F00540

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: **F00540**

LOCALITY

State: Virginia

General Locality: Elizabeth River

Sub-locality: 1 NM West of Lamberts Point – Maersk Shipping Terminal

2007

CHIEF OF PARTY

CAPT Raymond C. Slagle, NOAA

LIBRARY & ARCHIVES

DATE

NOAA FORM 77-28 (11-72) U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

REGISTRY NUMBER:

HYDROGRAPHIC TITLE SHEET

F00540

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

State:	**Virginia**
General Locality:	**Elizabeth River**
Sub-Locality:	**1 NM West of Lamberts Point – Maersk Shipping Terminal**
Scale:	**1:5,000** Date of Survey: **26 April to 30 April 2007**
Instructions Dated:	**25 April 2007** Project Number: **S-E923-TJ-07**
Vessel:	**NOAA Ship THOMAS JEFFERSON, S-222**
Chief of Party:	**CAPT Raymond C. Slagle, NOAA**
Surveyed by:	**THOMAS JEFFERSON Personnel**
Soundings by:	**Reson 8125 multibeam echosounder**
Graphic record checked by:	**N/A**
Protracted by:	**N/A** Automated Plot: **N/A**
Verification by:	**Atlantic Hydrographic Branch Personnel**
Soundings in:	***Feet*** ~~**Meters**~~ **at MLLW**

Remarks: ***Red, bold, italic notes in descriptive report were made during office processing.***
1) All Times are UTC.
2) This is a Standard Navigable Area Hydrographic Survey.
3) Projection is NAD-83 UTM Zone 18.

TABLE OF CONTENTS

Data Filed With Original Field Records.

FIGURES AND TABLES:

DESCRIPTIVE REPORT

to accompany
HYDROGRAPHIC SURVEY F00540

Scale of Survey: 1:5,000
Year of Survey: 2007
NOAA Ship THOMAS JEFFERSON
CAPT Raymond C. Slagle, Commanding Officer

A. AREA SURVEYED

This project responds to a request from CDR Tod Schattgen to survey near a marine terminal built recently by Maersk on the Elizabeth River, VA. The terminal is scheduled to open in July 2007 and is capable of handling any size container vessels presently in service, up to 11,000 TEUs. Total terminal capacity is 2 million TEUs.

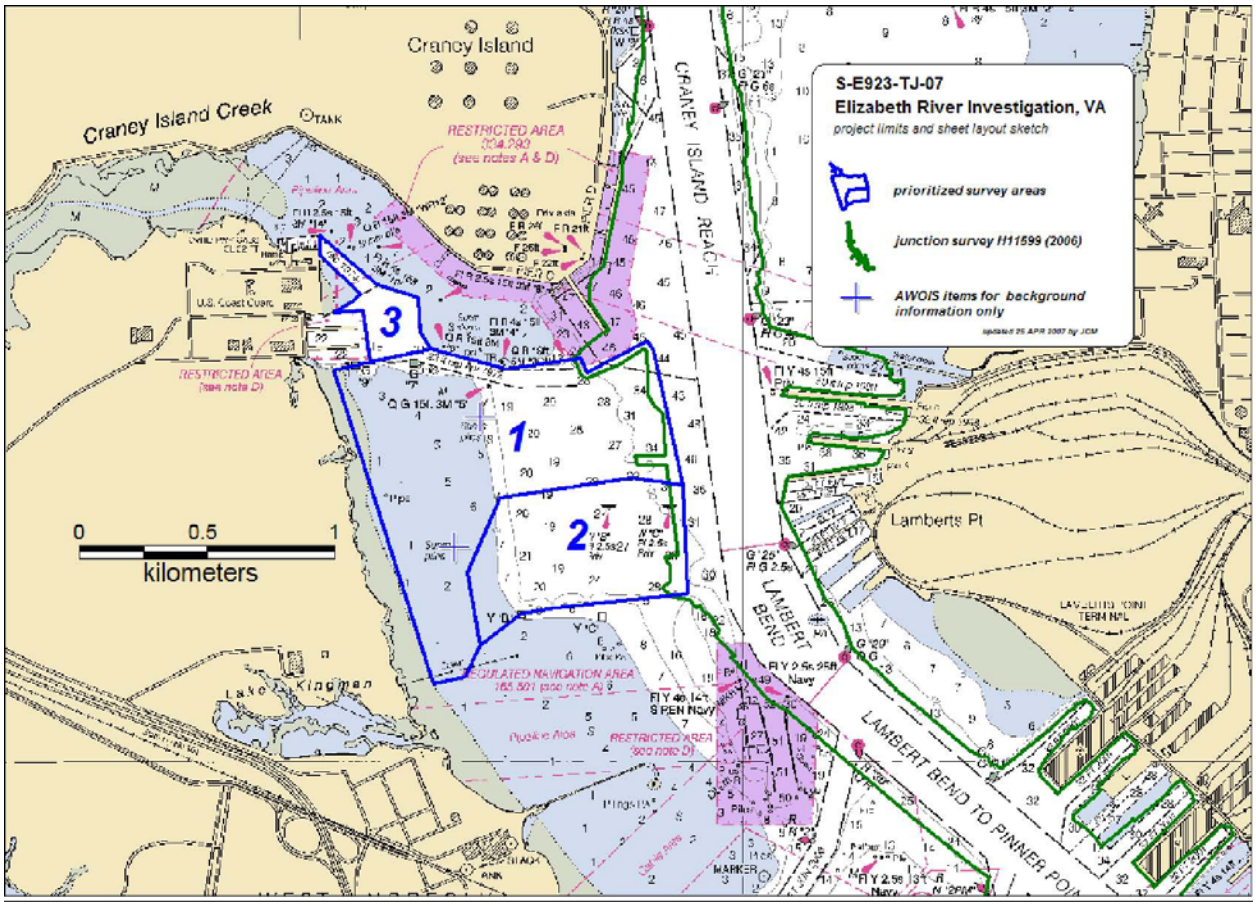
This hydrographic survey was conducted in accordance with Hydrographic Survey Letter Instructions* for project S-E923-TJ-07, Elizabeth River Investigation, VA, dated April 25th, 2007. ***Concur.***

