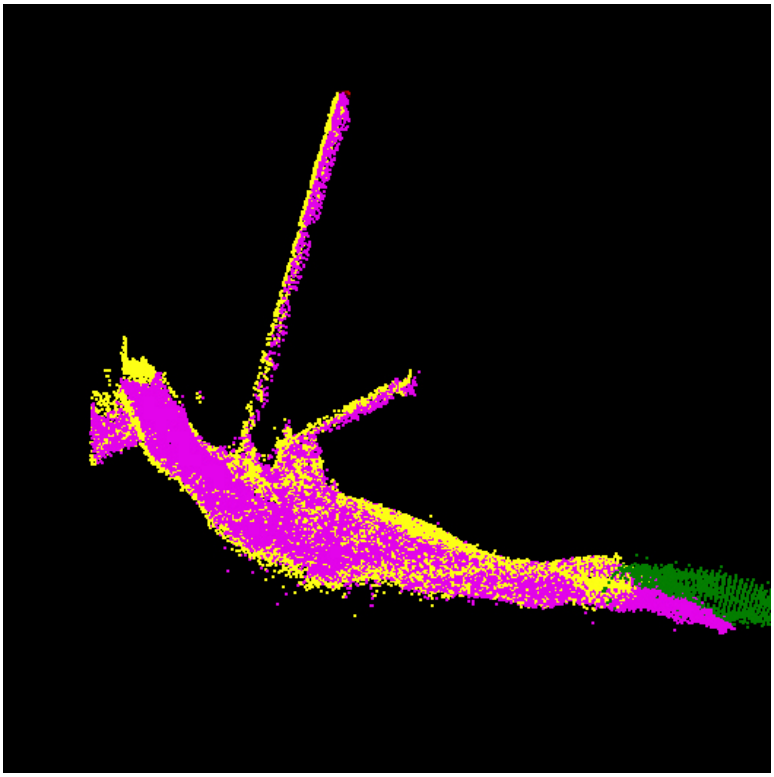


Figure 1.7.1

1.8) Area 7 20-ft Obstn 212/208

DANGER TO NAVIGATION

Survey Summary

Survey Position: 039° 16' 59.383" N, 76° 36' 18.172" W

Least Depth: 6.29 m

Timestamp: 2005-193.16:57:45.701 (07/12/2005)

Survey Line: s_e906_bh / bh_s5501_reson8125 / 2005-193 / 807_1649

Profile/Beam: 212/208

Charts Affected: 12281_1, 12278_1, 12273_1, 12280_1, 13003_1

Remarks:

Unknown feature rising off seafloor 0.39m. Requires additional field work as the data points stem from the outer beam range.

Feature Correlation

Address	Feature	Range	Azimuth	Status
s_e906_bh/bh_s5501_reson8125/2005-193/807_1649	212/208	0.00	000.0	Primary
s_e906_bh/bh_s5501_klein5000_sss200/2005-203/202_1732	0001	4.33	261.7	Secondary

Hydrographer Recommendations

Recommend additional field work. Chart 20-ft Obstn.

Cartographically-Rounded Depth (Affected Charts):

20ft (12281_1, 12278_1, 12273_1, 12280_1)

3 ½fm (13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: HORACC - 5.0 m

OBJNAM - 20ft Subm Obstn

QUASOU - 1:depth known

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

VALSOU - 6.295 m

VERACC - 0.25 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Concur. Chart a dangerous 20-ft Obstn.

