

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey

Field No.

Registry No.

LOCALITY

State

General Locality

Sublocality

CHIEF OF PARTY

LIBRARY & ARCHIVES

DATE

NOAA FORM 77-28
(11-72)

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

REGISTRY No

HYDROGRAPHIC TITLE SHEET

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 No.

State _____

General Locality _____

Sub-Locality _____

Scale _____ **Date of Survey** _____

Instructions dated _____ **Project No.** _____

Vessel _____

Chief of party _____

Surveyed by _____

Soundings by echo sounder, hand lead, pole _____

Graphic record scaled by _____

Graphic record checked by _____ **Automated Plot** _____

Verification by _____

Soundings in fathoms feet at MLW MLLW _____

REMARKS: _____

Descriptive Report to Accompany Hydrographic Survey H11788

Project OPR-E350-NRT7-08
Southern Chesapeake Bay
Approach to York River
Scale 1:10,000
January – February, 2008
NRT7 (s3004)
Chief of Party: LTJG Briana Welton, NOAA

A. AREA SURVEYED

This hydrographic survey was completed as specified by Hydrographic Survey Project Instructions OPR-E350-NRT7-08 dated December 7, 2008 and all other applicable direction¹, with the exception of deviations noted in this report. The survey area is the approach to the York River in the Southern Chesapeake Bay. This survey corresponds to sheet “C” in the sheet layout provided with the Project Instructions. Project OPR-E350-NRT7-08 responds to a request from the VA Pilots Association to obtain contemporary bathymetry in the Chesapeake Bay. The York River is home to a United States Coast Guard training center and a Navy supply center. Commercial traffic is primarily fuel barges.

Object detection coverage was obtained in the survey area in waters four meters and deeper using 200% side scan (SSS) with vertical beam echosounder (VBES). Data acquisition was conducted from January 9 to February 15, 2008. The survey area of H11788 was decreased to allow NRT7 to complete the survey by March 1, 2008.

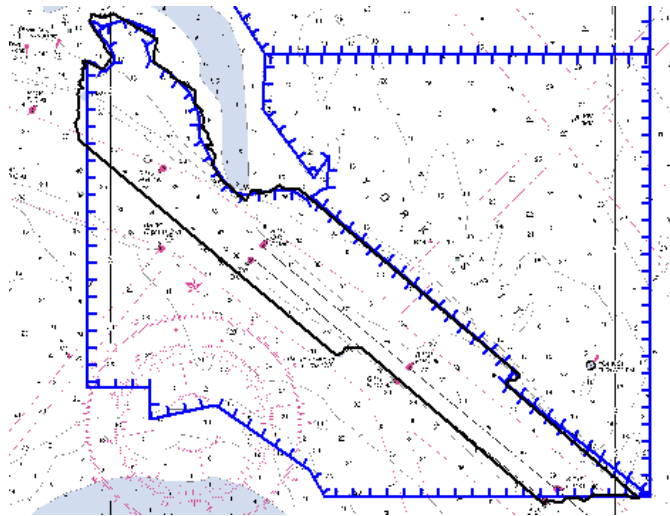


Figure 1. H11788 Survey Limits (Chart 12238).

¹ NOS Hydrographic Surveys Specifications and Deliverables (April 2007), OCS Field Procedures Manual for Hydrographic Surveying (March 2007), and all Hydrographic Surveys Technical Directives issued through the dates of data acquisition.

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

A complete description of data acquisition and processing systems, survey vessels, quality control procedures and data processing methods can be found in the *OPR-E350-NRT7-08 Data Acquisition and Processing Report (DAPR)**, submitted under separate cover. Items specific to this survey, and any deviations from the DAPR are discussed in the following sections.

Final Approved Water Levels have been applied to this survey. See Section C. for additional information.

B1. Equipment and Vessels

Data for this survey were acquired by s3004 and no unusual vessel configurations were used for data acquisition.

B2. Quality Control**Crosslines**

Vertical Beam Echo Sounder (VBES) crosslines including buffer lines totaled 6.96 nautical miles, comprising 5.7% of mainscheme hydrography. Crossline and Main Scheme bathymetry were manually compared in CARIS HIPS Subset Mode. Crosslines generally agreed within ten centimeters of mainscheme hydrography.

Junctions *See also the Evaluation Report.*

Survey H11788 was planned to junction with survey H11294 assigned to NOAA Ship RUDE in 2007. However, the areas of each survey were modified for various operational reasons and no longer junction with one another. *Concur*

Data Quality Factors

The starboard POS-MV antenna stopped working on January 24, 2008. The starboard antenna was replaced and a GAMS (GPS-Azimuthal Measurement System) calibration was performed on February 8, 2008. The results of the updated antenna separation are contained in the Hydrographic Systems Readiness Review documentation submitted under separate cover.

B3. Data Reduction

Data reduction procedures for survey H11788 conform to those detailed in the OPR-E350-NRT7-08 DAPR. *

**Data filed with original field records.*

B4. Data Representation

One field sheet was used in the processing H11788. The VBES data is submitted as a 5-meter uncertainty weighted grid. Multibeam echosounder contact development data is submitted as a 50-centimeter CUBE surface. Two SSS mosaics were created at 1-meter resolution to ensure 200% coverage. The submission Field Sheet and surface structure are shown in Figures 2 and 3.

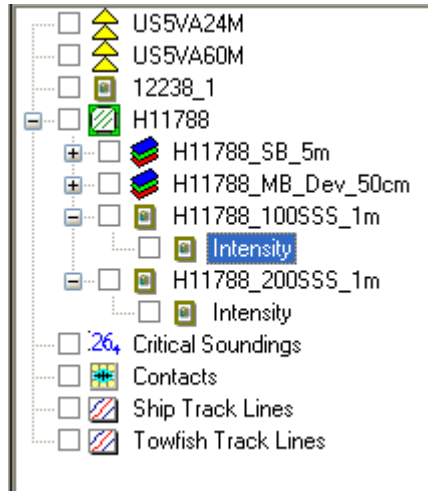


Figure 2: Field sheets and BASE surfaces submitted with H11788.

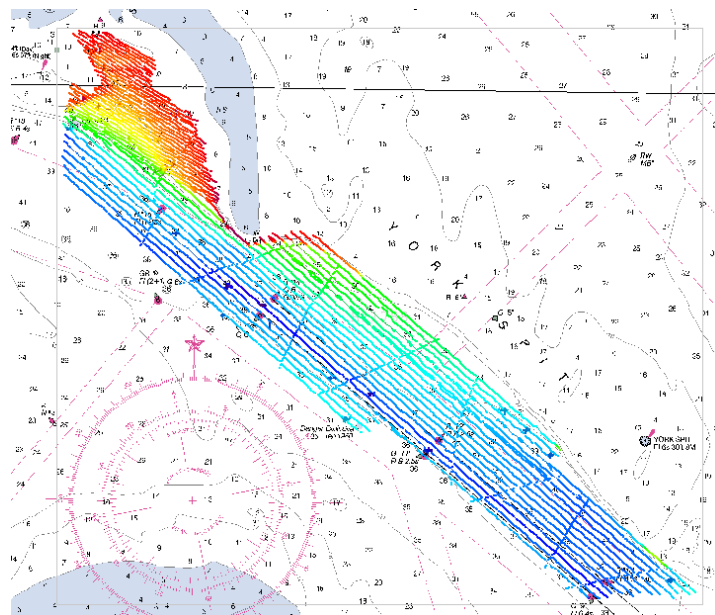


Figure 3: Layout of field sheet and BASE surfaces for H11788, overlaid on NOAA Chart 12238.

C. VERTICAL AND HORIZONTAL CONTROL

Project OPR-E350-NRT7-08 did not require static GPS observations or other horizontal control work, and all tide corrections were generated from CO-OPS maintained tide stations. Thus, no Horizontal and Vertical Control Report will be submitted.

Horizontal Control *See also the Evaluation Report.*

The horizontal datum for this project is the North American Datum of 1983 (NAD83). Differential GPS (DGPS) was the sole method of positioning. The differential corrector beacons utilized for this survey are given in Table 1.

Location	Frequency	Operator	Distance	Priority
Driver, VA	289kHz	USCG	241 km	Primary

Table 1: Differential Corrector Sources for F00549.

