F00605

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:	F00605

LOCALITY

State:	Maryland
General Locality:	Central Chesapeake Bay
Sub-locality:	LNG Terminal at Cove Point

2012

CHIEF OF PARTY
LT Megan Guberski

LIBRARY & ARCHIVES

Date:

NOAA FORM 77-28 (11-72)	U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION	REGISTRY NUMBER:
HYDROGRAPHIC TITLE SHEET		**F00605**

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:	**Maryland**
General Locality:	**Central Chesapeake Bay**
Sub-Locality:	**LNG Terminal at Cove Point**
Scale:	**20000**
Dates of Survey:	**04/04/2012 to 04/09/2012**
Instructions Dated:	**03/01/2012**
Project Number:	**S-E913-BH2-12**
Field Unit:	**NOAA R/V *Bay Hydro II***
Chief of Party:	**LT Megan Guberski**
Soundings by:	**Multibeam Echo Sounder**
Imagery by:	
Verification by:	**Pacific Hydrographic Branch**
Soundings Acquired in:	**meters at Mean Lower Low Water**
H-Cell Compilation Units:	***meters at Mean Lower Low Water***

Remarks:

Horizontal Coordinate System: UTM Zone 18. The purpose of this survey is to provide contemporary survey to update National Ocean Service (NOS) charts. All separates are filed with the hydrographic data. Revisions and notes in red were generated during office processing. The processing branch concurs with all information and recommendations in the DR unless otherwise noted. Page numbering may be interrupted or non sequential. All pertinent records for this survey, including the Descriptive Report, are archived at the National Geophysical Data Center (NGDC) and can be retrieved via http://www.ngdc.noaa.gov/.

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Descriptive Report to Accompany Survey F00605

Project: S-E913-BH2-12

Locality: Central Chesapeake Bay

Sublocality: LNG Terminal at Cove Point

Scale: 1:20000

April 2012 - April 2012

NOAA R/V *Bay Hydro II*

Chief of Party: LT Megan Guberski

A. Area Surveyed

The entirety of this survey was located within the Cove Point Liquefied Natural Gas (LNG) Terminal's 500 yard security zone. The western limit of the survey butted against the LNG platform, and extended 480 meters eastward. The north and south extents of the survey extended 550 meters past the platform in both directions. Total square nautical miles covered was 0.313 nautical miles. (See Figure 1)

A.1 Survey Limits

Data was acquired within the following survey limits:

Northeast Limit	Southwest Limit
38.4099583333 N 76.3908046389 W	38.3985829444 N 76.373958 W

Table 1: Survey Limits

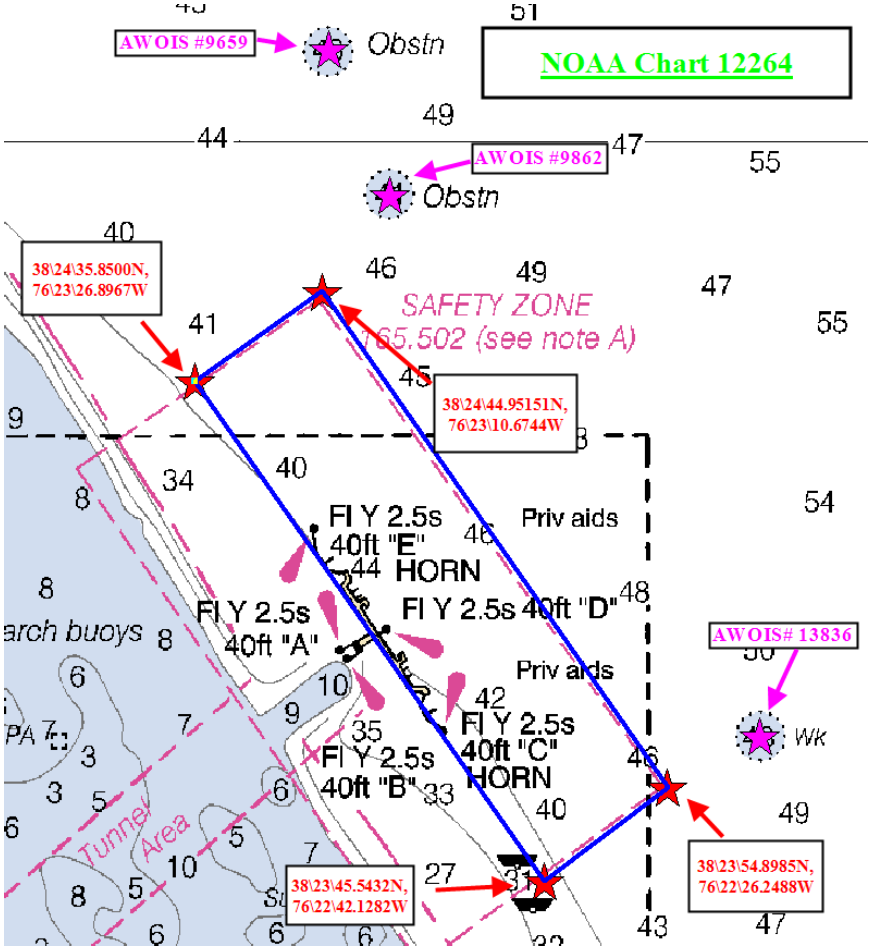

Figure 1: Survey Area

In Table 1, the longitudes for the NE and SW survey limits are reversed.

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

A.2 Survey Purpose

Captain Joe Smith, from the Maryland Pilots Association, requested a current survey of the Cove Point LNG Terminal to update soundings on the local nautical charts.

A.3 Survey Quality

The entire survey is adequate to supersede previous data.

A.4 Survey Coverage

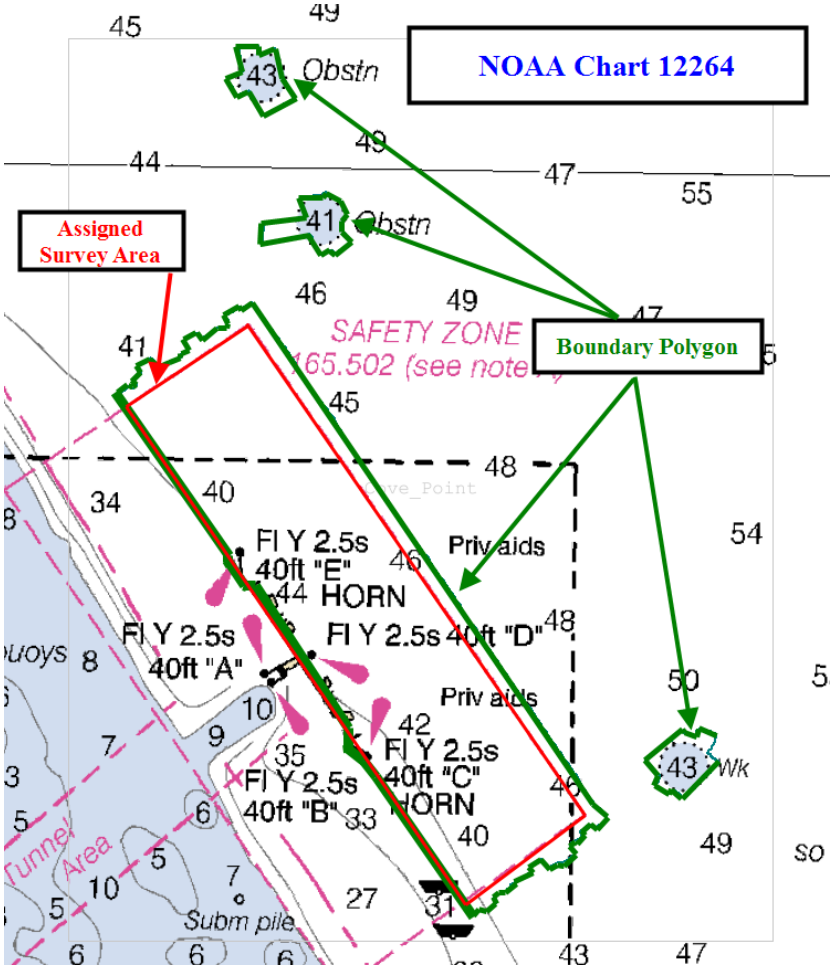

Figure 2: F00605 Boundary Polygon

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

A.5 Survey Statistics

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

	HULL ID	*Total*
LNM	**SBES Mainscheme**	0.0
	MBES Mainscheme	29.70
	Lidar Mainscheme	0.0
	SSS Mainscheme	0.0
	SBES/MBES Combo Mainscheme	0.0
	SBES/SSS Combo Mainscheme	0.0
	MBES/SSS Combo Mainscheme	0.0
	SBES/MBES Combo Crosslines	0.0
	Lidar Crosslines	0.0
Number of Bottom Samples		0
Number of DPs		13
Number of Items Items Investigated by Dive Ops		0
Total Number of SNM		0.3129

Table 2: Hydrographic Survey Statistics

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

Survey Dates
04/04/2012
04/09/2012

Table 3: Dates of Hydrography

Survey F00605 was assigned as a Multibeam Echosounder (MBES) survey only, no other forms of echosounder were used.

A.6 Shoreline

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

A.7 Bottom Samples

Bottom Samples were acquired in accordance with the Project Instructions or the HSSD.

No bottom samples were taken or required for this project.

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	***S5401***
LOA	17.3 meters
Draft	1.8 meters

Table 4: Vessels Used

The R/V BAY HYDRO II collected all MBES data, Sound Velocity Data and Attitude data for this survey.

B.1.2 Equipment

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

Manufacturer	Model	Type
RESON	Seabat 7125 Shallow Water MBES	MBES
ODOM	Digi-Bar Pro	Sound Speed System
Applanix	PosMV V4	Vessel Attitude System
Sea-Bird	SBE 19+	Sound Speed System
Applanix	PosMV V4	Positioning System

Table 5: Major Systems Used

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

B.2 Quality Control

B.2.1 Crosslines

No crosslines were collected for this survey.