Feature Images

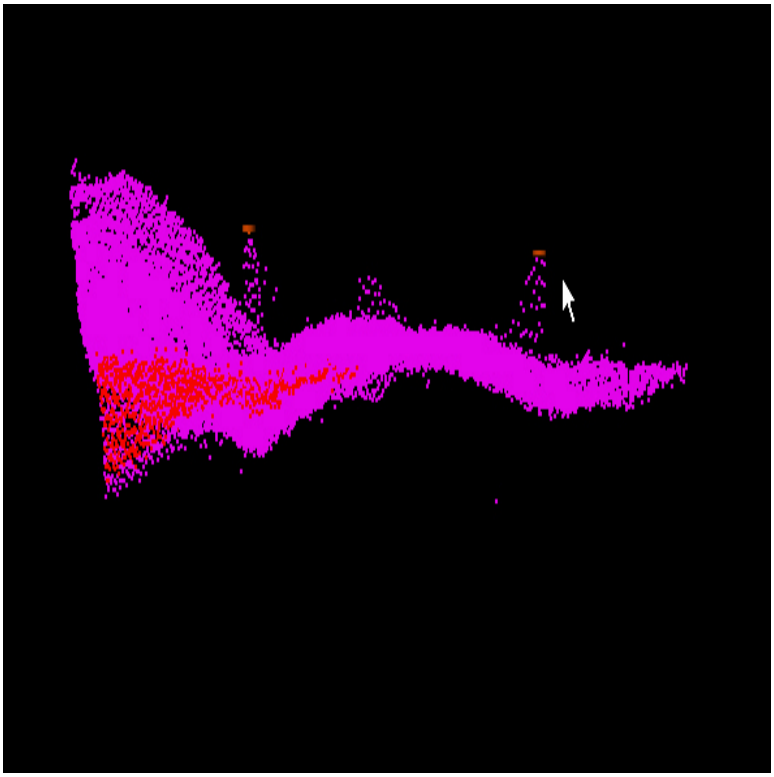


Figure 1.8.1

1.9) Area7 19-ft Subm Pile 824/10

DANGER TO NAVIGATION

Survey Summary

Survey Position: 039° 17' 00.220" N, 76° 36' 20.628" W

Least Depth: 5.73 m

Timestamp: 2005-193.16:58:13.369 (07/12/2005)

Survey Line: s_e906_bh / bh_s5501_reson8125 / 2005-193 / 807_1649

Profile/Beam: 824/10

Charts Affected: 12281_1, 12278_1, 12273_1, 12280_1, 13003_1

Remarks:

appears to be a single pile extending upward through the water column.

Feature Correlation

Address	Feature	Range	Azimuth	Status
s_e906_bh/bh_s5501_reson8125/2005-193/807_1649	824/10	0.00	000.0	Primary

Hydrographer Recommendations

Chart 19-ft subm Pile.

Cartographically-Rounded Depth (Affected Charts):

19ft (12281_1, 12278_1, 12273_1, 12280_1)

3fm (13003_1)

S-57 Data

Geo object 1: Pile (PILPNT)

Attributes: CATPLE - 3:post

CONDTN - 2:ruined

CONVIS - 2:not visual conspicuous

HORACC - 5.0 m

INFORM - Submerged Pile

OBJNAM - 19ft Subm Pile

VERACC - 0.25 m

Office Notes

Do not concur. Do not chart a 19-ft obstruction due to a shoaler 17-ft obstruction in the immediate area. See DtoN 1.10 for charting recommendations.