Vertical Control

The vertical datum for this project is Mean Lower-Low Water (MLLW). The operating National Water Level Observation Network (NWLON) primary tide station at Yorktown, VA (8637689) served as control for datum determination and as the primary source for water level reducers for survey H11788.

All data were reduced to MLLW using **verified, final approved water levels** from station Yorktown, VA (8637689) using the tide file 8637689.tid and final time and height correctors using the zone corrector file E350NRT72008CORP.zdf.

The request for Final Approved Water Levels for H11788 was submitted to CO-OPS on February 22, 2008, and the Final Tide Note was received on February 27, 2008. This documentation is included in Appendix IV. **Concur**
Approved tides were applied during field processing.

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

D.1. Chart Comparison

D.1.a. Survey Agreement with Chart *See also the Evaluation Report.*

Survey H11788 was compared with the following charts:

Chart	Scale	Edition and Date	Local Notice to Mariners Applied Through
12238	1:40,000	39 th Ed, Jan 2006	Nov 17, 2007
US5VA24M	ENC	Feb 19, 2008	Feb 15, 2008
US5VA60M	ENC	Feb 19, 2008	Feb 15, 2008

Table 2: Charts compared with H11788.

Surveyed depths agree with charted depths within one to two feet. Contours shift slightly, but retain the same general design. *Concur.*

York River Entrance Channel is a federally maintained channel and was last surveyed by the United States Army Corps of Engineers (USACE) in September, 2006. All surveyed depths in the channel are deeper than the charted tabulated depths reported by the USACE. *Concur.*

The Hydrographer recommends that survey soundings supersede all prior survey and charted depths in the common area. *Concur.*

D.1.b. Dangers to Navigation

No dangers to navigation (DTONs) were found in survey H11788. *Concur.*

D.1.c. Other Features

Automated Wreck and Obstruction Information System (AWOIS) Investigations

One (1) AWOIS item falls within the modified survey limits of H11788, and is assigned for full investigation. A description of this AWOIS investigation is included in the Survey Feature Report in Appendix II. *Concur.*

Additional Items

Additional features investigated within the limits of H11788 are described in the Survey Feature Report in Appendix II. *Concur.*

All significant contacts identified in H11788 appear to have the same characteristics and are all located in the northeast corner of the sheet. All stand about one meter off the bottom and are likely some type of fishing gear. The hydrographer recommends adding a note to the chart warning of small submerged obstructions or charting an obstruction area rather than charting each contact individually. *Do not concur. See Survey Feature Report in Appendix II for final charting recommendations.*

D.2. Additional Results

An 18-foot obstruction is charted on the western side of the survey limits of H11788. No obvious obstruction was detected in the side scan imagery; though four small contacts were identified within a 150-meter radius of the charted obstruction. No AWOIS information was provided with the project instructions. Due to lack of information, the hydrographer is not confident of disproval and recommends the obstruction be retained as charted. *See also the Evaluation Report.*

D.2.a. Prior Survey Comparison

Prior survey comparison was not performed.

D.2.c. Aids to Navigation

All aids to navigation (ATONs) were found to be correctly charted and serve their intended purpose.

D.2.d. Overhead Features

There are no overhead features within the limits of survey H11788. *Concur.*

D.2.e. Submarine Cables and Pipelines

There are no submarine cables or pipelines charted within the limits of H11788, and none were detected by the survey. *Concur.*

D.2.f. Ferry Routes

There are no ferry routes charted within the limits of survey H11788, and none were observed to be operating in the area. *Concur.*

D.2.g. Bottom Samples

Bottom samples were not performed in survey H11788. As stated in its Hydrographic Survey Readiness Review memo, Navigation Response Team 7 does not have a bottom sampler. *Concur.*

E. APPROVAL

As Chief of Party, field operations for hydrographic survey H11788 were conducted under my supervision, with frequent personal checks of progress and adequacy. I have reviewed the attached survey data and reports. The survey data meets or exceeds requirements as set forth in the NOS Hydrographic Surveys Specifications and Deliverables (April 2007), OCS Field Procedures Manual for Hydrographic Surveying (March 2007), Project Instructions, and all HSD Technical Directives issued through January 2008. These data are adequate to supersede charted data in their common areas. This survey is complete and no additional work is required. All data and reports are respectfully submitted to N/CS33, Atlantic Hydrographic Branch.

Approved and Forwarded:

LTJG Briana J. Welton, NOAA
NRT7 Team Leader

H11788 Feature Report

Registry Number: H11788
State: VA
Locality: Southern Chesapeake Bay
Sub-locality: Approach to York River
Project Number: OPR-E350-NRT7-08
Survey Dates: 01/25/2008 - 02/15/2008

Charts Affected

Number	Version	Date	Scale
12241	21st Ed.	01/05/2002	1:20000
12238	39th Ed.	01/01/2006	1:40000
12221	78th Ed.	04/01/2006	1:80000
12280	6th Ed.	09/01/2005	1:200000
13003	48th Ed.	10/01/2004	1:1200000

Features

No.	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	SSS	[None]	037° 14' 54.699" N	76° 20' 09.747" W	---
1.2	Obstruction	8.11 m	037° 14' 24.558" N	76° 19' 30.860" W	---
1.3	Sounding	6.66 m	037° 14' 49.859" N	76° 20' 17.065" W	---
1.4	Sounding	5.95 m	037° 14' 51.338" N	76° 20' 01.721" W	---
1.5	Sounding	5.83 m	037° 14' 50.387" N	76° 19' 57.163" W	---
1.6	Sounding	5.54 m	037° 14' 52.497" N	76° 19' 52.793" W	---
1.7	Sounding	4.48 m	037° 15' 06.497" N	76° 19' 56.894" W	---
1.8	Sounding	4.35 m	037° 15' 13.350" N	76° 20' 01.605" W	---
1.9	Sounding	4.04 m	037° 15' 14.919" N	76° 20' 01.724" W	---
1.10	Obstruction	6.74 m	037° 14' 37.964" N	76° 19' 45.174" W	---
1.11	Obstruction	3.65 m	037° 14' 49.008" N	76° 19' 21.176" W	---
1.12	Sounding	5.25 m	037° 14' 27.610" N	76° 19' 21.444" W	---
2.1	AWOIS	[no data]	[no data]	[no data]	---

1 - New Features

1.1) Contact/Point - 0002/1 from h11788 / nrt7_s3004_lwk5k_pm_100 / 2008-009 / 103_1632

Survey Summary

Survey Position: 037° 14' 54.699" N, 76° 20' 09.747" W
Least Depth: [None]
Timestamp: 2008-025.03:57:02 (01/25/2008)
Survey Line: h11788 / nrt7_s3004_lwk5k_pm_100 / 2008-009 / 103_1632
Contact/Point: 0002/1
Charts Affected: 12238_1, 12221_1, 12280_2, 13003_1

Remarks:

possibly derelict fishing gear, not well-developed with mbes

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11788/nrt7_s3004_lwk5k_pm_100/2008-009/103_1632	0002	0.00	000.0	Primary

Hydrographer Recommendations

Chart fishing debris area or add note to chart.

S-57 Data

Geo object 1: Obstruction (OBSTRN)
Attributes: QUASOU - 1:depth known
 TECSOU - 2:found by side scan sonar
 WATLEV - 3:always under water/submerged

Do not concur - Determined insignificant during office processing. Do not chart.