Data Filed with original field records.

Table 1: Lineal Nautical Miles

Lineal Nautical Miles	
Single Beam Only	0
Multibeam Only	44.95
Side Scan Sonar Only	19.73
Side Scan/Single Beam	0
Crosslines	3.01
Multibeam Developments	0.39
Side Scan Developments	0
Shoreline Investigation	0
Data acquired from 26 – 30 April 2007	
No bottom samples collected	
No AWOIS items investigated	

Figure 1: Survey area.



B. DATA ACQUISITION AND PROCESSING

B.1 EQUIPMENT *See also the Evaluation Report.*

Data for this survey were acquired by the NOAA Ship THOMAS JEFFERSON Survey Launch 3101. NOAA Launch 3101 is a 9.5-meter aluminum boat with a transducer draft of 0.8 meters.

NOAA Launch 3101 acquired Multi-beam Echo-sounder data with the RESON 8125 system and side scan sonar data with the KLEIN 5000 inside the limits of F00540. Positioning and attitude data onboard Launch 3101 was determined with an Applanix POS/MV (version 4). Sound velocity profiles were acquired using Sea-Bird Electronics SBE19+ CTD.

No unusual vessel configurations or problems were encountered. Refer to the Data Acquisition and Processing Report (DAPR*) for detailed equipment and vessel configuration information.
Filed with original field records.