Feature Images

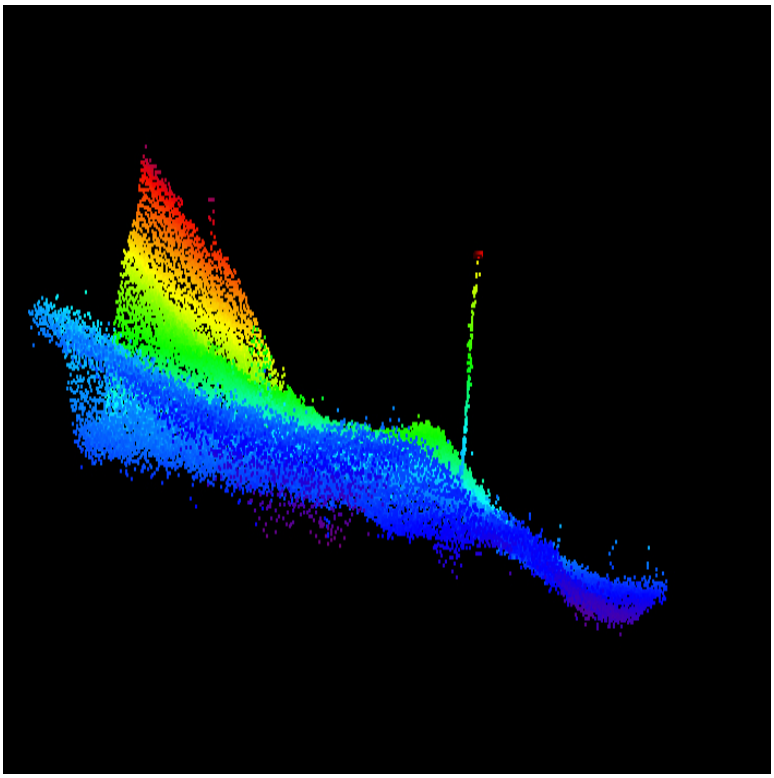


Figure 1.9.1

1.10) Area7 17-ft Obstns 1102/190

DANGER TO NAVIGATION

Survey Summary

Survey Position: 039° 17' 00.954" N, 76° 36' 21.477" W

Least Depth: 5.12 m

Timestamp: 2005-193.16:58:25.935 (07/12/2005)

Survey Line: s_e906_bh / bh_s5501_reson8125 / 2005-193 / 807_1649

Profile/Beam: 1102/190

Charts Affected: 12281_1, 12278_1, 12273_1, 12280_1, 13003_1

Remarks:

Appears to be bulkhead piles that have laid down off the pier and pointing offshore from the pier. Cluster of four features in immediate area.

Feature Correlation

Address	Feature	Range	Azimuth	Status
s_e906_bh/bh_s5501_reson8125/2005-193/807_1649	1102/190	0.00	000.0	Primary

Hydrographer Recommendations

Chart Obstns (piles) 17-ft Obstns.

Cartographically-Rounded Depth (Affected Charts):

17ft (12281_1, 12278_1, 12273_1, 12280_1)

2 ¾fm (13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: HORACC - 5.0 m

INFORM - Submerged Obstruction

OBJNAM - 17ft Subm Obstn

QUASOU - 1:depth known

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

VALSOU - 5.124 m

VERACC - 0.25 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Concur. Chart a dangerous 17 Obstns. Extend the danger curve to include item discussed in DtoN 1.9.

Feature Images

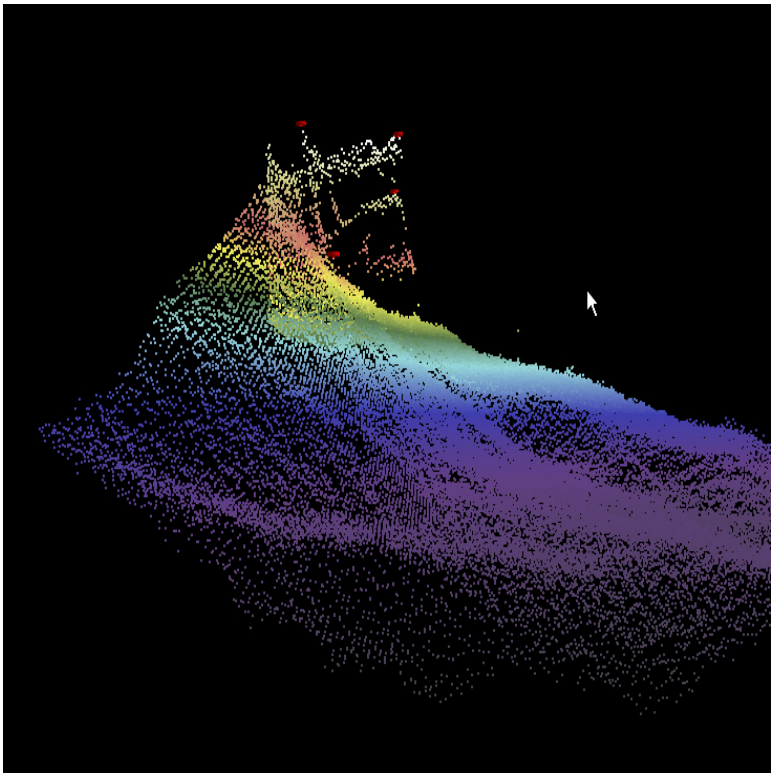


Figure 1.10.1

1.11) Area2 subm pile #1 23-ft 80/238

DANGER TO NAVIGATION

Survey Summary

Survey Position: 039° 14' 51.937" N, 76° 34' 28.540" W

Least Depth: 7.05 m

Timestamp: 2005-203.14:54:11.404 (07/22/2005)