Feature Images

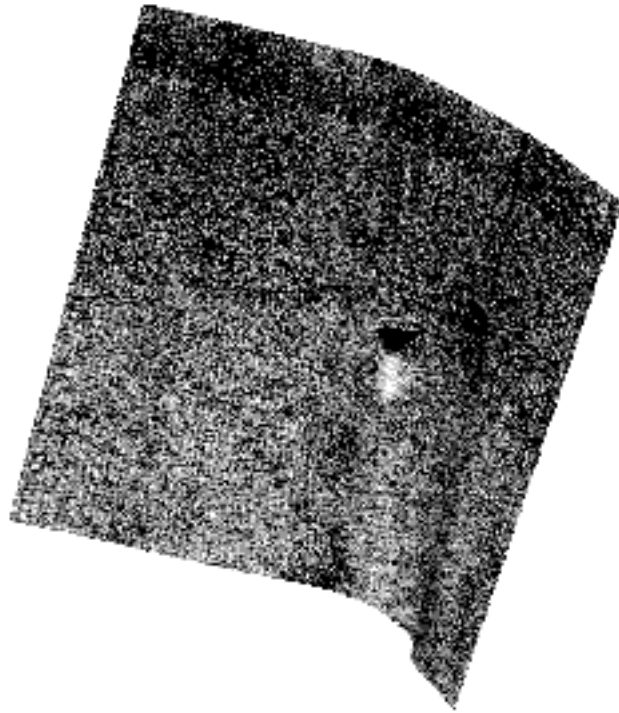


Figure 1.1.1

1.2) Profile/Beam - 601/27 from h11788 / nrt7_s3004_reson8125 / 2008-046 / 301_1803

Survey Summary

Survey Position: 037° 14' 24.558" N, 76° 19' 30.860" W
Least Depth: 8.11 m
Timestamp: 2008-046.18:04:10.007 (02/15/2008)
Survey Line: h11788 / nrt7_s3004_reson8125 / 2008-046 / 301_1803
Profile/Beam: 601/27
Charts Affected: 12238_1, 12221_1, 12280_2, 13003_1

Remarks:

1 m off bottom, possibly derelict fishing gear

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11788/nrt7_s3004_reson8125/2008-046/301_1803	601/27	0.00	000.0	Primary
h11788/nrt7_s3004_lwk5k_pm_200/2008-010/236_1550	0001	4.96	112.9	Secondary

Hydrographer Recommendations

Chart fishing debris area or add note to chart.

Cartographically-Rounded Depth (Affected Charts):

26ft (12238_1, 12221_1, 12280_2)

4 ¼fm (13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)
Attributes: QUASOU - 1:depth known
 TECSOU - 3:found by multi-beam
 VALSOU - 8.109 m
 WATLEV - 3:always under water/submerged

Do not concur - Determined insignificant during office processing. Do not chart.

Feature Images

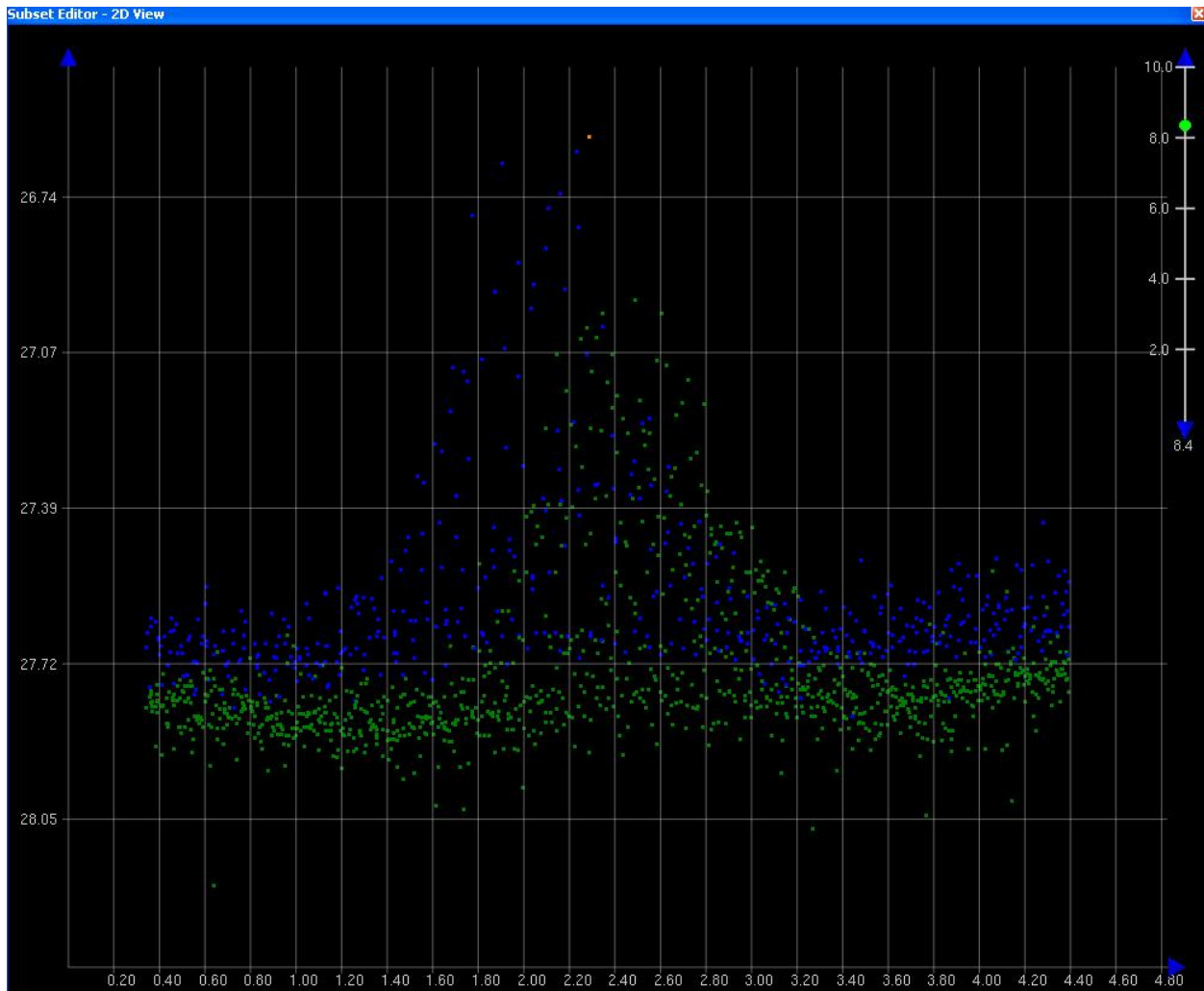


Figure 1.2.1

1.3) Profile/Beam - 516/1 from h11788 / nrt7_s3004_reson8125 / 2008-046 / 311_1843

Survey Summary

Survey Position: 037° 14' 49.859" N, 76° 20' 17.065" W
Least Depth: 6.66 m
Timestamp: 2008-046.18:43:49.827 (02/15/2008)
Survey Line: h11788 / nrt7_s3004_reson8125 / 2008-046 / 311_1843
Profile/Beam: 516/1
Charts Affected: 12241_1, 12238_1, 12221_1, 12280_2, 13003_1

Remarks:

1 m off bottom, possibly derelict fishing gear

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11788/nrt7_s3004_reson8125/2008-046/311_1843	516/1	0.00	000.0	Primary
h11788/nrt7_s3004_lwk5k_pm_100/2008-009/100_1558	0004	3.40	106.9	Secondary

Hydrographer Recommendations

Chart fishing debris area or add note to chart.

Cartographically-Rounded Depth (Affected Charts):

22ft (12241_1, 12238_1, 12221_1, 12280_2)

3 ½fm (13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)
Attributes: QUASOU - 1:depth known
 TECSOU - 3:found by multi-beam
 VALSOU - 6.656 m
 WATLEV - 3:always under water/submerged

Do not concur - Determined insignificant during office processing. Do not chart.

1.4) Profile/Beam - 274/159 from h11788 / nrt7_s3004_reson8125 / 2008-046 / 315_1825

Survey Summary

Survey Position: 037° 14' 51.338" N, 76° 20' 01.721" W
Least Depth: 5.95 m
Timestamp: 2008-046.18:26:04.683 (02/15/2008)
Survey Line: h11788 / nrt7_s3004_reson8125 / 2008-046 / 315_1825
Profile/Beam: 274/159
Charts Affected: 12238_1, 12221_1, 12280_2, 13003_1

Remarks:

1 m off bottom, possibly derelict fishing gear

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11788/nrt7_s3004_reson8125/2008-046/315_1825	274/159	0.00	000.0	Primary
h11788/nrt7_s3004_lwk5k_pm_200/2008-010/240_1511	0001	5.42	113.7	Secondary

Hydrographer Recommendations

Chart fishing debris area or add note to chart.

Cartographically-Rounded Depth (Affected Charts):

19ft (12238_1, 12221_1, 12280_2)

3 ¼fm (13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)
Attributes: QUASOU - 1:depth known
 TECSOU - 3:found by multi-beam
 VALSOU - 5.946 m
 WATLEV - 3:always under water/submerged

Do not concur - Determined insignificant during office processing. Do not chart.