B.2 QUALITY CONTROL

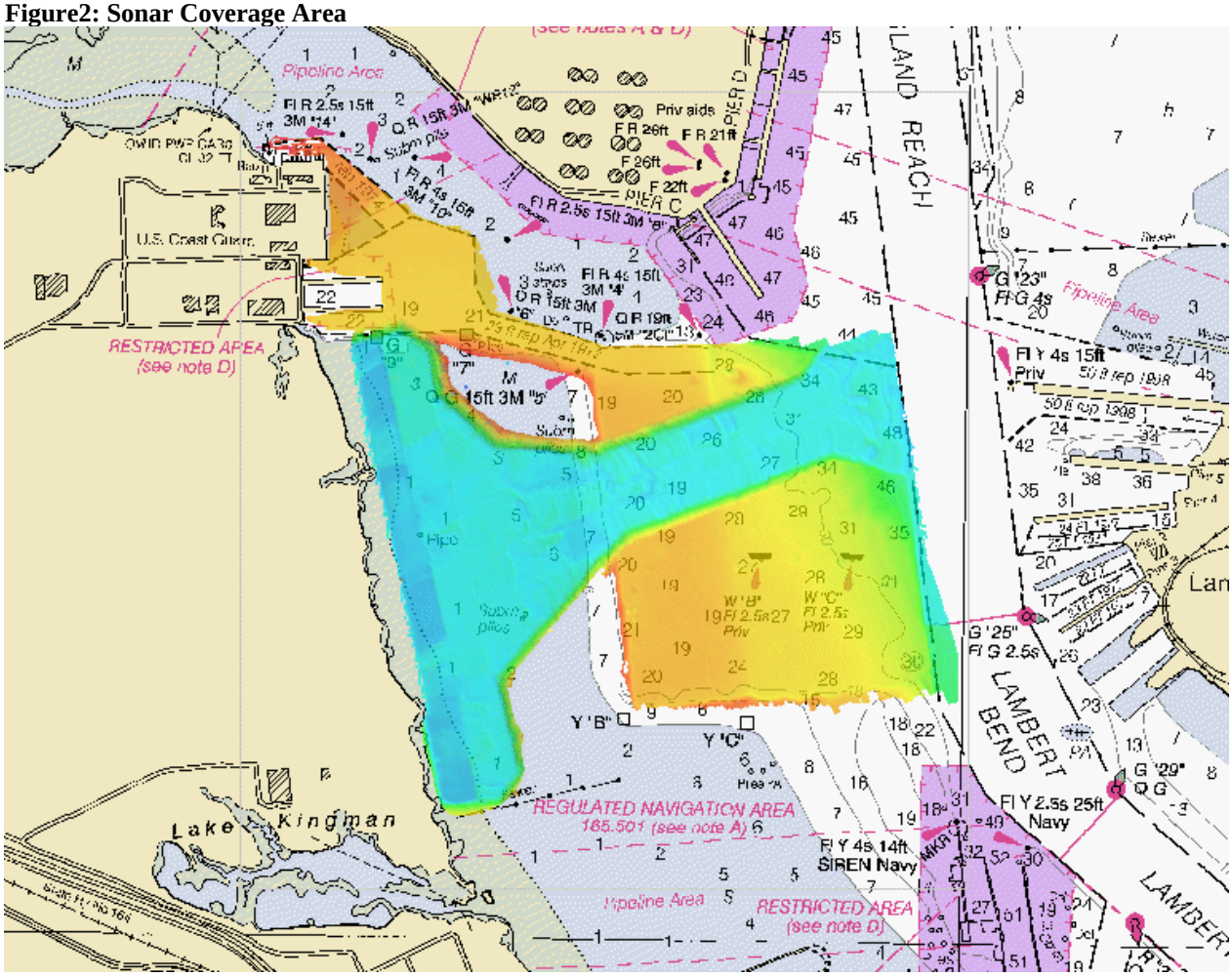
B.2.1 Side Scan Sonar Quality Control

Daily confidence checks were made by observing the outer ranges of all side scan sonar images. A good check consisted of distinguishing contacts or sand waves across the entire range of the side scan trace. No unusual problems were encountered. ***Concur.***

B.2.2 Multibeam Echosounder Quality Control

Complete MBES soundings were acquired as the primary source of bathymetry in the Maersk Shipping Terminal basin and approaches. All MBES coverage was acquired with Launch 3101 using the RESON 8125 MBES. For detailed discussion of SWMB system calibrations, data acquisition, and data processing refer to the 2007 DAPR. ***Concur. Data Filed with original field records.***

Figure2: Sonar Coverage Area



B.2.3 Crosslines

A total of 3.01 lineal nautical miles of crosslines were acquired by the field party, for a total of 6.7% of mainscheme MBES coverage. This percentage of crossline coverage meets the requirements of the Hydrographic Survey Specifications and Deliverables (HSSD), and a HIPS crossline-to-mainscheme data comparison was performed; data meets IHO Order I specification. Results of this test are included in Separate IV. ***Concur. Filed with original field records.***

B.2.4 Junctions

BAY HYDROGRAPHER Survey H11599 (2006) overlaps along the eastern edge of the sheet. No data from H11599 was available for depth comparison. ***Concur.***