Survey Line: s_e906_bh / bh_s5501_reson8125 / 2005-203 / 805_1454

Profile/Beam: 80/238

Charts Affected: 12281_1, 12278_1, 12273_1, 12280_1, 13003_1

Remarks:

Bathy data indicates 2 subm piles located within 3 meters of each other. CEF descrepancy in the immediate area; the CEF locates a pier at the offshore end which is located in the immediate area. Current chart edition does not disply the offshore end of the CEF pier.

Feature Correlation

Address	Feature	Range	Azimuth	Status
s_e906_bh/bh_s5501_reson8125/2005-203/805_1454	80/238	0.00	000.0	Primary
s_e906_bh/bh_s5501_klein5000_sss100/2005-144/003_1349	0002	14.77	307.8	Secondary
s_e906_bh/bh_s5501_klein5000_sss200/2005-144/204_1414	0005	26.36	123.5	Secondary

Hydrographer Recommendations

chart 23-ft Subm Piles; LD= 23-ft (23.14m).

Cartographically-Rounded Depth (Affected Charts):

23ft (12281_1, 12278_1, 12273_1, 12280_1)

3 ¾fm (13003_1)

S-57 Data

Geo object 1: Pile (PILPNT)

Attributes: CATPLE - 3:post

CONDTN - 2:ruined

CONVIS - 2:not visual conspicuous

HORACC - 5.0 m

INFORM - Submerged Piles

OBJNAM - 23ft Subm Piles

VERACC - 0.25 m

Office Notes

Concur in part. Due to the scale of the chart, to eliminate congestion, chart a pile symbol and the notation Subm piles. Defer to MCD for charting disposition of the pier.

Feature Images

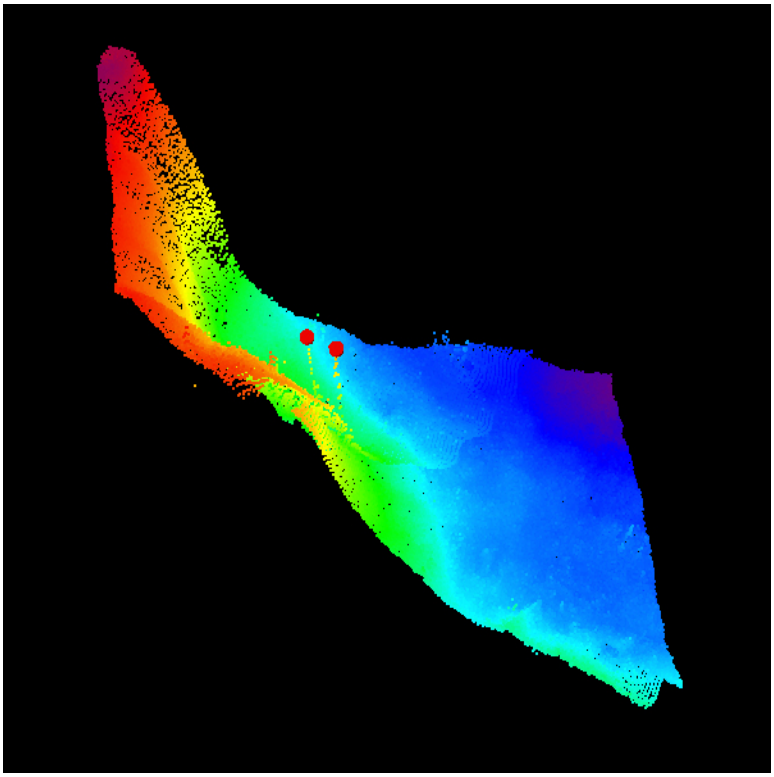


Figure 1.11.1

1.12) Area3 29-ft Obstn 291/4

DANGER TO NAVIGATION

Survey Summary

Survey Position: 039° 14' 26.542" N, 76° 33' 53.953" W

Least Depth: 9.03 m

Timestamp: 2005-194.13:39:25.463 (07/13/2005)

Survey Line: s_e906_bh / bh_s5501_reson8125 / 2005-194 / 891_1339

Profile/Beam: 291/4

Charts Affected: 12281_1, 12278_1, 12273_1, 12280_1, 13003_1

Remarks:

Bathy data indicates a Obstn (pipe). Only Reson bathy line. needs additional data for confirmation with Side Scan.