1.5) Profile/Beam - 376/104 from h11788 / nrt7_s3004_reson8125 / 2008-046 / 317_1823

Survey Summary

Survey Position: 037° 14' 50.387" N, 76° 19' 57.163" W
Least Depth: 5.83 m
Timestamp: 2008-046.18:23:32.487 (02/15/2008)
Survey Line: h11788 / nrt7_s3004_reson8125 / 2008-046 / 317_1823
Profile/Beam: 376/104
Charts Affected: 12238_1, 12221_1, 12280_2, 13003_1

Remarks:

1 m off bottom, possibly derelict fishing gear

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11788/nrt7_s3004_reson8125/2008-046/317_1823	376/104	0.00	000.0	Primary
h11788/nrt7_s3004_lwk5k_pm_100/2008-009/103_1632	0001	2.70	322.8	Secondary

Hydrographer Recommendations

Chart fishing debris area or add note to chart.

Cartographically-Rounded Depth (Affected Charts):

19ft (12238_1, 12221_1, 12280_2)

3fm (13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)
Attributes: QUASOU - 1:depth known
 TECSOU - 3:found by multi-beam
 VALSOU - 5.829 m
 WATLEV - 3:always under water/submerged

Do not concur - Determined insignificant during office processing. Do not chart.

Feature Images

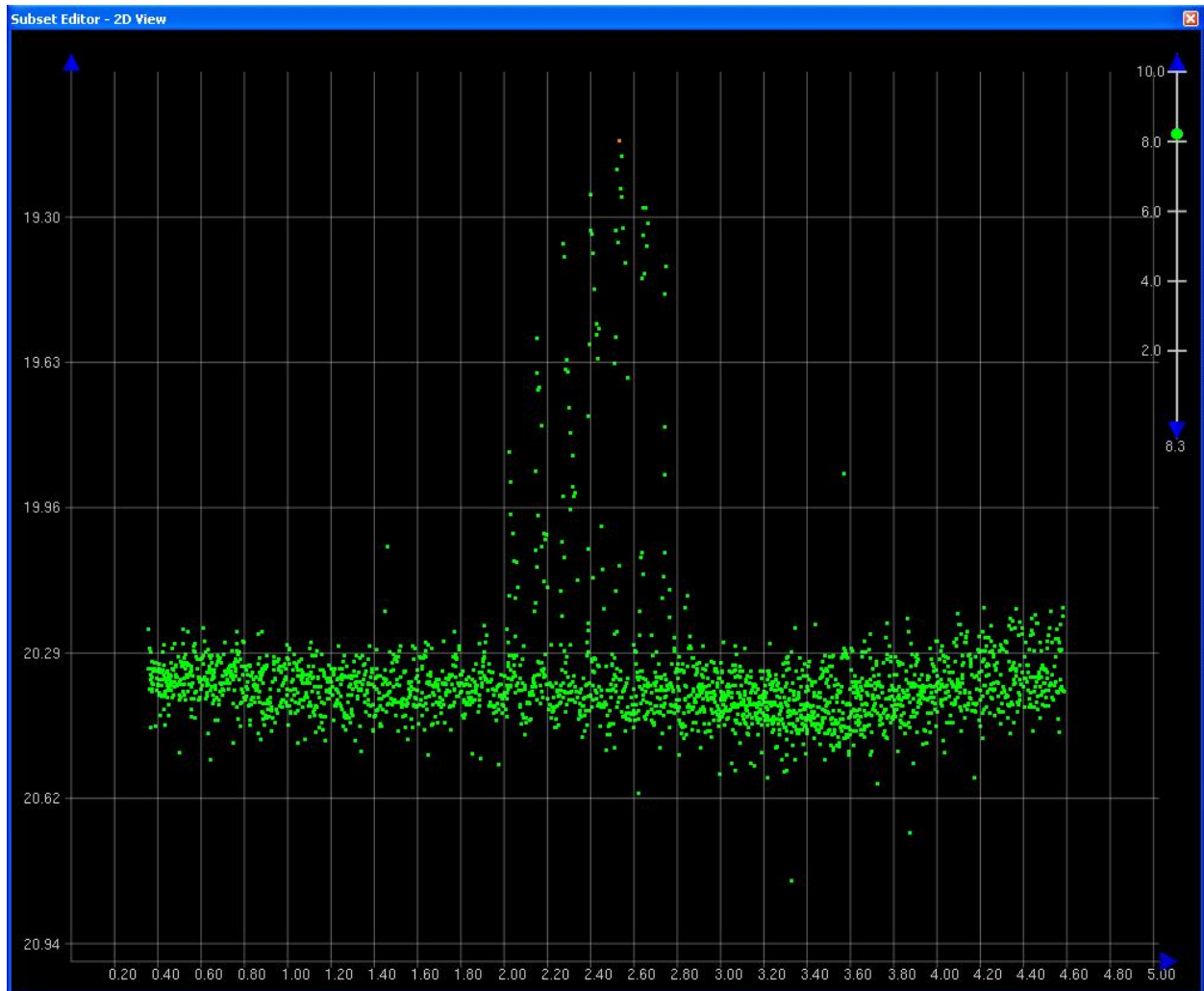


Figure 1.5.1

1.6) Profile/Beam - 499/14 from h11788 / nrt7_s3004_reson8125 / 2008-046 / 319_1821

Survey Summary

Survey Position: 037° 14' 52.497" N, 76° 19' 52.793" W
Least Depth: 5.54 m
Timestamp: 2008-046.18:22:06.678 (02/15/2008)
Survey Line: h11788 / nrt7_s3004_reson8125 / 2008-046 / 319_1821
Profile/Beam: 499/14
Charts Affected: 12238_1, 12221_1, 12280_2, 13003_1

Remarks:

two pieces of debris- 1 m off bottom, possibly derelict fishing gear

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11788/nrt7_s3004_reson8125/2008-046/319_1821	499/14	0.00	000.0	Primary
h11788/nrt7_s3004_lwk5k_pm_200/2008-010/251_1503	0001	5.89	264.5	Secondary

Hydrographer Recommendations

Chart fishing debris area or add note to chart.

Cartographically-Rounded Depth (Affected Charts):

18ft (12238_1, 12221_1, 12280_2)

3fm (13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)
Attributes: QUASOU - 1:depth known
 TECSOU - 3:found by multi-beam
 VALSOU - 5.535 m
 WATLEV - 3:always under water/submerged

Do not concur - Determined insignificant during office processing. Do not chart.

Feature Images

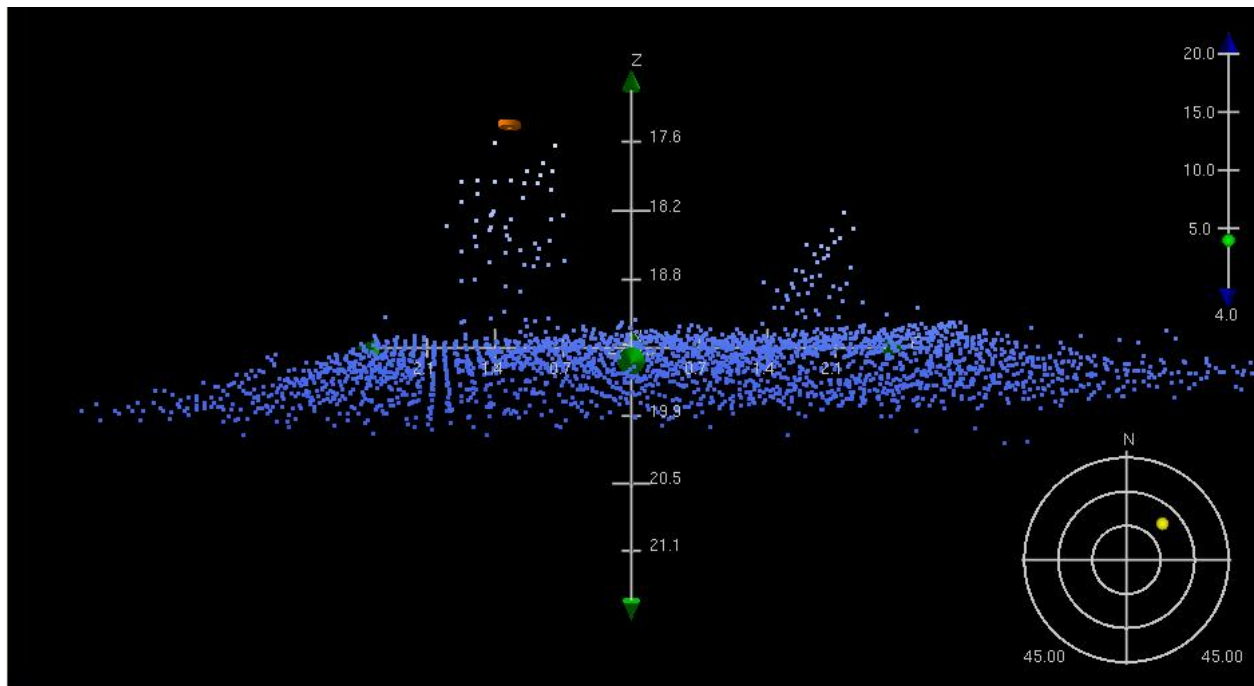


Figure 1.6.1

1.7) Profile/Beam - 384/137 from h11788 / nrt7_s3004_reson8125 / 2008-046 / 321_1829