B.2.2 Uncertainty

Hull ID	Measured - CTD	Measured - MVP	Surface
S5401	4meters/second	0.0meters/second	0.2meters/second

Table 6: Survey Specific Sound Speed TPU Values

Survey F00605 used a Tidal Constituent and Residual Interpolator (TCARI) grid to apply tidal correctors. TCARI automatically calculates the error associated with water level interpolation, which is then included in the Total Propagated Error for the survey. For this reason, no Tide Uncertainties were calculated. For a full discussion of uncertainties due to water levels, see the Water Level Instruction report, section 1.3.3, located in Appendix I.

Uncertainties due to Sound Speed were set by the field unit, in accordance with the NOAA Field Procedures Manual (2012 ed), Appendix 4, table 4.9. Little to no surface sound speed gradient was present during acquisition, therefore the Surface portion of Sound Speed Uncertainty was set to 0.2m.

B.2.3 Junctions

There are no contemporary surveys that junction with this survey.

B.2.4 Sonar QC Checks

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

B.2.5 Equipment Effectiveness

B.2.5.1None Exist

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

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: Surface sound speed was collected in real time, and integrated into the RESON 7125 bathymetric data. SVP casts were acquired at approximately four hour intervals.

Sound speed values were applied to the data in CARIS HIPS, using the Nearest In Distance within Time option. The Time parameter used was four hours. There were no comparisons made between the real-time speed of sound at the surface and the data recorded by the CTD. However, no SVP issues were observed in the MBES data, and the SVP casts acquired for this survey satisfactorily represent sound speed for the main water mass within the survey area.

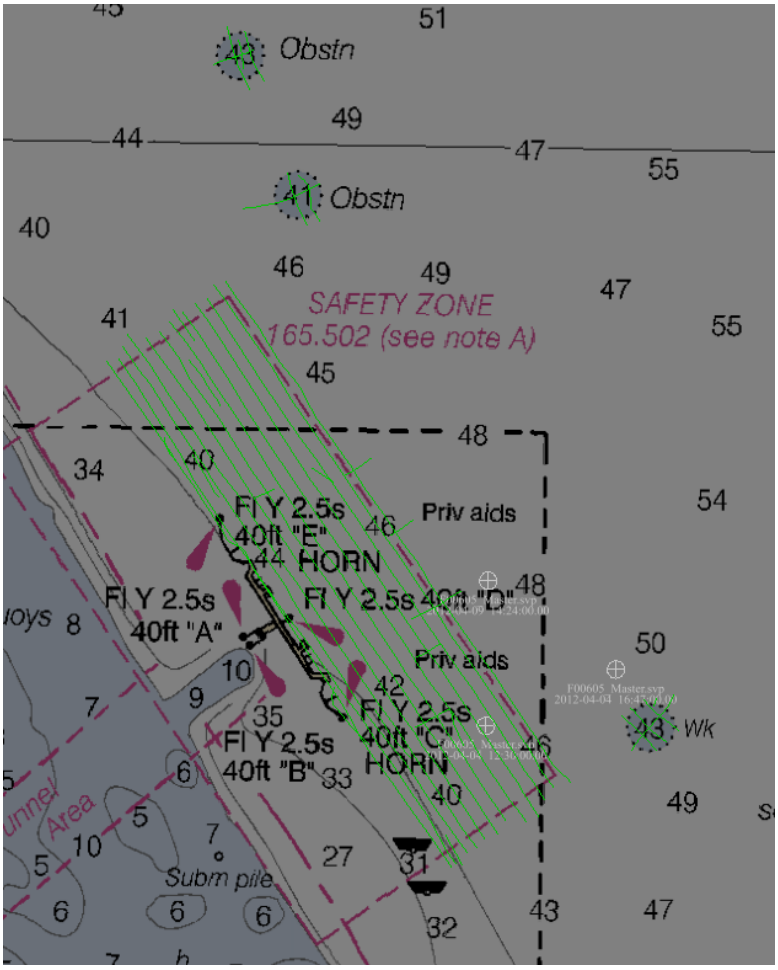

Figure 3: SVP Positions

B.2.8 Coverage Equipment and Methods

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

B.3 Echo Sounding Corrections

B.3.1 Corrections to Echo Soundings

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

B.3.2 Calibrations

All sounding systems were calibrated as detailed in the DAPR.

B.4 Backscatter

Backscatter was 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 Extended Attributes, V5.2

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

B.5.2 Surfaces

The following CARIS surfaces were submitted to the Processing Branch:

Surface Name	Surface Type	Resolution	Depth Range	Surface Parameter	Purpose
F00605_50cm_A_Final	CUBE	0.5 meters	9.82 meters - 16.91 meters	NOAA_0.5m	Complete MBES

Table 7: CARIS Surfaces

As per the Project Instructions, Survey F00605 complies with Object Detection MBES coverage specifications. A single, 0.5m resolution surface was created per section 5.2.2.1 of NOAA's HSSD Manual (2012ed). Density was reviewed using a Python script that analyzed the Density child layer of the CUBE surface. The analysis indicated that 99.615% of the nodes meet Object Detection density requirements, and the average sounding count per node was 25.349 (See Figures 4 and 5).

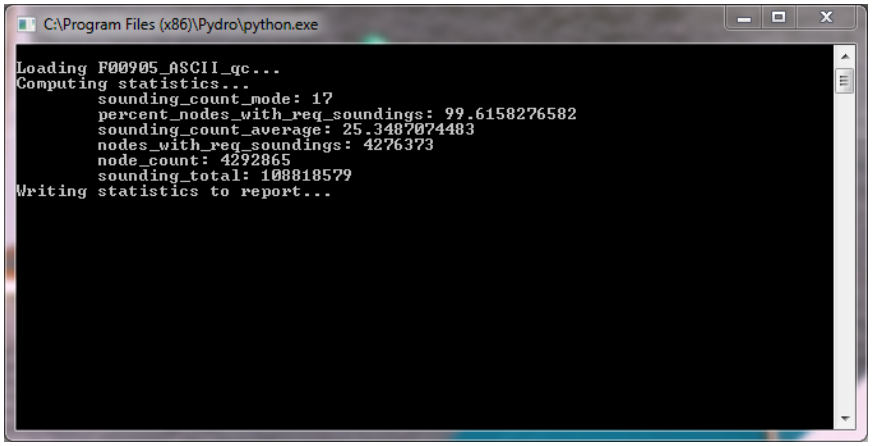

Figure 4: Python Density Script Analysis

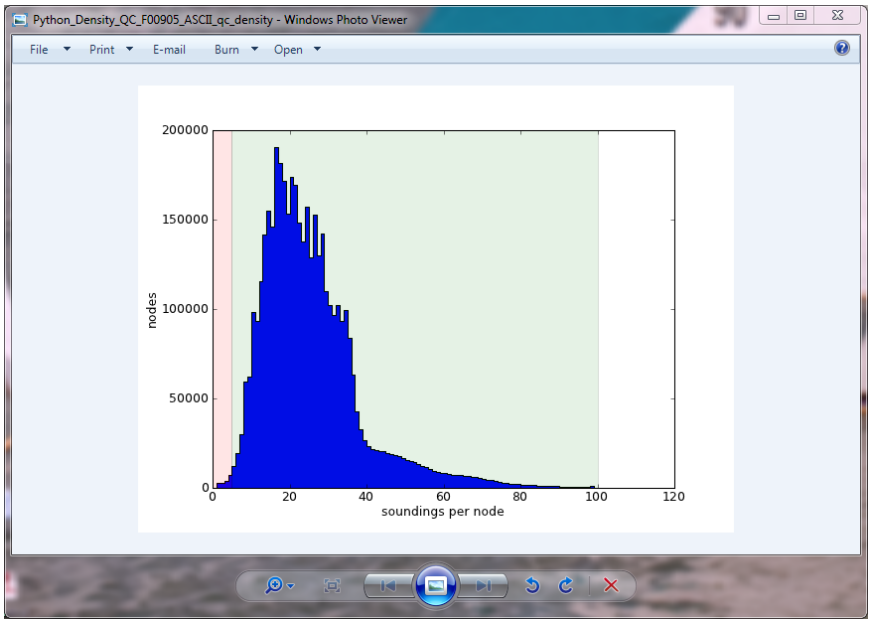

Figure 5: Python Density Script Histogram

In Figure 5, the Python Density Script Histogram window title should read F00605.

C. Vertical and Horizontal Control

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

C.1 Vertical Control

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

Standard Vertical Control Methods Used:

TCARI

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

Station Name	Station ID
Solomons Island	8577330

Table 8: NWLON Tide Stations

File Name	Status
857330.tid	Final Approved

Table 9: Water Level Files (.tid)

File Name	Status
E913BH22012.tc	Final

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

A request for final approved tides was sent to N/OPS1 on 04/09/2012. The final tide note was received on 04/21/2012.

The approved TCARI grid was applied to all MBES data using verified tidal correctors.

The Tide Note is appended to this report.

C.2 Horizontal Control

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

The following DGPS Stations were used for horizontal control:

DGPS Stations
Annapolis, MD (301kHz)

Table 11: 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	LNM Date	NM Date
12264	1:40000	30	07/2007	05/22/2012	05/26/2012

Table 12: Largest Scale Raster Charts

12264

During a comparison between survey F00605 and chart 12264 depths, it was found that sounding from both sources are in good agreement (between 0 and 2 feet). Additionally, the charted position of the contour line is also in good agreement; except along the south face of the platform (See Figure 6: F00605 Contour Shift). This shift in the contour starts at the face of the platform at 38/24/5.240304N, -76/22/57.19528W and extends south to 38/23/59.75524N, -76/22/50.033928W and 85.6 meters seaward of the platform.

During the course of this survey, it was observed that the charted position of the LNG platform is incorrect (See the Platform section of this Descriptive Report (DR) for a complete report.