B.3 CORRECTIONS TO ECHO SOUNDING

All methods or instruments used were as described in the project DAPR. A table detailing all sound velocity casts is located in Separate II. ***Filed with original field records.***

B.4 DATA PROCESSING

B.4.1 Total Propagated Error

For the 2007 field season, Total Propagated Error (TPE) parameters for sound speed and tides are calculated separately for each project. The project-specific parameters for S-E923-TJ-07, Survey F00540 are as follows:

Table 2: TPE Parameters

Vessel	Tide Values		Sound Speed Values	
	Measured	Zoning	Measured	Surface
3101	0	0.12	0.05	0.3

These values were applied to all MBES data immediately following CARIS Merge.

B.4.2 Fieldsheets and Navigation Surfaces

Seven Fieldsheets were generated for Survey F00540:

Table 3: Fieldsheets

FIELDSHEET NAME	SURFACE NAME	TYPE	PURPOSE	RESOLUTION
F00540_1	F00540_1_40cm_Final	CUBE, IHO-1	Coverage	40cm
F00540_2	F00540_2_40cm_Final	CUBE, IHO-1	Coverage	40cm
F00540_3	F00540_3_40cm_Final	CUBE, IHO-1	Coverage	40cm
F00540_4	F00540_4_40cm_Final	CUBE, IHO-1	Coverage	40cm

F00540_All	F00540_40cm_Combine	Combined BASE-surface	Coverage	40cm
F00540_SSS	F00540_SSS	Mosaic	SSS Coverage	1m
F00540_SSS_200	F00540_SSS_200	Mosaic	SSS Coverage	1m

For a detailed discussion of data processing procedures, refer to the project DAPR. ***Filed with original field records.***

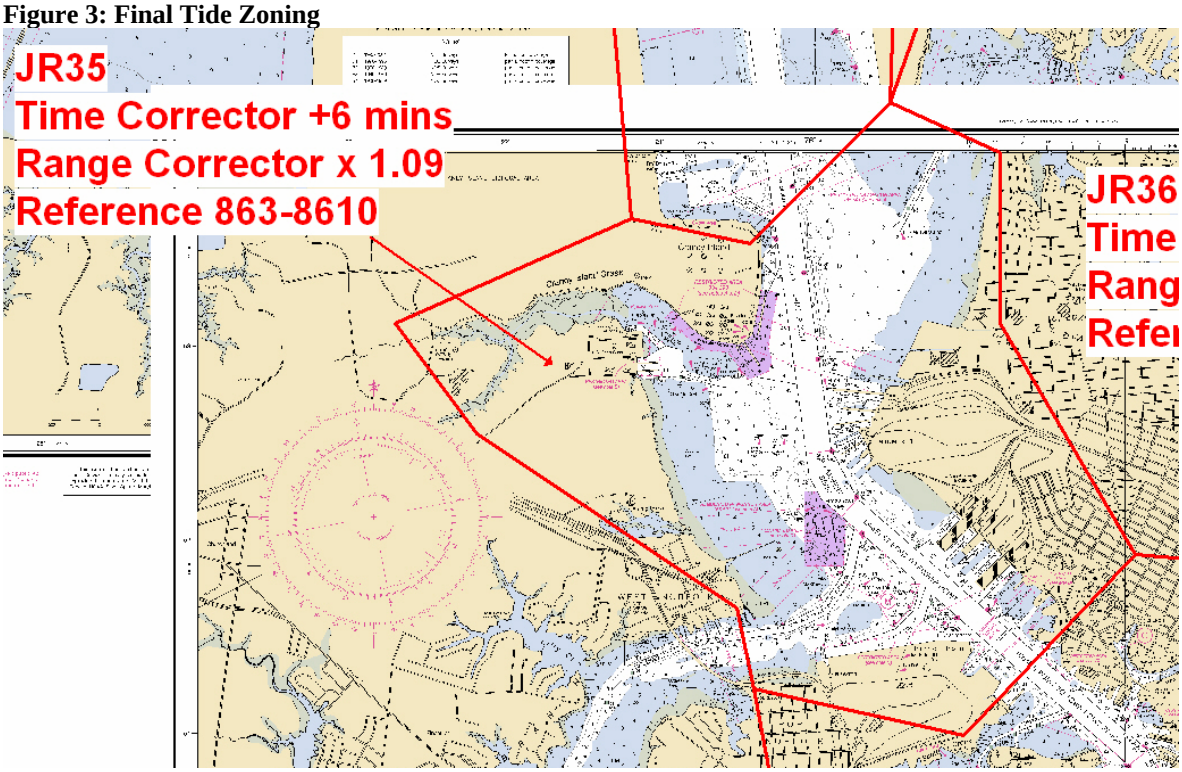
C. VERTICAL AND HORIZONTAL CONTROL ***See also the Evaluation Report.***