Survey Summary

Survey Position: 037° 15' 06.497" N, 76° 19' 56.894" W
Least Depth: 4.48 m
Timestamp: 2008-046.18:30:08.437 (02/15/2008)
Survey Line: h11788 / nrt7_s3004_reson8125 / 2008-046 / 321_1829
Profile/Beam: 384/137
Charts Affected: 12238_1, 12221_1, 12280_2, 13003_1

Remarks:

1 m off bottom, possibly derelict fishing gear

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11788/nrt7_s3004_reson8125/2008-046/321_1829	384/137	0.00	000.0	Primary
h11788/nrt7_s3004_lwk5k_pm_200/2008-009/244_1847	0001	6.74	288.0	Secondary

Hydrographer Recommendations

Chart fishing debris area or add note to chart.

Cartographically-Rounded Depth (Affected Charts):

14ft (12238_1, 12221_1, 12280_2)

2 ½fm (13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)
Attributes: QUASOU - 1:depth known
 TECSOU - 3:found by multi-beam
 VALSOU - 4.478 m
 WATLEV - 3:always under water/submerged

Do not concur - Determined insignificant during office processing. Do not chart.

1.8) Profile/Beam - 20/224 from h11788 / nrt7_s3004_reson8125 / 2008-046 / 324_1834

Survey Summary

Survey Position: 037° 15' 13.350" N, 76° 20' 01.605" W
Least Depth: 4.35 m
Timestamp: 2008-046.18:34:51.572 (02/15/2008)
Survey Line: h11788 / nrt7_s3004_reson8125 / 2008-046 / 324_1834
Profile/Beam: 20/224
Charts Affected: 12238_1, 12221_1, 12280_2, 13003_1

Remarks:

1 m off bottom, possibly derelict fishing gear

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11788/nrt7_s3004_reson8125/2008-046/324_1834	20/224	0.00	000.0	Primary
h11788/nrt7_s3004_lwk5k_pm_100/2008-009/111_1748	0001	48.56	172.9	Secondary

Hydrographer Recommendations

Chart fishing debris area or add note to chart.

Cartographically-Rounded Depth (Affected Charts):

14ft (12238_1, 12221_1, 12280_2)

2 ¼fm (13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)
Attributes: QUASOU - 1:depth known
 TECSOU - 3:found by multi-beam
 VALSOU - 4.350 m
 WATLEV - 3:always under water/submerged

Do not concur - Determined insignificant during office processing. Do not chart.

1.9) Profile/Beam - 329/169 from h11788 / nrt7_s3004_reson8125 / 2008-046 / 324_1834

Survey Summary

Survey Position: 037° 15' 14.919" N, 76° 20' 01.724" W
Least Depth: 4.04 m
Timestamp: 2008-046.18:35:06.500 (02/15/2008)
Survey Line: h11788 / nrt7_s3004_reson8125 / 2008-046 / 324_1834
Profile/Beam: 329/169
Charts Affected: 12238_1, 12221_1, 12280_2, 13003_1

Remarks:

1 m off bottom, possibly derelict fishing gear

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11788/nrt7_s3004_reson8125/2008-046/324_1834	329/169	0.00	000.0	Primary

Hydrographer Recommendations

Chart fishing debris area or add note to chart.

Cartographically-Rounded Depth (Affected Charts):

13ft (12238_1, 12221_1, 12280_2)

2 ¼fm (13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)
Attributes: QUASOU - 1:depth known
 TECSOU - 3:found by multi-beam
 VALSOU - 4.035 m
 WATLEV - 3:always under water/submerged

Do not concur - Determined insignificant during office processing. Do not chart.

1.10) Profile/Beam - 230/232 from h11788 / nrt7_s3004_reson8125 / 2008-046 / 328_1812

Survey Summary

Survey Position: 037° 14' 37.964" N, 76° 19' 45.174" W
Least Depth: 6.74 m
Timestamp: 2008-046.18:12:37.590 (02/15/2008)
Survey Line: h11788 / nrt7_s3004_reson8125 / 2008-046 / 328_1812
Profile/Beam: 230/232
Charts Affected: 12238_1, 12221_1, 12280_2, 13003_1

Remarks:

1 m off bottom, possibly a derelict fish trap

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11788/nrt7_s3004_reson8125/2008-046/328_1812	230/232	0.00	000.0	Primary
h11788/nrt7_s3004_lwk5k_pm_200/2008-010/238_1531	0001	11.19	096.3	Secondary

Hydrographer Recommendations

Chart fishing debris area or add note to chart.

Cartographically-Rounded Depth (Affected Charts):

22ft (12238_1, 12221_1, 12280_2)

3 ½fm (13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)
Attributes: QUASOU - 1:depth known
 TECSOU - 3:found by multi-beam
 VALSOU - 6.738 m
 WATLEV - 3:always under water/submerged

Do not concur - Determined insignificant during office processing. Do not chart.

Feature Images

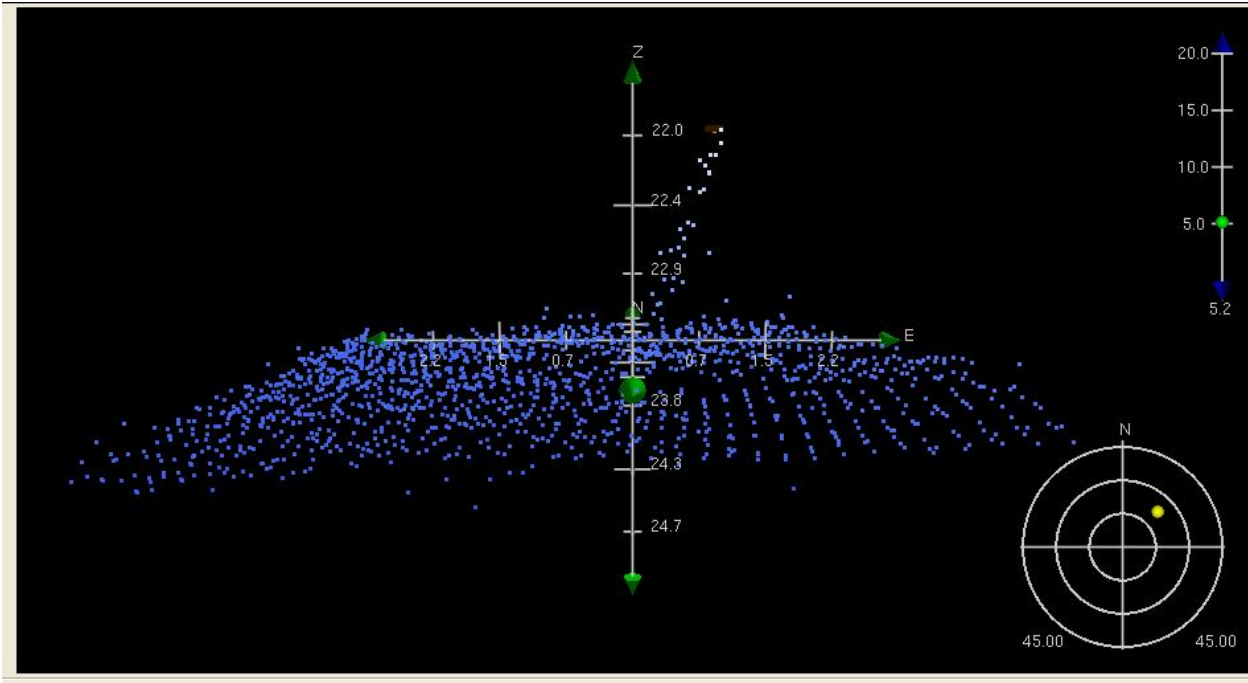


Figure 1.10.1

1.11) Profile/Beam - 353/13 from h11788 / nrt7_s3004_reson8125 / 2008-046 / 330_1817