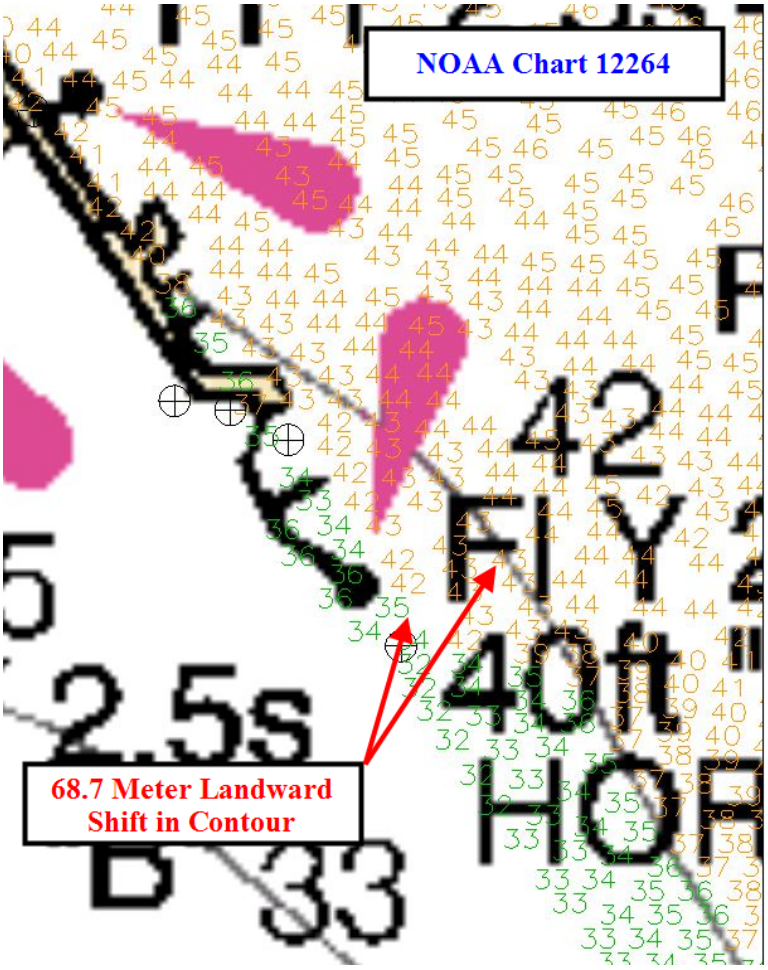

Figure 6: F00605 Contour Shift

D.1.2 Electronic Navigational Charts

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

ENC	Scale	Edition	Update Application Date	Issue Date	Preliminary?
US5MD21M	1:40000	17	05/26/2012	05/22/2012	NO

Table 13: Largest Scale ENCs

US5MD21M

During a comparison between survey F00605 and ENC US5MD21M depths, it was found that sounding from both sources are in good agreement (between 0 and 2 feet). In regards to the LNG platform, there is good correlation in its charted position between raster chart 12264 and ENC US5MD21M, however there is

a discrepancy between the platform's charted position and its physical position (See the Platform section of this DR for a complete report).

The updated position for the platform is included in the chart update product.

D.1.3 AWOIS Items

Number of AWOIS Items Addressed: 3
Number of AWOIS Items Not Addressed: 0

All AWOIS items were assigned for full investigation with a 50 meter search radius, and were investigated using the Reson 7125 shallow water multibeam system. AWOIS item 9659, a 43 foot obstruction was found at its currently charted position with a least depth of 43.16 feet. AWOIS item 9862, a 41 foot obstruction, was found 15.7 m (51.5 feet) northwest of its currently charted position with a least depth of 42.91 feet. AWOIS item, 13836, a 43 foot wreck was also found at its currently charted position with a least depth of 42.91 feet. For a full descripton of AWOIS items, see F00605_Feature_File.000.

The AWOIS Report is appended to this report. The correct least depths for AWOIS #9659 is 45.08 feet. The correct least depth for AWOIS #13836 is 44.7 feet. All AWOIS items are included in the chart update product.

D.1.4 Charted Features

No charted features labled PA, ED, PD, OR Rep exist for this survey.

D.1.5 Uncharted Features

No uncharted features exist for this survey.

D.1.6 Dangers to Navigation

No Danger to Navigation Reports were submitted for this survey.

D.1.7 Shoal and Hazardous Features

No shoals or potentially hazardous features exist for this survey.

D.1.8 Channels

No channels, designated anchorages, precautionary areas, safety fairways, traffic separation schemes, pilot boarding areas, or channel and range lines are within the survey limits.

D.2 Additional Results

D.2.1 Shoreline

Shoreline was not assigned in the Hydrographic Survey Project Instructions or Statement of Work.

D.2.2 Prior Surveys

No prior survey comparisons exist for this survey.

D.2.3 Aids to Navigation

Two private AToNs were investigated during the course of this survey (See F00605_Feature_File.000). These two white "can" shaped aids had two vertical orange stripes, one near the top and the other near the bottom and had the markings "Restricted Area" (See Figure 7: Private AToNs). These AToNs have a yellow light affixed to the top and only illuminate at night; the light frequency was never determined. The northern AToN is located at position 38°24'24.508" , -076°22'42.882", and the southern AToN is located at position 38°23'49.580" , -076°22'22.232".

Figure 7: Private AToNs

Positions were also taken on private lights on the LNG terminal. Two LNG private lights with new positions are included in the chart update product.

D.2.4 Overhead Features

Overhead features do not exist for this survey.

D.2.5 Submarine Features

Submarine features do not exist for this survey.

D.2.6 Ferry Routes and Terminals

No ferry routes or terminals exist for this survey.

D.2.7 Platforms

The Cove Point Liquefied Natural Gas (LNG) terminal lies along the western edge of this survey. During MBES processing, the terminal was found to have a positional offset from the charted position (see Figure 8: F00605 Platform Charted Offset).

As a result, ten GPS positions were taken along the platform's upper surface using a Trimble GeoXH hand held GPS unit and then overlayed onto the latest RSD imagery. It was found that the RSD imagery and the positions collected from the survey are in good agreement. The only discrepancies are at the north and south extremes of the platform, where recent extensions have not been captured by updated RSD imagery. Figure 9 shows the Trimble positions; although the extreme north and extreme south positions appear to be over water, they actually show the 2012 extents of the platform.

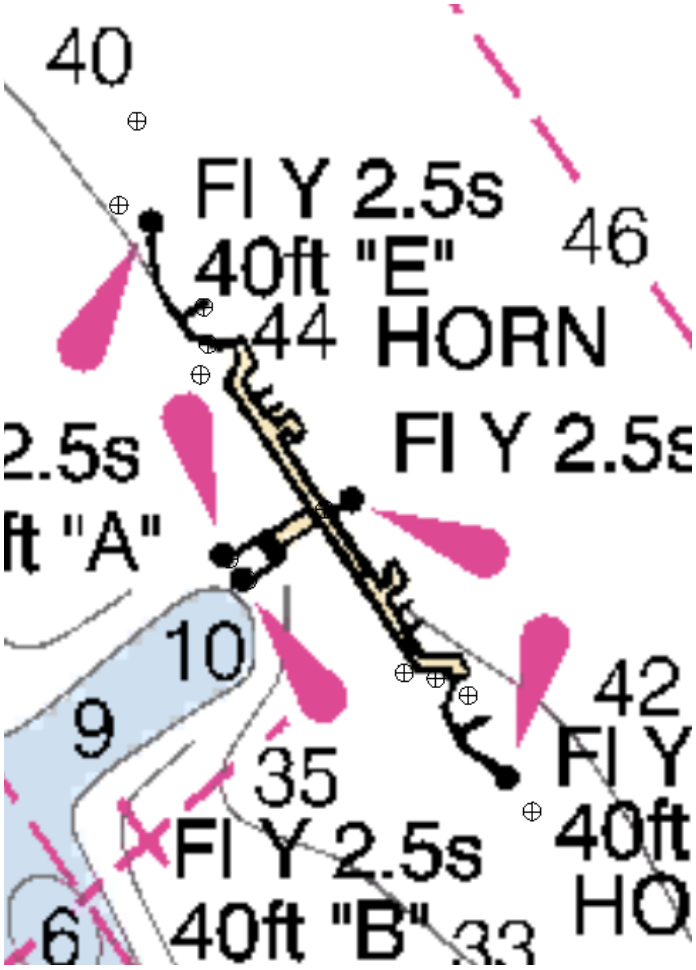

Figure 8: F00605 Platform Charted Offset

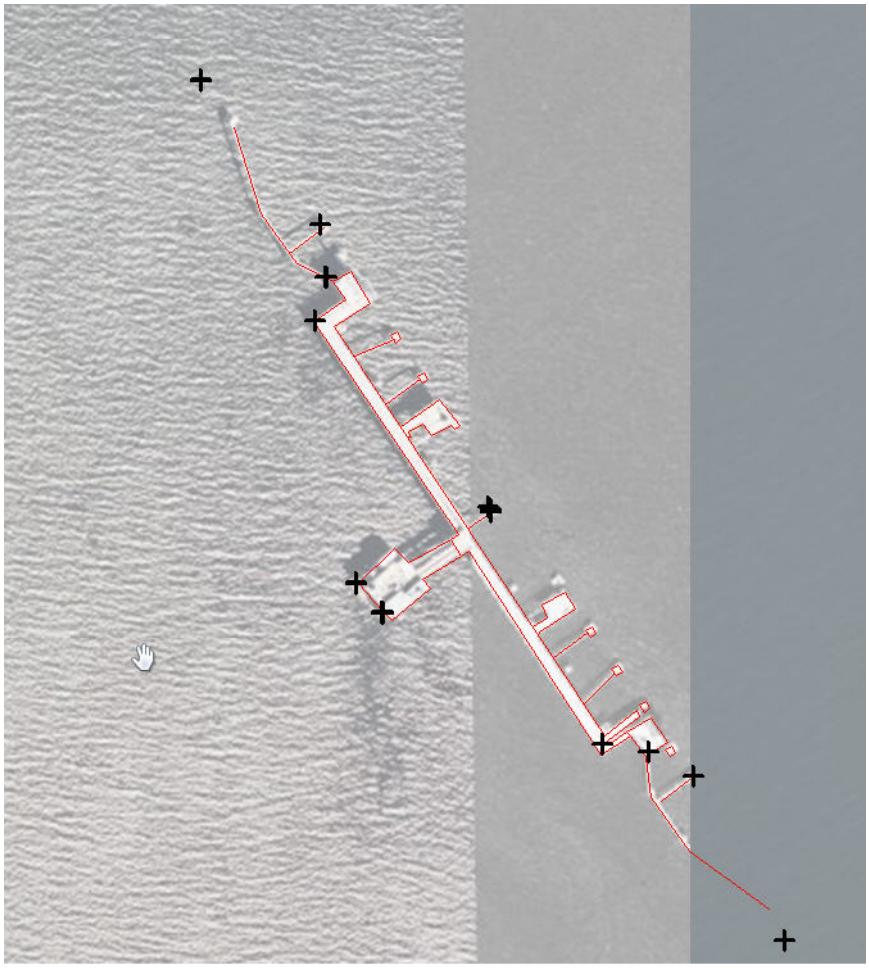

Figure 9: RSD to GeoXH Comparison

Eleven positions were taken on the platform, including 5 lights. The updated platform position is included in the chart update product.