Feature Correlation

Address	Feature	Range	Azimuth	Status
s_e906_bh/bh_s5501_reson8125/2005-194/891_1339	291/4	0.00	000.0	Primary

Hydrographer Recommendations

Chart 29-ft Obstn. Recommend additional field work for confirmation.

Cartographically-Rounded Depth (Affected Charts):

29ft (12281_1, 12278_1, 12273_1, 12280_1)

4 ¾fm (13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes:

HORACC - 5.0 m

INFORM - Submerged Obstruction

OBJNAM - 29ft Subm Obstn

QUASOU - 1:depth known

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

VALSOU - 9.029 m

VERACC - 0.25 m

VERDAT - 12:Mean lower low water

Office Notes

Concur. Chart a dangerous 29-ft Obstn. Defer to MCD for charting disposition of the shoreline in the area.

Feature Images

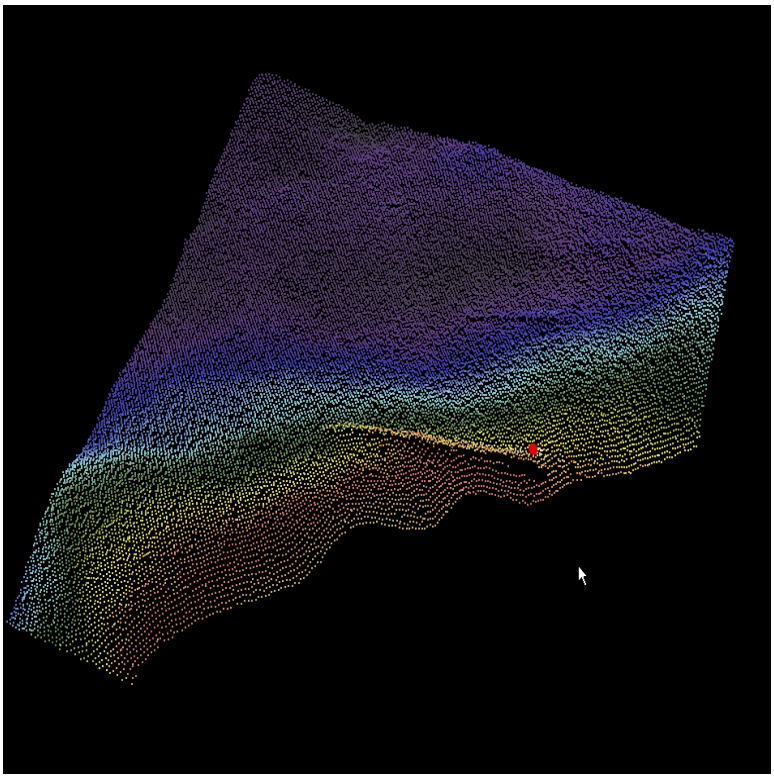


Figure 1.12.1

1.13) Area1 25-ft Obstn 372/143

DANGER TO NAVIGATION

Survey Summary

Survey Position: 039° 16' 23.699" N, 76° 35' 20.417" W

Least Depth: 7.71 m

Timestamp: 2005-208.16:53:25.193 (07/27/2005)

Survey Line: s_e906_bh / bh_s5501_reson8125 / 2005-208 / 801_1652

Profile/Beam: 372/143

Charts Affected: 12281_1, 12278_1, 12273_1, 12280_1, 13003_1

Remarks:

Sig Obstn; the subm pile overrides status of the portion of the obstn directly below on the seafloor. The subm pile appears to be located directly above the round feature on the seafloor. LD= 25.2-ft (7.71m). Appears to be a pile that lies at an angle inclined upward from the seafloor.