Survey Summary

Survey Position: 037° 14' 49.008" N, 76° 19' 21.176" W
Least Depth: 3.65 m
Timestamp: 2008-046.18:18:01.182 (02/15/2008)
Survey Line: h11788 / nrt7_s3004_reson8125 / 2008-046 / 330_1817
Profile/Beam: 353/13
Charts Affected: 12238_1, 12221_1, 12280_2, 13003_1

Remarks:

unidentified object

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11788/nrt7_s3004_reson8125/2008-046/330_1817	353/13	0.00	000.0	Primary
h11788/nrt7_s3004_reson8125/2008-046/331_1815	701/127	0.59	318.6	Secondary
h11788/nrt7_s3004_lwk5k_pm_200/2008-009/244_1847	0003	5.00	296.8	Secondary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

12ft (12238_1, 12221_1, 12280_2)

2fm (13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)
Attributes: QUASOU - 1:depth known
 TECSOU - 3:found by multi-beam
 VALSOU - 3.652 m
 WATLEV - 3:always under water/submerged

Do not concur - Determined insignificant during office processing. Do not chart.

Feature Images

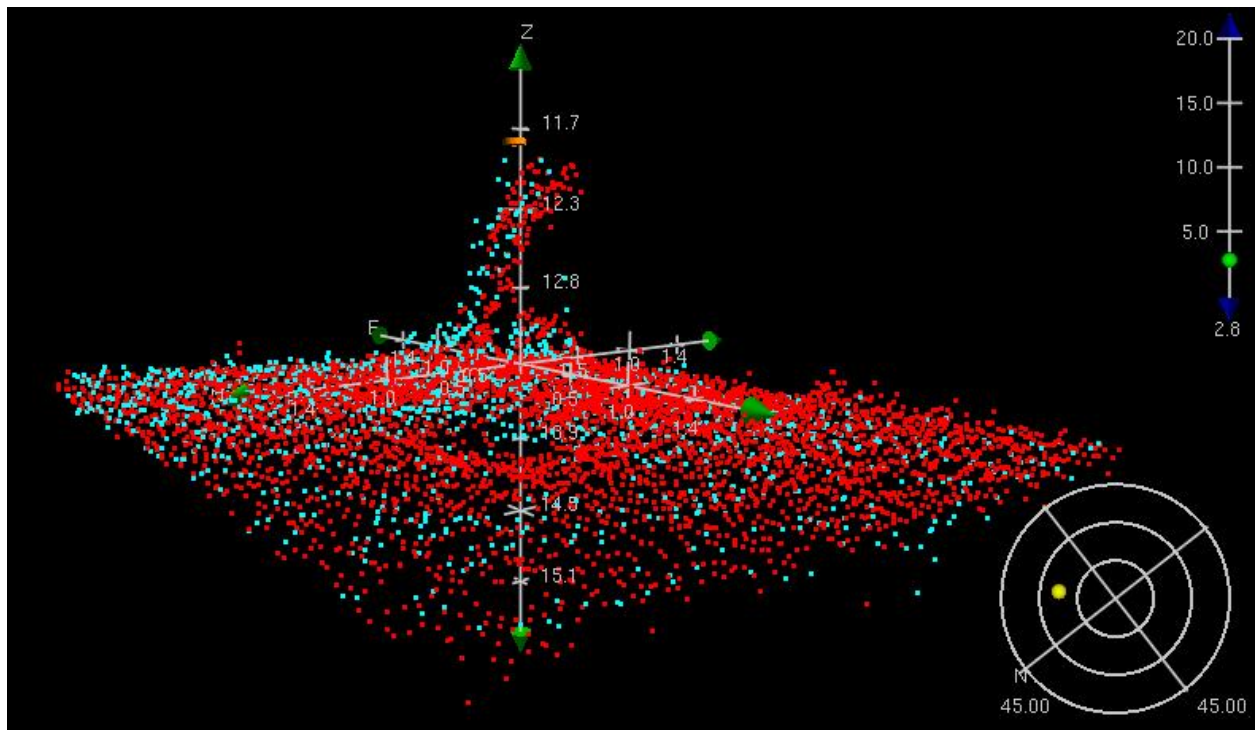


Figure 1.11.1

1.12) Profile/Beam - 318/37 from h11788 / nrt7_s3004_reson8125 / 2008-046 / 301_1807

Survey Summary

Survey Position: 037° 14' 27.610" N, 76° 19' 21.444" W
Least Depth: 5.25 m
Timestamp: 2008-046.18:08:02.963 (02/15/2008)
Survey Line: h11788 / nrt7_s3004_reson8125 / 2008-046 / 301_1807
Profile/Beam: 318/37
Charts Affected: 12238_1, 12221_1, 12280_2, 13003_1

Remarks:

1 m off bottom, possibly derelict fishing gear

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11788/nrt7_s3004_reson8125/2008-046/301_1807	318/37	0.00	000.0	Primary
h11788/nrt7_s3004_lwk5k_pm_100/2008-009/101_1610	0001	4.33	332.9	Secondary

Hydrographer Recommendations

Chart fishing debris area or add note to chart.

Cartographically-Rounded Depth (Affected Charts):

17ft (12238_1, 12221_1, 12280_2)

2 ¾fm (13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)
Attributes: QUASOU - 1:depth known
 TECSOU - 3:found by multi-beam
 VALSOU - 5.255 m
 WATLEV - 3:always under water/submerged

Do not concur - Determined insignificant during office processing. Do not chart.