D.2.8 Significant Features

No significant features exist for this survey.

D.2 Construction and Dredging

There is no present or planned construction or dredging within the survey limits.

E. Approval Sheet

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

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

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

Report Name	Report Date Sent
Data Acquisition and Processing Report	2012-06-07

Approver Name	Approver Title	Approval Date	Signature
Lt Megan Guberski	Chief of Party	06/12/2012	GUBERSKI.MEGAN.R.1283261189 Digitally signed by GUBERSKI.MEGAN.R.1283261189 DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=NOAA, cn=GUBERSKI.MEGAN.R.1283261189 Date: 2012.06.13 08:53:15 -04'00'
Robert Mowery	Sheet Manager	06/12/2012	Robert Mowery Digitally signed by Robert Mowery DN: cn=Robert Mowery, o=NOAA-NDS, ou=R/V BAY HYDRO II, email=robert.mowery@noaa.gov, c=US Date: 2012.06.13 08:55:39 -04'00'

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 Staiton
CTD	Conductivity Temperature Depth
CEF	Chart Evaluation File
CSF	Composite Source File
CST	Chief Survey Technician
CUBE	Combined Uncertainty and Bathymetry Estimator
DAPR	Data Acquisition and Processing Report
DGPS	Differential Global Positioning System
DP	Detached Position
DR	Descriptive Report
DTON	Danger to Navigation
ENC	Electronic Navigational Chart
ERS	Ellipsoidal Referenced Survey
ERZT	Ellipsoidally Referenced Zoned Tides
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 Porpagated Error
TPU	Topside Processing Unit
USACE	United States Army Corps of Engineers
USCG	United Stated Coast Guard
UTM	Universal Transverse Mercator
XO	Exectutive Officer
ZDA	Global Positiong System timing message
ZDF	Zone Definition File

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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE : April 21, 2012

HYDROGRAPHIC BRANCH: Atlantic
HYDROGRAPHIC PROJECT: S-E913-BH2-2012
HYDROGRAPHIC SHEET: F00605

LOCALITY: LNG Terminal at Cove Point, Chesapeake Bay, MD
TIME PERIOD: April 4 - April 9, 2012

TIDE STATION USED: 857-7330 Solomons Island, MD
Lat. 38° 19.0'N Long. 76° 27.1' W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 0.405 meters

REMARKS: RECOMMENDED GRID

Please use the TCARI grid "E913BH22012.tc" as the final grid for project S-E913-BH2-2012, F00605, during the time period between April 4 and April 9, 2012.

Refer to attachments for grid information.

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

HOVIS.GERALD.THOMAS.1365860250

Digitally signed by HOVIS.GERALD.THOMAS.1365860250
DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=OTHER, cn=HOVIS.GERALD.THOMAS.1365860250
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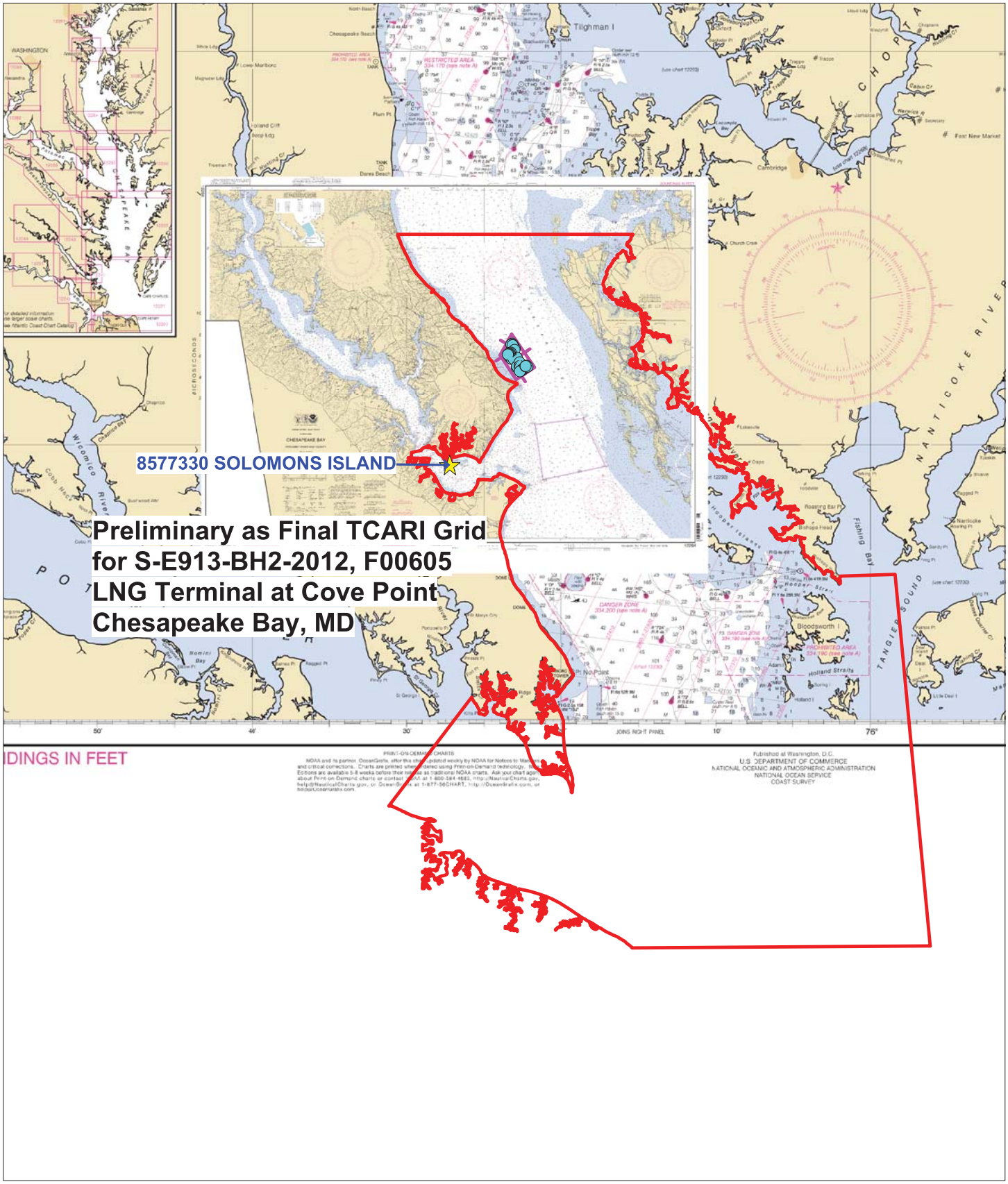
CHIEF, PRODUCTS AND SERVICES BRANCH


8577330 SOLOMONS ISLAND
Preliminary as Final TCARI Grid
for S-E913-BH2-2012, F00605
LNG Terminal at Cove Point
Chesapeake Bay, MD
Tilghman I
Cambridge
Bloodsworth I
Holland Strait
Fishing Bay
TANGIER SOUND
NANTICOKE RIVER
CHOPTA
Wicomico River
Nomini Bay
Pt No Point
CHESAPEAKE BAY
JOINS RIGHT PANEL
DANGER ZONE
PROHIBITED AREA
RESTRICTED AREA
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE
COAST SURVEY

Robert Mowery <robert.mowery@noaa.gov>

NOAA BAY HYDRO II platform access request

4 messages

Keith E Lavender <keith.e.lavender@dom.com> Thu, Apr 5, 2012 at 2:57 PM
To: "robert.mowery@noaa.gov" <robert.mowery@noaa.gov>

Mr. Mowery,

Anytime next week will work for us.

In order to speed the security process I will need the names, DOB and last 4 of SSN of the persons coming on site.

Let me know Sir which day works for you and we can go from there.

Thanks!

Keith E. Lavender

Dominion Cove Point LNG

Office 410-286-5106

Mobile 443-624-1463

From: Thomas B Dougherty (Services - 2)
Sent: Thursday, April 05, 2012 2:33 PM
To: Keith E Lavender (Energy - 2T)
Cc: Michael E Gardner (Energy - 2T); Earl R Cephas (Services - 2); John E Hassler (Services - 2); Kenneth M Curtis (Services - 2); Louis V Blancato (Services - 6); Thomas B Dougherty (Services - 2)
Subject: FW: NOAA BAY HYDRO II platform access request

Keith,

For your action, below is the request from NOAA HYDRO II asking for access to the platform that I was telling you about today.