Feature Correlation

Address	Feature	Range	Azimuth	Status
s_e906_bh/bh_s5501_reson8125/2005-208/801_1652	372/143	0.00	000.0	Primary
s_e906_bh/bh_s5501_klein5000_sss100/2005-144/002_1250	0001	3.73	328.5	Secondary
s_e906_bh/bh_s5501_reson8125/2005-145/800_1247	0002	32.26	358.3	Secondary
s_e906_bh/bh_s5501_reson8125/2005-145/800_1247	0001	32.77	002.7	Secondary

Hydrographer Recommendations

Chart 25-ft Subm Obstn.

Cartographically-Rounded Depth (Affected Charts):

25ft (12281_1, 12278_1, 12273_1, 12280_1)

4 ¼fm (13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: HORACC - 5.0 m

INFORM - Submerged Obstruction

OBJNAM - 25ft Obstn

QUASOU - 1:depth known

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

VALSOU - 7.709 m

VERACC - 0.25 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Concur. Chart a dangerous 25-ft Obstn.

Feature Images

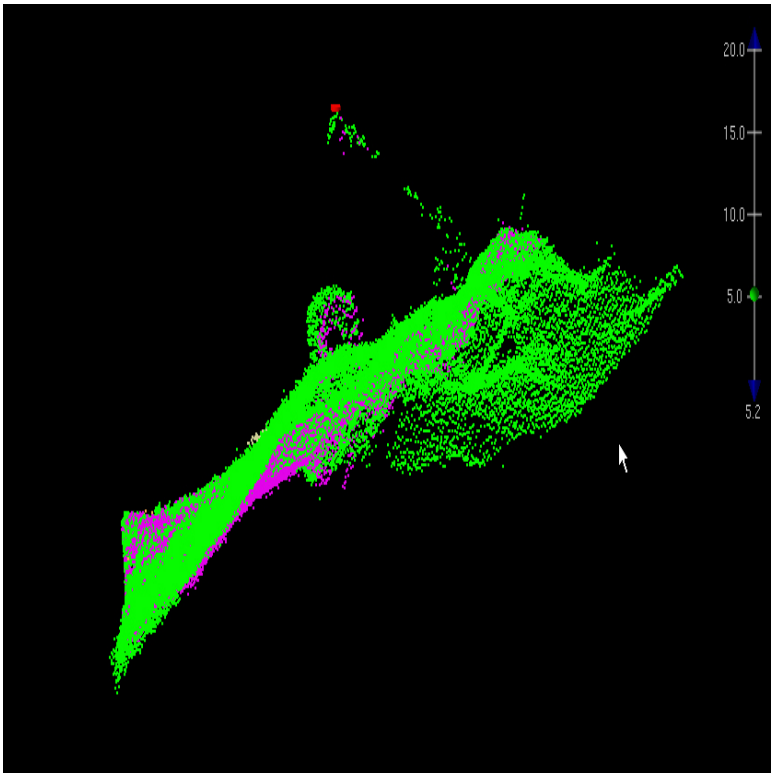


Figure 1.13.1

1.14) Area7 21-ft Subm Pile 4/195

DANGER TO NAVIGATION

Survey Summary

Survey Position: 039° 16' 58.836" N, 76° 36' 18.846" W

Least Depth: 6.58 m

Timestamp: 2005-202.16:22:47.763 (07/21/2005)

Survey Line: s_e906_bh / bh_s5501_reson8125 / 2005-202 / 826_1622

Profile/Beam: 4/195

Charts Affected: 12281_1, 12278_1, 12273_1, 12280_1, 13003_1

Remarks:

Office processing highlighted a Subm Pile 21-ft LD (6.58m).

Feature Correlation

Address	Feature	Range	Azimuth	Status
s_e906_bh/bh_s5501_reson8125/2005-202/826_1622	4/195	0.00	000.0	Primary

Hydrographer Recommendations

Chart 21-ft Subm Pile.