Feature Images

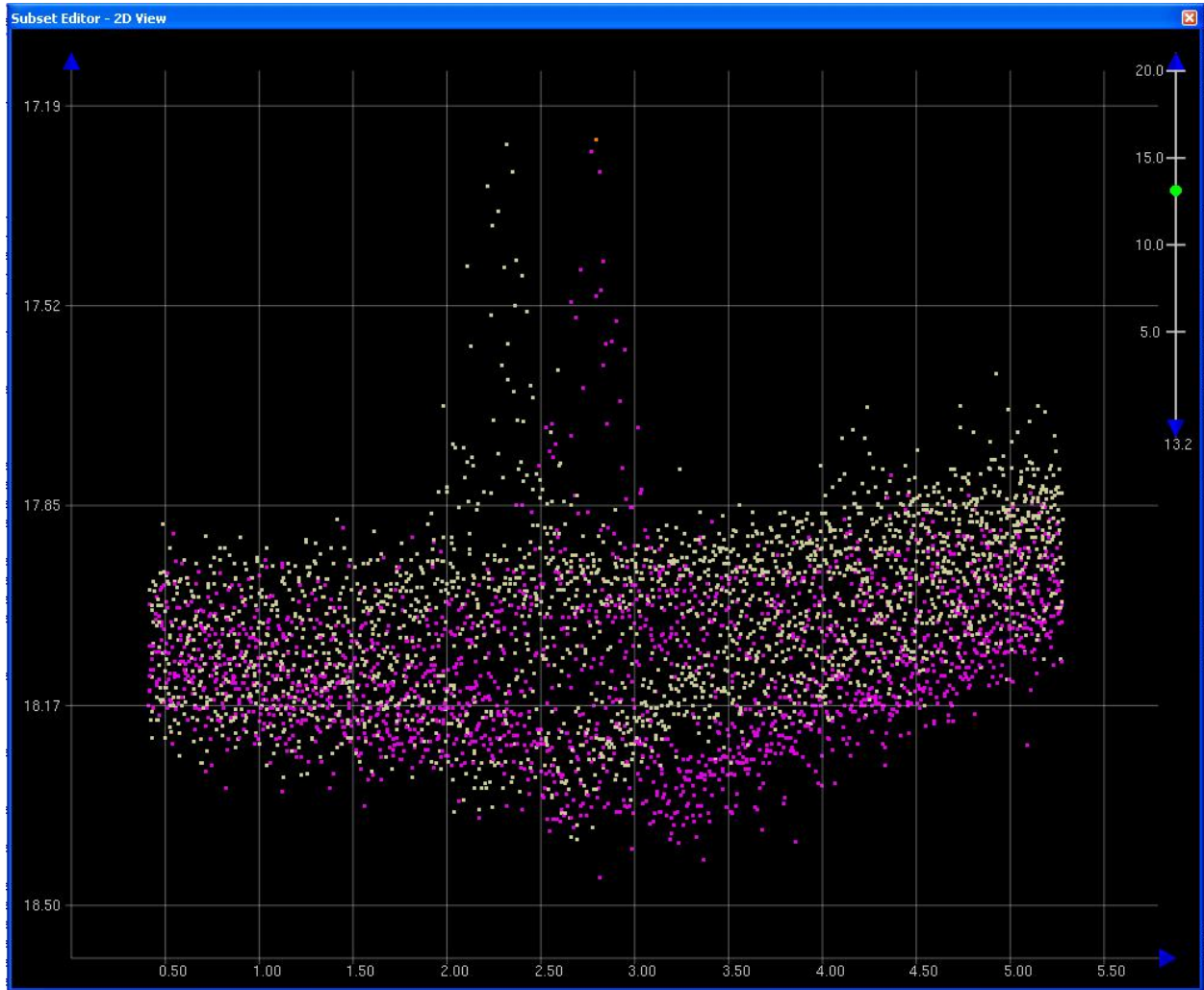


Figure 1.12.1

2 - AWOIS Features

2.1) AWOIS #11304 - OBSTRUCTION

No Primary Survey Feature for this AWOIS Item

Search Position: 037° 12' 40.010" N, 76° 17' 43.660" W
Historical Depth: [None]
Search Radius: 0
Search Technique: [None]
Technique Notes: [None]

History Notes:

NM12/60--3/19/60; DANGER AREA - A PALLET CONTAINING HIGH EXPLOSIVES IN TRANSPORT BOXES HAS BEEN REPORTED TO HAVE SUNK ABOUT 4,000 YARDS, 272°30' FROM YORK SPIT LIGHT. THE POSITION IS MARKED BY THREE RED ELLIPTICAL FLOATS SPREAD OVER AN AREA OF 15 FEET RADIUS. NM19/60--5/7/60; DANGER AREA - THE HIGH EXPLOSIVES IN TRANSPORT BOXES PREVIOUSLY REPORTED TO HAVE SUNK ABOUT 4,000 YARDS, 272°30' FROM YORK SPIT LIGHT HAVE BEEN RECOVERED WITH THE EXCEPTION OF ONE EXPLOSIVE CHARGE. THE US NAVY ADVISES THAT FURTHER SALVAGE OPERATIONS HAVE BEEN ABANDONED. THE NOTE "DANGER - EXPLOSIVE REPORTED (1960)" WILL BE CHARTED AT THE LOCATION. THE THREE FLOATS HAVE BEEN REMOVED. (ENTERED 2/02 BY MBH)

Survey Summary

Charts Affected: 12238_1, 12221_1, 12280_2, 13003_1

Remarks:

200% SSS coverage. No small explosive charge identified.

Feature Correlation

Address	Feature	Range	Azimuth	Status
AWOIS	AWOIS # 11304	0.00	000.0	Primary

Hydrographer Recommendations

[None]

S-57 Data

[None]

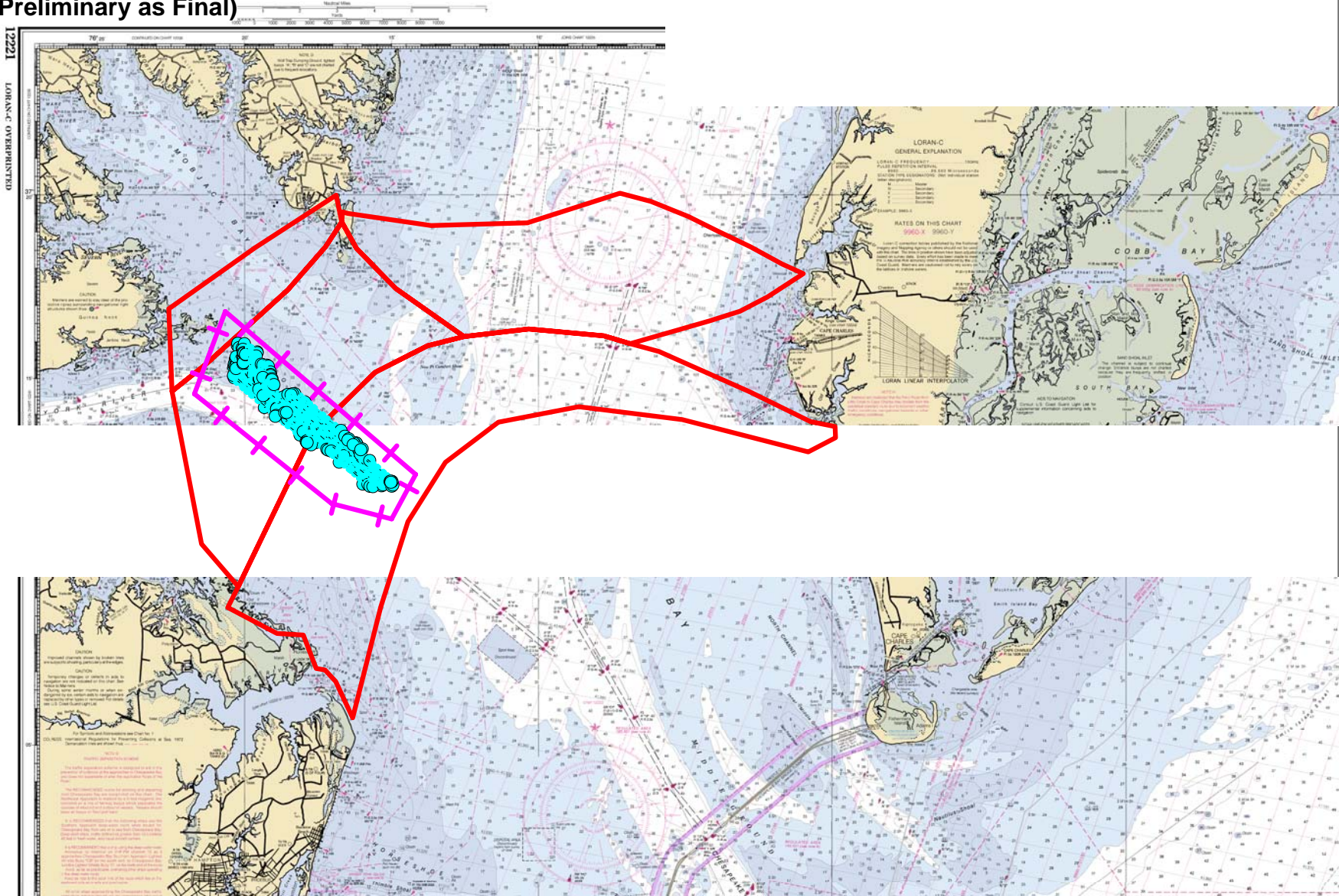
Field unit neither verified nor disprove AWOIS Item #11304.
 Retain dangerous submerged obstruction and text "Danger Explosive rep 1960" as charted.



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



**Final Tidal Zoning
for OPR-E350-NRT7-2008, H11788
Approaches to York River, VA
(Preliminary as Final)**



**ATLANTIC HYDROGRAPHIC BRANCH
EVALUATION REPORT to Accompany
Surveys H11788 (2008)**

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.