Doc

From: Robert Mowery [mailto:robert.mowery@noaa.gov]
Sent: Thursday, April 05, 2012 12:43 PM
To: Thomas B Dougherty (Services - 2)
Subject: NOAA BAY HYDRO II platform access request

14485 Dowell Road

C/O Calvert Marina

Solomons, MD 20688

05 April 2012

Cove Point LNG, LP

2100 Cove Point Road

Lusby, MD 20657

To Whom It May Concern;

On 04 April 2012, the NOAA R/V BAY HYDRO II conducted hydrographic survey operations at the Cove Point LNG terminal. After processing the data, a 40 meter (130 feet) discrepancy was discovered between the physical position of the platform, and the charted position (please see attached graphic).

In order to correctly update chart 12264 for the Maryland Pilot's Association, we would like permission to take GPS fixes at 6 locations along the pier, noted as red stars on the graphic. Data collection should take about an hour to complete, and we can be as flexible as your schedule requires, however we would need to collect the data by 13-Apr-2012.

If you have any questions or concerns, please, do not hesitate to contact me by phone (240-338-3109) or by email (Robert.mowery@noaa.gov).

Thank you for your time;

Robert Mowery

Survey Technician

NOAA R/V BAY HYDRO II

Robert Mowery <robert.mowery@noaa.gov> Fri, Apr 6, 2012 at 8:51 AM
To: Keith E Lavender <keith.e.lavender@dom.com>

There will be three of us. Here is the information you requested. We were hoping we could do it on Monday 09 April 2012 at about 7:30/8:00 A.M.

Megan R. Guberski: 08/13/1980 xxx-xx-8555
Nicole M. Trenholm: 01/02.1986 xxx-xx-0510
Robert W Mowery 05/04/1972 xxx-xx5229
[Quoted text hidden]

Keith E Lavender <keith.e.lavender@dom.com> Fri, Apr 6, 2012 at 7:26 PM
To: "robert.mowery@noaa.gov" <robert.mowery@noaa.gov>

Mr Mowery

Monday will be just fine. Walk in to Security when you get there and they will get you checked in. I will be escorting you to the offshore platform.

I will be looking for you around 730 / 800.

Keith E Lavender

From: Robert Mowery [mailto:robert.mowery@noaa.gov]
Sent: Friday, April 06, 2012 08:51 AM
To: Keith E Lavender (Energy - 2T)
Subject: Re: NOAA BAY HYDRO II platform access request

[Quoted text hidden]

Robert Mowery <robert.mowery@noaa.gov> Sat, Apr 7, 2012 at 7:26 AM
To: Megan Guberski <megan.guberski@noaa.gov>, Nicole Trenholm <Nicole.Trenholm@noaa.gov>

---------- Forwarded message ----------
From: **Keith E Lavender** <keith.e.lavender@dom.com>
Date: Fri, Apr 6, 2012 at 7:26 PM
Subject: Re: NOAA BAY HYDRO II platform access request
[Quoted text hidden]

Robert Mowery <robert.mowery@noaa.gov>

NOAA Survey of Cove Point Dock

2 messages

Kenneth M Curtis <kenneth.m.curtis@dom.com> Thu, Mar 29, 2012 at 2:08 PM
To: "robert.mowery@noaa.gov" <robert.mowery@noaa.gov>
Cc: Louis V Blancato <louis.v.blancato@dom.com>, Kevin R Lohr <kevin.r.lohr@dom.com>, Earl R Cephas <earl.r.cephas@dom.com>, John E Hassler <john.e.hassler@dom.com>, Thomas B Dougherty <thomas.b.dougherty@dom.com>

Mr. Mowery,

In reference to our earlier conversation, you and your crew have been cleared to enter the Dominion Cove Point 500 yd Safety/Security Zone. Prior to deployment, please provide Dominion Security advance notification (24 hours) via e-mail or telephone and include the following information:

1) Name and Call Sign of Vessel
2) Names of all crewmembers
3) Estimated time of Arrival at the Security Zone Perimeter
4) Estimated duration of operations within the Security Zone

Prior to entering the safety/security zone, the service vessel Captain shall contact Security on VHF Ch#16, then move to assigned working channel, to request permission to enter and provide the following information

1) Name & Call Sign
2) Confirmation that all previously provided information regarding crewmembers remains the same when the operation was scheduled

Note:

1) Persons or vessels who have not been authorized by Dominion Security to enter the Security Zone will be Denied Access.
2) VHF Channel #13 shall be monitored
3) A “working” channel will be identified once communications are established.

Should you have further questions, please contact me. Thanks.

Kenny Curtis

Security Specialist/FSO

Dominion

Cove Point LNG, LP

2100 Cove Point Rd

Lusby MD 20657

410-286-5130

Kenneth.M.Curtis@Dom.Com

Robert Mowery <robert.mowery@noaa.gov> Thu, Mar 29, 2012 at 2:39 PM
To: Megan Guberski <megan.guberski@noaa.gov>, Todd Haupt <todd.a.haupt@noaa.gov>

Authorization email from Cove Point Security
[Quoted text hidden]

F00605 AWOIS Report

Registry Number: F00605
State: Maryland
Locality: Chesapeake Bay
Sub-locality: LNG Terminal at Cove Point, MD
Project Number: S-E913-BH2-12
Survey Dates: 3 April 2012 - 9 April 2012

Charts Affected

Number	Edition	Date	Scale (RNC)	RNC Correction(s)*
12264	30th	07/01/2007	1:40,000 (12264_1)	USCG LNM: 1/24/2012 (3/20/2012) NGA NTM: 12/27/2003 (3/31/2012)
12263	55th	04/01/2007	1:80,000 (12263_1)	[L]NTM: ?
12280	8th	03/01/2008	1:200,000 (12280_1)	[L]NTM: ?
13003	49th	04/01/2007	1:1,200,000 (13003_1)	[L]NTM: ?

* Correction(s) - *source: last correction applied (last correction reviewed--"cleared date")*

Features

Feature Type	Survey Depth	Survey Latitude	Survey Longitude
Obstruction	13.08 m	38° 24' 55.2" N	076° 23' 02.0" W
Wreck	13.63 m	38° 24' 00.2" N	076° 22' 14.4" W
Obstruction	13.74 m	38° 25' 09.3" N	076° 23' 09.6" W

1 - DR_AWOIS

1.1) AWOIS # 9862

Primary Feature for AWOIS Item #9862

Search Position:	38° 24' 54.7" N, 076° 23' 01.7" W
Historical Depth:	12.50 m
Search Radius:	50
Search Technique:	S2, ES, MB
Technique Notes:	[None]

History Notes:

HISTORY

FE424SS/96-- S-E902-AHP (CT-BOAT); UNCHARTED OBSTRUCTION WAS LOCATED BUT NOT DISCUSSED BY THE FIELD UNIT. LOCATED IN LAT. 33-24-54.74N, LONG. 76-23-01.69W WITH AN ECHO SOUNDER DEPTH OF 43 FEET (13.1 METERS); EVALUATOR RECOMMENDS CHARTING A 43 OBSTN AS SURVEYED. (ENT 1/22/96, SJV)

H11088--S-E906-BH-01; Obstruction was located in current charted position with 200% SSS and developed with SWMB to provide a least depth of 41 ft. Recommended to delete 43 Obstn w/ danger curve and chart 41 Obstn w/ danger curve at 38° 24' 54.75" / 76° 23' 01.70" (PTT 9/29/06).

Survey Summary

Survey Position:	38° 24' 55.2" N, 076° 23' 02.0" W
Least Depth:	13.08 m (= 42.91 ft = 7.152 fm = 7 fm 0.91 ft)
TPU (±1.96σ):	**THU (TPEh)** ±1.963 m ; **TVU (TPEv)** ±0.243 m
Timestamp:	2012-095.16:14:03.154 (04/04/2012)
Survey Line:	f00605 / bhii_s5401_reson7125_2012 / 2012-095 / 019_1613
Profile/Beam:	412/230
Charts Affected:	12264_1, 12263_1, 12280_1, 13003_1

Remarks:

This contact, AWOIS item number 9862 was assigned for full investigation with a 50 meter search radius. The contact was located using a Reson 7125 at 38°24'55.195" , -076°23'01.973", and was found to have a least depth of 42.91ft (13.08 meters)in surrounding 46.33feet (14.12meters)of water.

Hydrographer Recommendations

Update height and position of the obstruction.

Cartographically-Rounded Depth (Affected Charts):

43ft (12264_1, 12263_1, 12280_1)

7fm (13003_1)

S-57 Data

Geo object 1:	Obstruction (OBSTRN)
Attributes:	EXPSOU - 2:shoaler than range of depth of the surrounding depth area
	QUASOU - 6:least depth known
	SORDAT - 2012,04,09
	SORIND - US,US,graph,F00605
	STATUS - 1:permanent
	TECSOU - 3:found by multi-beam
	VALSOU - 13.079 m
	WATLEV - 3:always under water/submerged

Office Notes

Office Note: Concur.