C.1 VERTICAL CONTROL

The tidal datum for this project is Mean Lower Low Water (MLLW). The operating tide stations at Sewells Point, VA (863-8610) and Money Point, VA (863-9348) served as control for datum determination. Tidal zoning for this survey is consistent with the Letter Instructions. The zone used for this survey is as follows: ***Concur.***

ZoneName	Time Corrector(mins)	Range Ratio	Predicted Reference
JR35	+6	x1.09	863-8610

Figure 3: Final Tide Zoning



A Request for Approved Tides letter was sent to N/OPS1 on 7 May 2007 (Appendix IV). ***Filed with original field records.***

C.2 HORIZONTAL CONTROL

The horizontal datum used for this survey is the North American Datum of 1983 (NAD 83), projected using UTM Zone 18. ***Concur.***

Sounding positional control was determined using the Global Positioning System (GPS) corrected by U.S. Coast Guard differential GPS (DGPS) beacon stations. The primary DGPS beacon used for this survey was Driver, Va and the secondary DGPS beacon was Portsmouth, Va. No horizontal control stations were established for this survey.

Horizontal dilution of precision (HDOP) was monitored daily on the launch. That value did not exceed 2.5, and adequate satellite coverage was maintained throughout the survey period.

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

D.1 CHART COMPARISON *See also the Evaluation Report.*

There is one chart and one ENC affected by this survey:

Chart Number	Edition	Edition Date	Raster (.kap) Date**	Scale
12253	44	DEC 2004	23 APR 2007	1:20,000

ENC Cell Name	Edition	Update Application Date	Issue Date
US5VA17M	10th	2007-03-19	2007-04-10

D.1.1 General Agreement with Charted soundings

Multiple areas of the survey did not agree with the charted soundings of Chart 12253. Generally these areas were seen to be between one and four feet shallower than charted depths. The channel leading to the Portsmouth Coast Guard Base (controlling depth of 23 feet) shows depths of 21 - 22 feet throughout. ***Concur.***

The main purpose for this project is the newly dredged channel and terminal basin for the Maersk Shipping Terminal in Portsmouth, VA. The controlling depth of this channel is to be 50 feet. There are multiple areas within this channel/basin that are shallower than said controlling depth, with many 49 and 48 foot soundings and shoals up to 45 feet in some areas. Refer to Appendix II for these areas of concern. ***Concur.***

D.1.2 AWOIS Items and Significant Contacts

There were no AWOIS Items for Survey F00540. All significant contacts are discussed in Appendix II. ***Do not concur. See also the Evaluation Report.***

D.1.3 Dangers to Navigation

There were no Dangers to Navigation for Survey F00540. ***Do not concur. See also the Evaluation Report.***

D.1.4 Charted Features

All charted features are discussed in Appendix II. ***Concur. See also the Evaluation Report.*** ***See also the Evaluation Report.***

D.2 ADDITIONAL RESULTS

D.2.1 Aids to Navigation and Other Detached Positions

There were no Aids to Navigation or Detached Positions in the survey limits of Survey F00540. An uncharted mooring buoy (contact ~~1.1~~ ***1.2*** in Appendix II) was noted while surveying the basin, and is also visible in the side scan sonar data. No DP was taken on the buoy. ***See the Evaluation Report.***

D.2.2 Bridges and Overhead Cables

No bridges or overhead cables were on this survey. ***Concur.***

D.2.3 Submarine Cables and Pipelines

There were no submarine cables or pipelines positioned during this survey, nor were any images of these items acquired on side scan sonar. ***Concur.***

E. APPROVAL SHEET

S-E923-TJ-07
Elizabeth River
1 NM west of Lamberts Point – Maersk Shipping Terminal

Survey Registry No. F00540

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.