Cartographically-Rounded Depth (Affected Charts):

21ft (12281_1, 12278_1, 12273_1, 12280_1)

3 ½fm (13003_1)

S-57 Data

Geo object 1: Pile (PILPNT)

Attributes: CATPLE - 3:post

CONDTN - 2:ruined

CONVIS - 2:not visual conspicuous

HORACC - 5.0 m

INFORM - Submerged Pile

OBJNAM - 21ft Subm Pile

VERACC - 0.25 m

Office Notes

Do not concur. Do not chart due to chart scale. Another obstruction is in the immediate are. See DtoN 1.8.

Feature Images

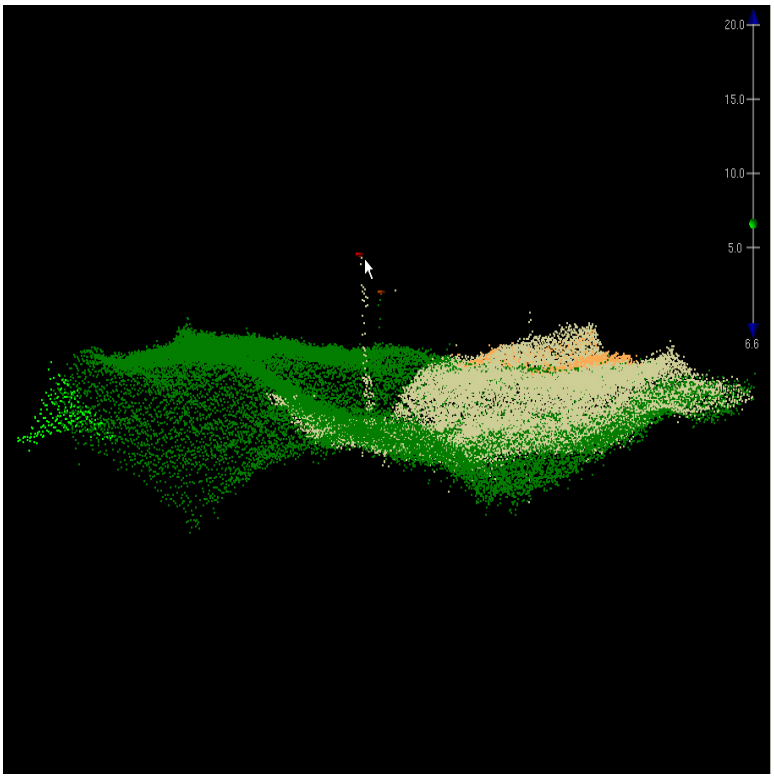


Figure 1.14.1

1.15) Area7 Subm Pile 15-ft 1467/122

DANGER TO NAVIGATION

Survey Summary

Survey Position: 039° 16' 47.750" N, 76° 36' 14.302" W

Least Depth: 4.64 m

Timestamp: 2005-193.13:29:19.091 (07/12/2005)

Survey Line: s_e906_bh / bh_s5501_reson8125 / 2005-193 / 802_1320

Profile/Beam: 1467/122

Charts Affected: 12281_1, 12278_1, 12273_1, 12280_1, 13003_1

Remarks:

Office processing highlighted Subm Pile LD=4.639m (15.22-ft); most seaward offshore Subm Pile.

Feature Correlation

Address	Feature	Range	Azimuth	Status
s_e906_bh/bh_s5501_reson8125/2005-193/802_1320	1467/122	0.00	000.0	Primary
s_e906_bh/bh_s5501_klein5000_sss200/2005-203/200_1741	0002	5.12	009.6	Secondary

Hydrographer Recommendations

Chart 15-ft Subm Pile.

Cartographically-Rounded Depth (Affected Charts):

15ft (12281_1, 12278_1, 12273_1, 12280_1)

2 ½fm (13003_1)

S-57 Data

Geo object 1: Pile (PILPNT)

Attributes: CATPLE - 3:post

CONDTN - 2:ruined

CONVIS - 2:not visual conspicuous

HORACC - 5.0 m

INFORM - Submerged Pile

OBJNAM - 15ft Subm Pile

VERACC - 0.25 m

Office Notes

Do not concur. Do not chart due to chart scale. See DtoN 1.2 for charting recommendation.