Feature Images

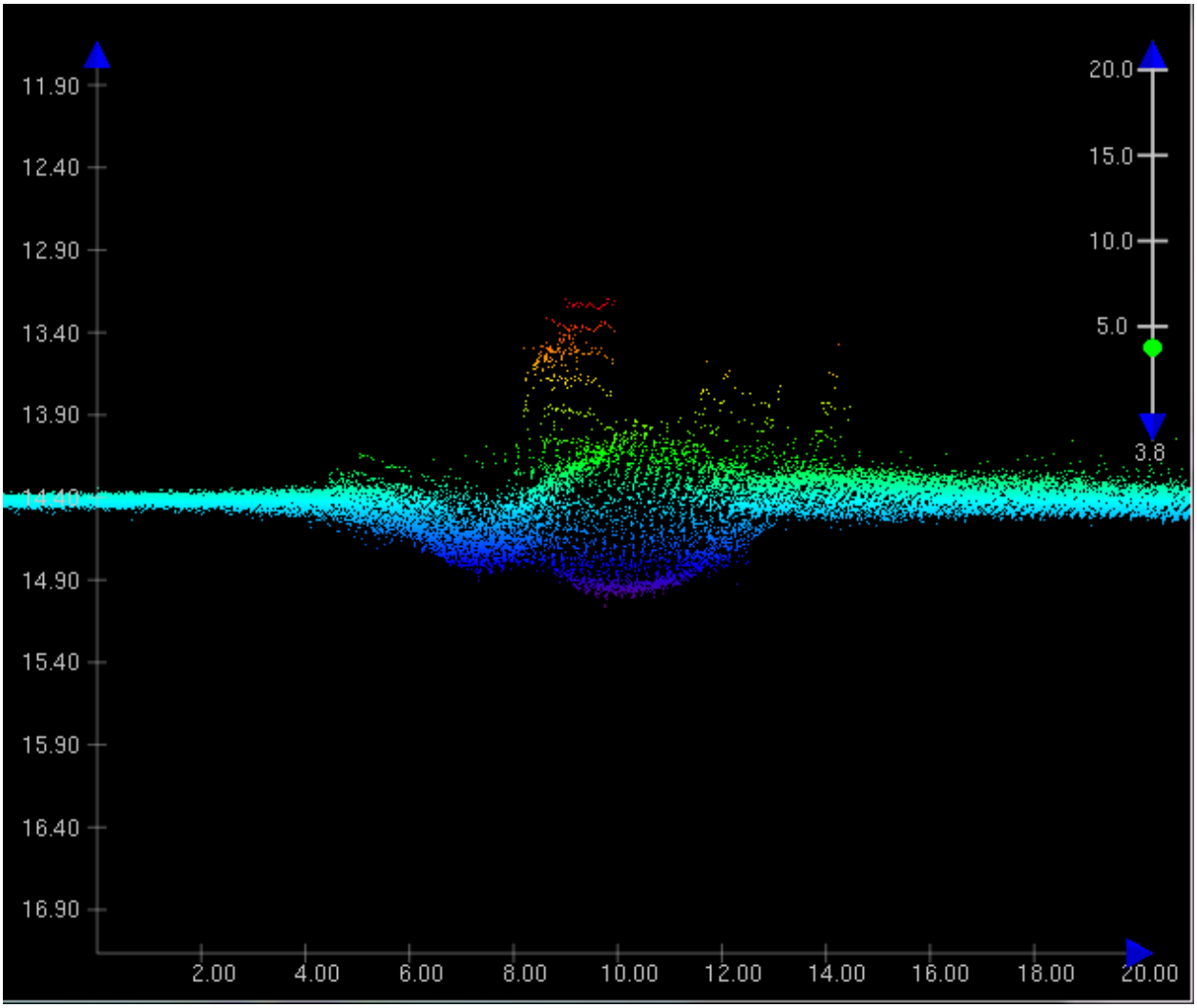


Figure 1.1.1

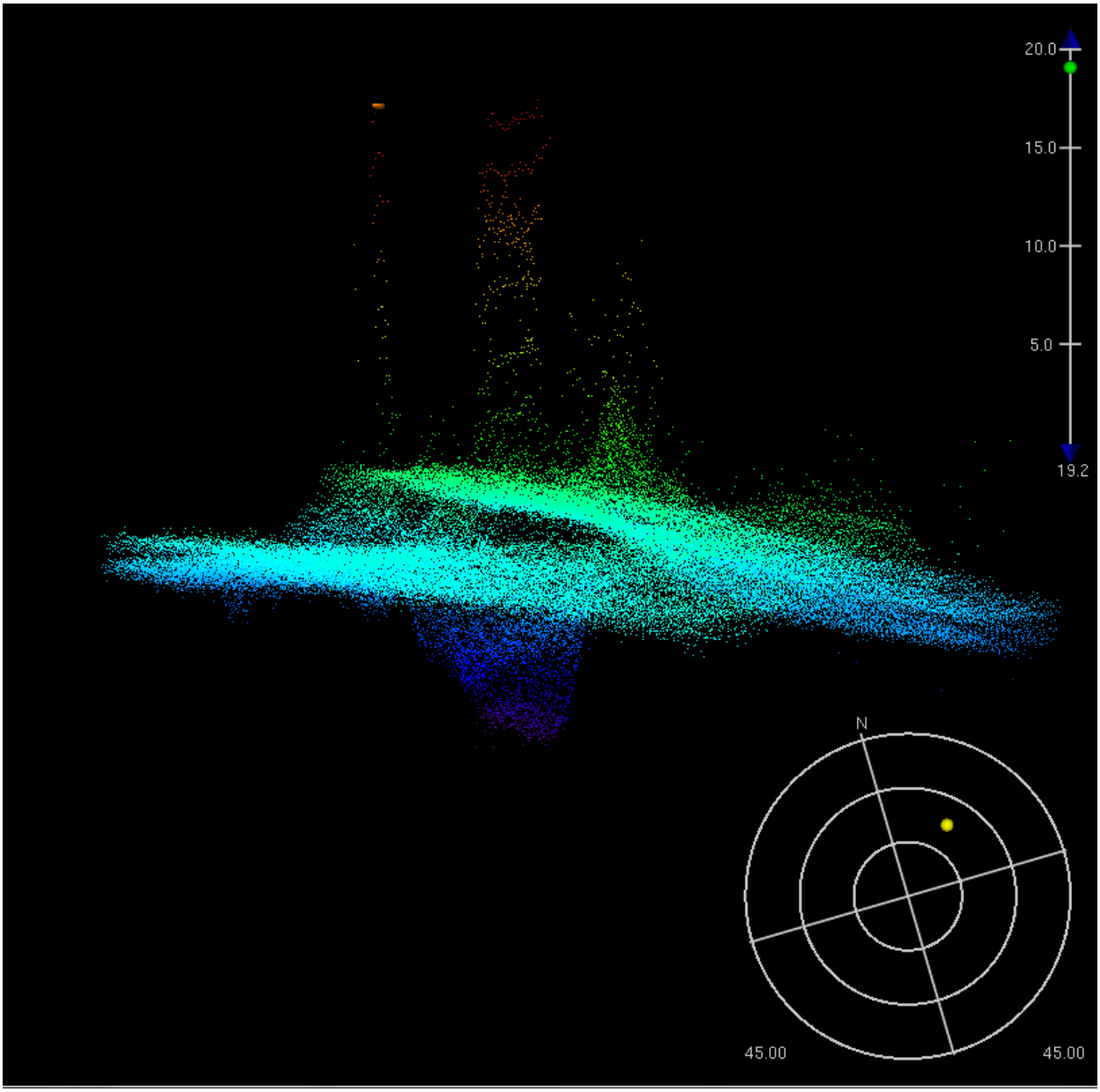


Figure 1.1.2

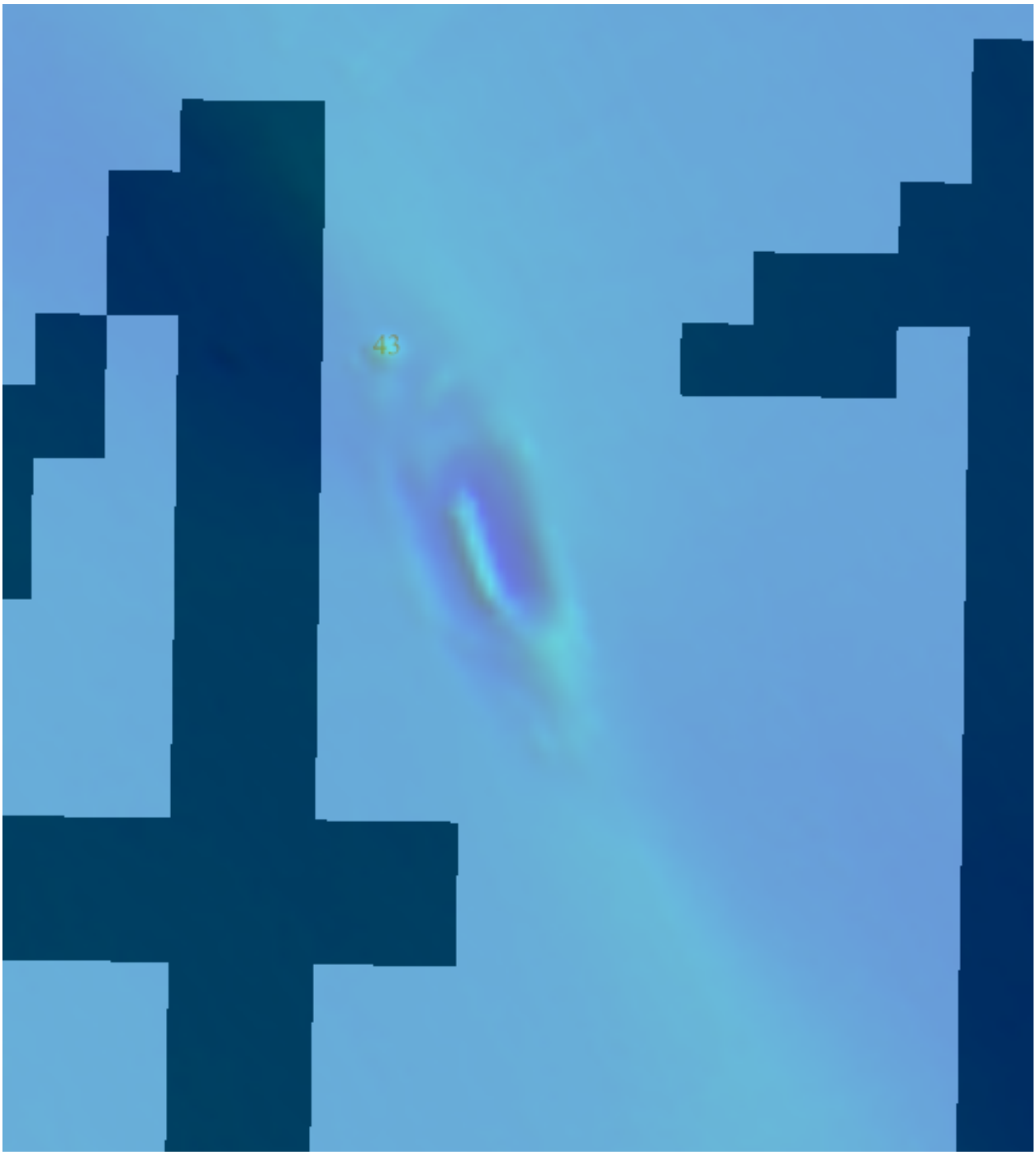


Figure 1.1.3

1.2) AWOIS # 13836

Primary Feature for AWOIS Item #13836

Search Position:	38° 24' 00.1" N, 076° 22' 14.4" W
Historical Depth:	13.11 m
Search Radius:	50
Search Technique:	S2, ES, MB
Technique Notes:	[None]

History Notes:

H11088--S-E-906-BH-01; Contacts 2002-010/412-1516, 2003-008/412-1749 and 2001-332/047-1504 were

identified as a wreck during 200% SSS operations. A least depth of 13.05 m (42.81 ft), corrected with

verified tides, was determined by SWMB. This item was submitted as DTON #1.3 for this survey. Item shown on chart 12264, 29th., Ed., Jan./05. No change in charting. (PTT 9/29/06).