B. DATA ACQUISITION AND PROCESSING

B.1 DATA PROCESSING

The following software was used to process and review data at the Atlantic Hydrographic Branch (AHB):

CARIS HIPS/SIPS version 6.1
CARIS BASE Manager 2.1
CARIS HOM ENC 3.3
PYDRO, version 8.7
CARIS S-57 Composer 2.0

B.2 QUALITY CONTROL

H-Cells

The AHB source depth grid was generated as a 10m resolution BASE surface. Survey scale soundings were extracted from AHB generated 10m Base surface at a 1:10000 scale using a radius of 1.75m. Soundings were selected for charting by hand using the latest raster charts 12238 and smooth contours as background for sounding placement. Soundings were then checked for conflicts, corrected to remove conflicts, and edited to allow for proper sounding compilation placement with respect to existing charted depths outside the survey area. The BASE surface was referenced when selecting the chart scale soundings, to ensure that the selected soundings portrayed the bathymetry within the common area.

The depth contours were drawn by hand from the product surface. The chart soundings were then selected from the sounding selection using AHB best practices and with the aid of the contours.

The compilation products and Stand Alone HOB Files (SAHOB) are detailed in the Compilation Process Log of this

H11788

document. All individual SAHOB files were assembled in BASE Editor during H-Cell compilation.

The completed H-Cell was exported as a Base Cell File (ENC.000) in S-57 format with all values in metric units. The metric equivalent ENC.000 file was then converted to NOAA chart units (ENC_CS.000) with all values measured in feet following NOAA sounding rounding rules.

The H11788 CARIS H-Cell final deliverables include the following products:

US511788_CS.000	1:40,000 Scale	H11788 Selected Soundings (Chart Scale)
US511788_SS.000	1:10,000 Scale	H11788 Selected Soundings (Survey Scale)

JUNCTIONS

H11295 (2007) to the west

Survey H11295 (2007) junctions with the present survey to the west. Present survey soundings are 1 foot shoaler than survey H11295 (2007).

There are no contemporary surveys to the north south or east. Present survey depths are in harmony with the charted hydrography to the north, south and east.

C. VERTICAL AND HORIZONTAL CONTROL

Final vertical correction processing was completed by the field unit with no additional corrections required by Atlantic Hydrographic Branch personnel. The field unit applied verified water levels in conjunction with the preliminary tidal zoning which was accepted and approved by N/OPSI CO-OPS as the final zoning for H11788. Sounding datum is Mean Lower Low Water (MLLW). Vertical datum is Mean High Water (MHW).

Horizontal control used for this survey during data acquisition is based upon the North American Datum of 1983 (NAD83), UTM projection zone 18. Office ENC processing of this survey required translating the datum to meet S-57 ENC requirements. The horizontal geodetic datum was translated to Latitude and Longitude (LLDG) World Geodetic System-84 (WGS-84) during CARIS Base Manager processing.

D. RESULTS AND RECOMMENDATIONS

Chart Comparison 12238 (39th Edition, Jan. /08 6

Corrected through NM, Jan. 21/06
Corrected through LNM, Jan. 17/06
Scale 1:40,000

ENC Comparison

US5VA24M

Chesapeake Bay Mobjack Bay and
York River Entrance A
Edition 9
Update Application Date 2009-01-06
Issue Date 2009-01-09
References: Charts 12238

Hydrography

The charted Hydrography originates with prior surveys and requires no further consideration. The hydrographer makes adequate chart comparisons in Section D. of the Descriptive Report. The following should be noted:

An Automated Wreck and Obstruction Information Systems (AWOIS) #11304 charted dangerous submerged obstruction with a notation Danger Explosive rep 1960, in the vicinity of Latitude 37°12'40"N, Longitude 76°17'44"W was neither verified nor disproved during present survey operations. It is recommended that the dangerous submerged obstructions with a notation Danger Explosive rep 1960 be retained as charted. Item was brought forward from ENC US5VA24M to supplement the present survey.

Charted dangerous submerged obstructions with depths of 18 and 23 feet in the vicinity of Latitude 37°14'42"N, Longitude 76°20'17"W were neither verified nor disproved during present survey operations. It is recommended that the dangerous submerged obstructions with depths of 18 and 23 feet are retained as charted. Items were brought forward from ENC US5VA24M to supplement the present survey.

Adequacy of Survey

The present survey is adequate to supersede the charted bathymetry within the common area. Any features not specifically addressed either in the H-Cell File or the

Blue Notes should be retained as charted. Refer to the Descriptive Report for further survey requirements recommended by the hydrographer.

Miscellaneous

Chart compilation was done by Atlantic Hydrographic Branch personnel, in Norfolk, Virginia. Compilation data will be forwarded to Marine Chart Division, Silver Spring, Maryland. See Section D.1. of this report for a list of the Raster Charts and Electronic Navigation Charts (ENC) used for compiling the present survey.

Norris A. Wike
Cartographer
Verification of Data
Evaluation and Analysis Report

AHB PRE-COMPILATION PROCESS H11788

REGISTRY No.	H11788
PROJECT No.	OPR-E350-NRT7-08
FIELD UNIT	NRT7
PRE-COMPILER	KELLY M. SCHILL
LARGEST SCALE CHART	12238, edition 39, 200801
CHART SCALE	1:40,000
SURVEY SCALE	1:10,000
DATE OF SURVEY	01-09-2008 to 02-15-2008
CONTENT REVIEW DATE	December 22, 2008

Components	File Names
<i>Product Surface</i>	PS_H11788_10k_100mrad_10mres.hns
<i>Shifted Surface</i>	PS_H11788_10k_100mrad_10mres_Shifted.hns
<i>Contour Layer</i>	H11788_Contours.hob
<i>Survey Scale Soundings</i>	H11788_SS_Soundings.hob
<i>Chart Scale Soundings</i>	H11788_CS_Soundings.hob
<i>ENC Retain Soundings</i>	H11788_ENC_Retain_Soundings
<i>Feature Layer</i>	H11788_ENC_Retain_Features.hob
<i>Meta-Objects Layer</i>	H11788_MetaObjects.hob
<i>Blue Notes</i>	H11788_Bluenotes.hob

I. META-OBJECTS:

a. M_COVR attributes

Acronym	Value
SORDAT	20080215
CATCOV	Coverage Available
SORIND	US,US,survy,H11788

b. M_QUAL attributes

Acronym	Value
CATZOC	Zone of Confidence U (data not assessed)
INFORM	H11788,OPR-E350-NRT7-08,NRT7
POSACC	10
SORDAT	20080215
SORIND	US,US,survy,H11788
SUREND	20080215
SURSTA	20080109
TECSOU	

c. DEPART attributes

Acronym	Value
DRVALV 1	8.000
DRVALV2	45.000
SORDAT	20080215

SORIND

US,US,survey,H11788

1. UPDATED DESCRIPTIVE REPORT WAS UNABLE TO BE GENERATED WITH THE ONE AWOIS ITEM AND POSSIBLY THE BUOY #13, WHICH IS NOT LOCATED AT CHARTED POSITION, AND THE 2 OBSTRUCTIONS, WHICH HAS NOT ENOUGH INFO TO DISPROVE AND WAS RETAINED FROM JUNCTION SURVEY H11295.

 H11788_10k_100mrad_10mres.hns	1,430 KB	HNS File	12/16/2008 12:49 PM
 H11788_10k_100mrad_10mres	3 KB	XML Document	12/16/2008 12:49 PM
 H11788_2m_Combined.hns	112,048 KB	HNS File	12/16/2008 12:36 PM
 H11788_2m_Combined	6 KB	XML Document	12/16/2008 12:36 PM

APPROVAL SHEET
H11788

The completed survey has been inspected with regard to survey coverage, delineation of depth curves, representation of critical depths, cartographic symbolization, and verification or disproval of charted data. All revisions and additions made to the H-Cell files during survey processing have been entered in the digital data for this survey. The survey records and digital data comply with National Ocean Service and Office of Coast Survey requirements except where noted in the Descriptive Report and the Evaluation Report.

All final products have undergone a comprehensive review as per the Atlantic Hydrographic Branch Processing Manual and are verified to be accurate and complete except where noted.

Kelly Schill
Hydrographic Intern
Atlantic Hydrographic Branch

Norris A. Wike
Cartographer
Atlantic Hydrographic Branch

I have reviewed the H-Cell files, accompanying data, and reports. This survey and accompanying Marine Chart Division deliverables meet National Ocean Service requirements and standards for products in support of nautical charting except where noted.

Approved: _____
Shep Smith
Commander, NOAA
Chief, Atlantic Hydrographic Branch