Feature Images

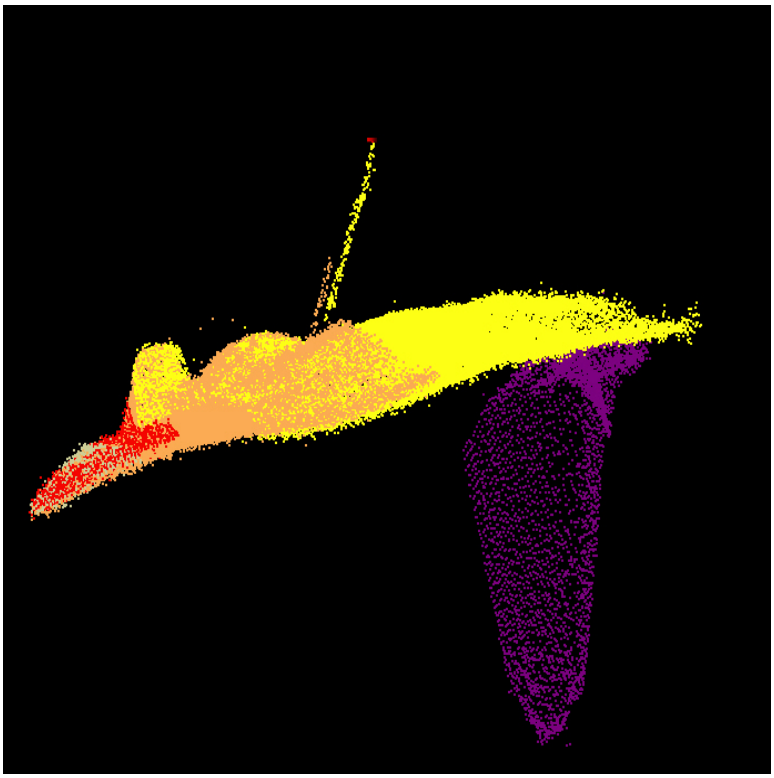


Figure 1.15.1

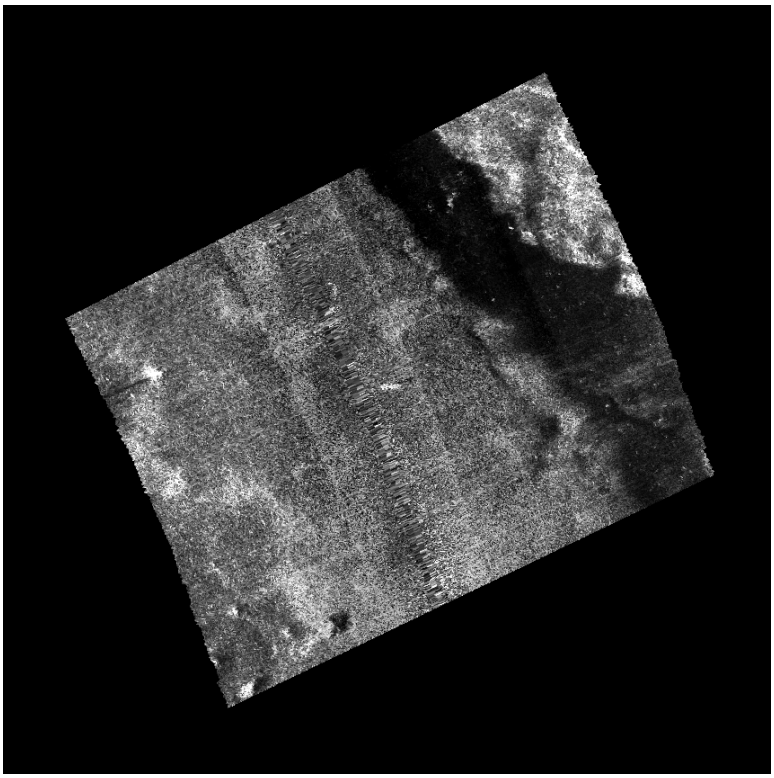


Figure 1.15.2