Survey Summary

Survey Position:	38° 24' 00.2" N, 076° 22' 14.4" W
Least Depth:	13.63 m (= 44.70 ft = 7.450 fm = 7 fm 2.70 ft)
TPU (±1.96σ):	**THU (TPEh)** ±1.960 m ; **TVU (TPEv)** ±0.236 m
Timestamp:	2012-095.15:33:53.896 (04/04/2012)
Survey Line:	f00605 / bhii_s5401_reson7125_2012 / 2012-095 / 113_1533
Profile/Beam:	680/99
Charts Affected:	12264_1, 12263_1, 12280_1, 13003_1

Remarks:

This contact, AWOIS item number 13836 was assigned for full investigation with a 50 meter search radius. The contact was located using a Reson 7125 at 38°24'00.177", -076°22'14.430" and was found to have a least depth of 44.70 (13.63 meters) in surrounding 48.08feet (14.65meters).

Hydrographer Recommendations

Update height and postion of the wreck.

Cartographically-Rounded Depth (Affected Charts):

44ft (12264_1, 12263_1, 12280_1)

7 ½fm (13003_1)

S-57 Data

Geo object 1: Wreck (WRECKS)

Attributes:

CATWRK - 1:non-dangerous wreck

CONRAD - 2:not radar conspicuous

CONVIS - 2:not visual conspicuous

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

QUASOU - 6:least depth known

SORDAT - 2012,04,09

SORIND - US,US,graph,F00605

STATUS - 1:permanent

VALSOU - 13.625 m

WATLEV - 3:always under water/submerged

Office Notes

Office Note: Concur.

Feature Images

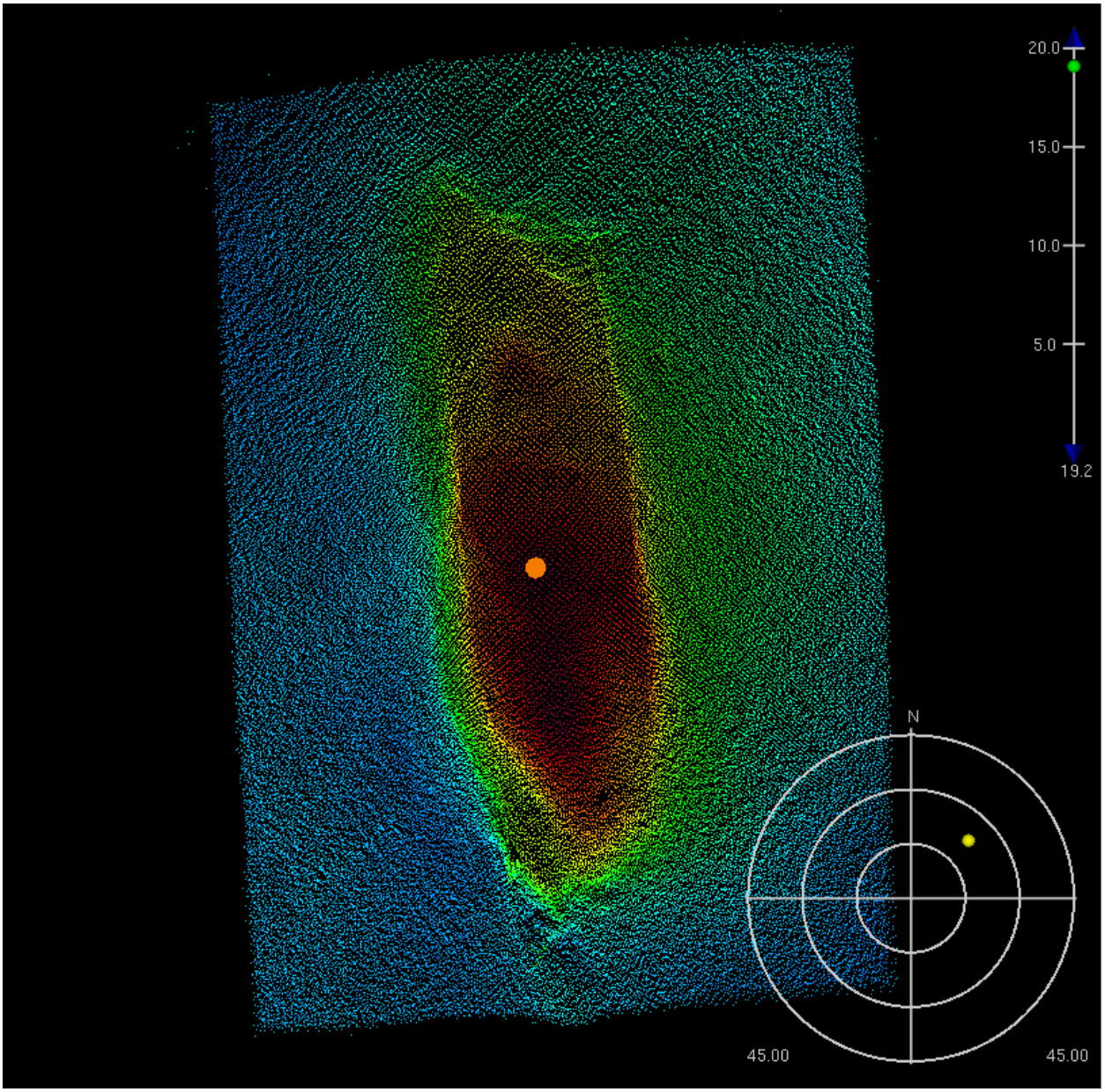


Figure 1.2.1

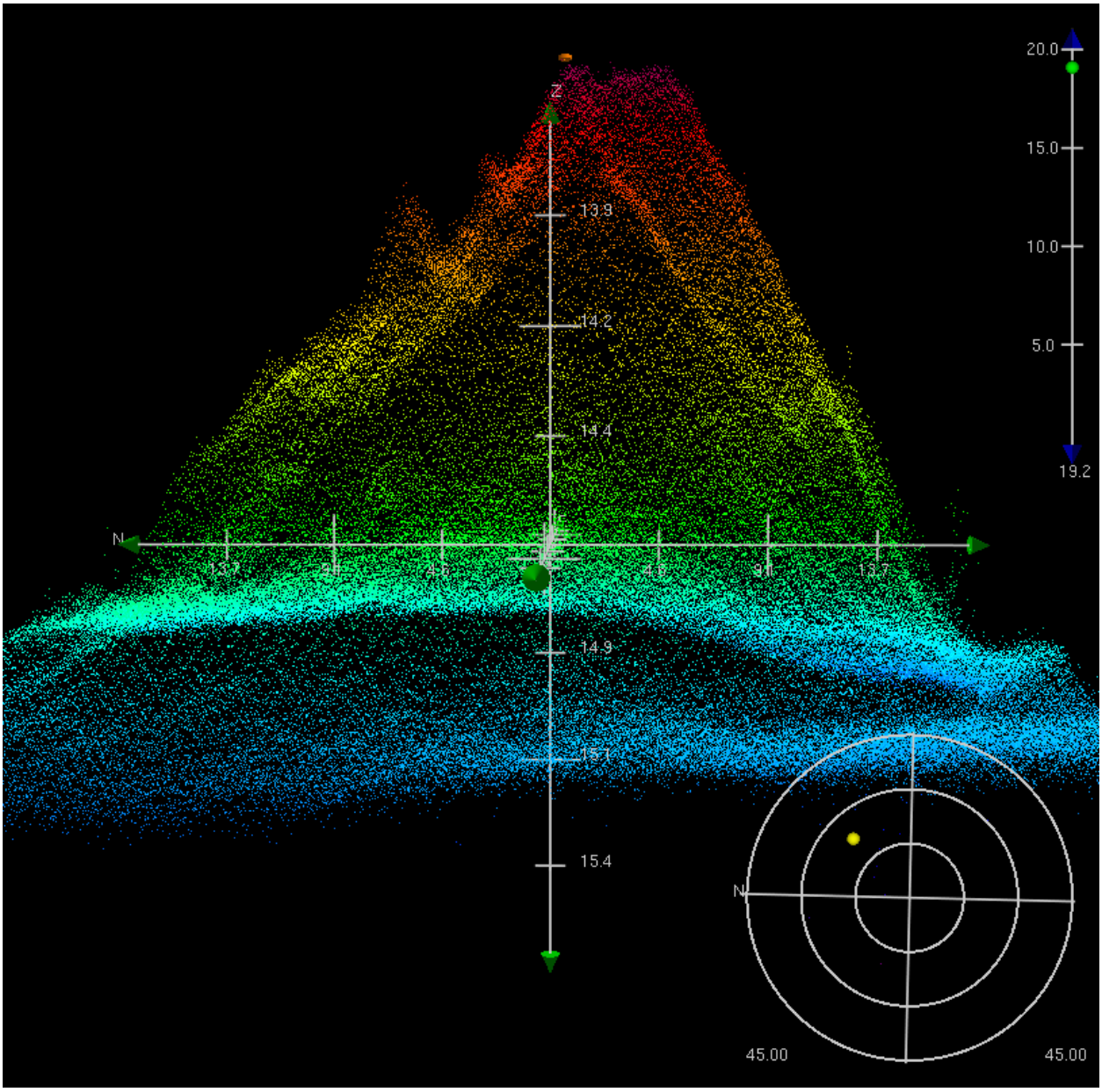


Figure 1.2.2

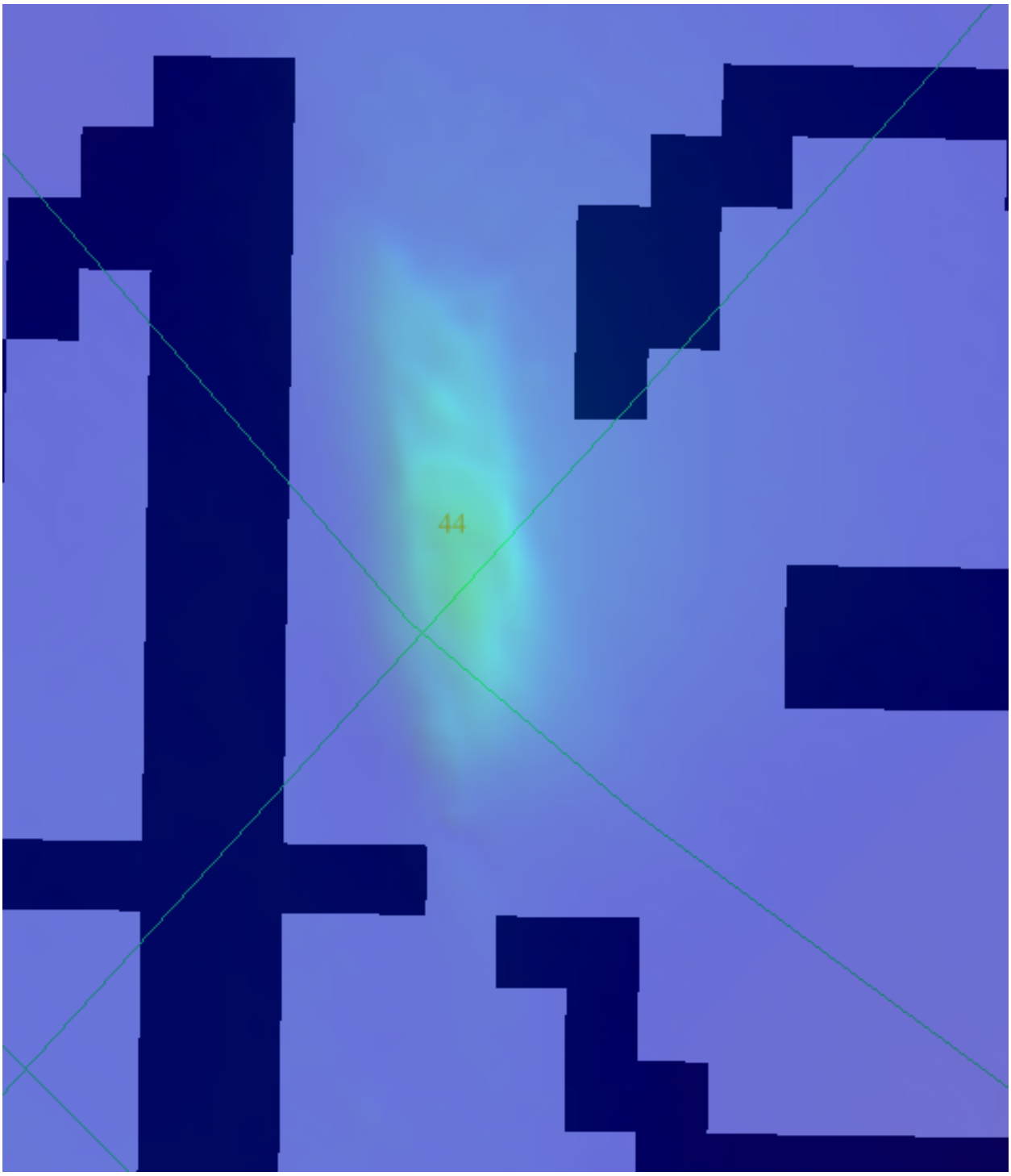


Figure 1.2.3

1.3) AWOIS # 9659

Primary Feature for AWOIS Item #9659

Search Position:	38° 25' 09.2" N, 076° 23' 09.8" W
Historical Depth:	13.11 m
Search Radius:	50
Search Technique:	MB, ES, S2
Technique Notes:	[None]

History Notes:

F00424/96-- S-E902-AHP; THE PRECAST BRIDGE SECTIONS AS DESCRIBED WERE FOUND 601 METERS WEST NORTH WEST OF THE USACE POSITION. ECHO SOUNDER INVESTIGATION OBTAINED A 27.9-FOOT (8.5 METER) LD IN LAT. 38-25-08.9N, LONG. 76-23-10.0W.

BP160208/96-- USACE; CONDITION SURVEY.43.1-FOOT DEPTH LOCATED IN LAT. 38-25-08.6N, LONG. 76-23-10.0W. NOTE: THIS SURVEY WAS CONDUCTED SUBSEQUENT TO REMOVAL OPERATIONS PERFORMED BY THE MCLEAN CONTRACTING CORPORATION, 6700 MCCLEAN WAY, BLEN BURNIE, MD 21060-6480; POC FRANK ZELECHOWSKI. REMOVAL OPS WERE SCHEDULED NO LATER THAN THE WEEK OF 11/11/96. MATERIAL REMOVED (CONCRETE BRIDGE SEGMENTS) TO BE TRANSPORTED AND OFF LOADED AT THE POINT-NO-POINT ARTIFICIAL REEF SITE. (UP 11/1/01, SJV)

H11088--S-E906-BH-01; Obstruction was identified with 200% SSS and developed with SWMB to confirm a least depth of 43 ft. Delete 43 Obstn w/ Danger curve and add 43 Obstn w/ danger curve at 38° 25' 09.25" / 76° 23' 09.76". (PTT 9/29/06).

DESCRIPTION

**** MEMO FROM COE (JEFFREY MCKEE, BALT. DIST. TO NOS) DATED

1/30/96; REQUESTS HYDRO. AND SIDE SCAN SONAR SURVEYS OF

CHARTED SUNKEN WRECK, CHARTED OBSTRUCTION CLOSE

NORTHEAST, AND AREA WHERE CONCRETE BRIDGE SECTIONS WERE

LOST. CONCRETE SECTIONS WERE LOCATED BY COE VESSEL

"LINTHICUM" ON 4/28/93 IN LAT. 38-25.09N, LONG.

76-22.73W IN 48 FEET WITH A LD OF 30 FEET (SURVEY

METHODS AND EQUIPMENT NOT DOCUMENTED IN THIS MEMO).

THIS LOCATION WAS REPORTED TO THE COAST GUARD ON

4/29/93 ACCORDING TO THIS MEMO.

BNM-0205-93 REPORTED THAT 14 PIECES OF CONCRETE

ROADBED WERE LOST OVERBOARD IN APPROX. POSITION

LAT. 38-25.5N, LONG. 76-23.4W IN APPROX. 47 FEET OF

WATER. DESCRIBED AS 40FT X 18FT X 9FT. MARINERS SHOULD

PROCEED WITH EXTREME CAUTION WHEN TRANSITING THIS AREA.

OWNER, RECCHI AMERICA INC., 1820 N. DUPONT HWY,

MIDDLETON, DE 19709. AGENT, CAPT. JOHN CHRISTIANSEN,

CHRISTIANSEN MARINE, 804-722-6000. (ENT 2/9/96, SJV)

Survey Summary

Survey Position:	38° 25' 09.3" N, 076° 23' 09.6" W
Least Depth:	13.74 m (= 45.08 ft = 7.513 fm = 7 fm 3.08 ft)
TPU (±1.96σ):	**THU (TPEh)** ±1.960 m ; **TVU (TPEv)** ±0.237 m
Timestamp:	2012-095.16:08:41.608 (04/04/2012)
Survey Line:	f00605 / bhii_s5401_reson7125_2012 / 2012-095 / 020_1608
Profile/Beam:	590/90
Charts Affected:	12264_1, 12263_1, 12280_1, 13003_1

Remarks:

This contact, AWOIS item number 9659 was assigned for full investigation with a 50 meter search radius. The contact was located using a Reson 7125 at 38°25'09.290" , -076°23'09.547", and was found to have a least depth of 45.08ft (13.74 meters)in surrounding 47.63feet (14.63meters).

Hydrographer Recommendations

Update height and position of the obstruction.

Cartographically-Rounded Depth (Affected Charts):

45ft (12264_1, 12263_1, 12280_1)

7 ½fm (13003_1)

S-57 Data

Geo object 1:	Obstruction (OBSTRN)
Attributes:	QUASOU - 6:least depth known
	SORDAT - 2012,04,09
	SORIND - US,US,graph,F00605
	TECSOU - 3:found by multi-beam
	VALSOU - 13.739 m
	WATLEV - 3:always under water/submerged

Office Notes

Office Note: Concur.

APPROVAL PAGE

F00605

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

- F00605_DR.pdf
- Collection of depth varied resolution BAGS
- Processed survey data and records
- F00605_GeoImage.pdf

The survey evaluation and verification has been conducted according current OCS Specifications.

Approved: Digitally signed by Peter Holmberg
DN: cn=Peter Holmberg, o, ou=signing for Kurt Brown, email=kurt.brown@noaa.gov, c=US
Date: 2013.01.16 12:09:20 -08'00'

Pete Holmberg
Cartographic Team Lead, Pacific Hydrographic Branch

The survey has been approved for dissemination and usage of updating NOAA's suite of nautical charts.

Approved: David J Zezula CDR/NOAA David Zezula 2013.01.16 12:21:34 -08'00'

CDR David Zezula, NOAA
Chief, Pacific Hydrographic Branch