Also submitted in association with this descriptive report have been the following reports:

- 2007 Hydrographic Systems Readiness Review memo (submitted 06 April 2007)
- 2006 Data Acquisition and Processing Report (submitted 06 October 2006)
- 2007 Data Acquisition and Processing Report (yet to be submitted as of this date)

Respectfully Submitted:

Stephen C. Kuzirian 4750/NOAA

LT(jg) Stephen Kuzirian, NOAA
Junior Officer/ Hydrographer

Approved and Forwarded:

LT Christiaan VanWestendorp, NOAA
Field Operations Officer

Raymond C Slagle
I am approving this document
2007.05.10 14:02:42 -04'00'

CAPT Raymond C. Slagle, NOAA
Commanding Officer

APPENDIX I

DTON

There are no DTONs for Survey F00540. ***Do not concur, see also the Evaluation Report.***

APPENDIX II

Item Investigation Reports

Following are item investigation reports detailing two groups of features:

1. ~~Charted Features~~ ***Charted and Uncharted Features***
2. ~~New Features~~

F00540 Features Report

Registry Number: F00540
State: Virginia
Locality: Elizabeth River
Sub-locality: AMP Terminal Basin
Project Number: S-E923-TJ-07
Survey Dates: 04/26/2007 - 05/23/2007

Charts Affected

Number	Version	Date	Scale
12245	65th Ed.	11/01/2005	1:20000
12253	44th Ed.	12/01/2004	1:20000
12206	31st Ed.	04/01/2005	1:40000
12222	47th Ed.	11/01/2005	1:40000
12207	21st Ed.	03/01/2004	1:80000
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.	Name	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	0002	SSS	[None]	036° 52' 32.194" N	76° 20' 12.413" W	---
1.2	0001	Mooring buoy	[None]	036° 52' 31.922" N	76° 20' 16.954" W	---
1.3	0002	SSS	[None]	036° 53' 07.223" N	76° 21' 04.707" W	---
1.4	0003	SSS	[None]	036° 53' 05.165" N	76° 21' 01.819" W	---
1.5	375/169	Shoal	15.05 m	036° 52' 36.960" N	76° 20' 57.011" W	---
1.6	1061/135	Shoal	14.52 m	036° 52' 24.252" N	76° 20' 54.002" W	---
1.7	860/217	Shoal	15.01 m	036° 52' 21.866" N	76° 20' 52.404" W	---
1.8	2069/186	Shoal	15.08 m	036° 52' 35.765" N	76° 20' 42.214" W	---
1.9	2043/237	Shoal	15.15 m	036° 52' 33.756" N	76° 20' 41.746" W	---
1.10	2596/130	Shoal	14.76 m	036° 52' 41.863" N	76° 20' 09.559" W	---
1.11	472/123	Shoal	15.12 m	036° 52' 36.760" N	76° 20' 45.864" W	---

Generated by Pydro v7.3 (r2014_TCfix) on Wed May 30 18:57:46 2007 [UTC]

1.12	1598/14	Obstruction	2.52 m	036° 53' 02.830" N	76° 21' 05.556" W	---
1.13	2349/40	Obstruction	3.58 m	036° 52' 46.800" N	76° 20' 38.302" W	---
1.14	687/164	Shoal	5.75 m	036° 52' 47.118" N	76° 20' 27.948" W	---
1.15	7691/239	Shoal	15.09 m	036° 52' 34.335" N	76° 20' 45.073" W	---
1.16	9044/158	Shoal	15.10 m	036° 52' 43.633" N	76° 20' 58.816" W	---
1.17	18558/237	Shoal	15.06 m	036° 52' 40.461" N	76° 20' 33.378" W	---
1.18	1759/215	Obstruction	4.34 m	036° 52' 20.174" N	76° 20' 31.543" W	---
1.19	1083/40	Obstruction	6.12 m	036° 52' 26.070" N	76° 20' 22.603" W	---
1.20	174/95	Shoal	15.14 m	036° 52' 41.363" N	76° 20' 07.964" W	---
1.21	1240/223	Shoal	15.10 m	036° 52' 50.735" N	76° 20' 07.779" W	---
1.22	393/154	Shoal	15.05 m	036° 52' 30.533" N	76° 20' 40.459" W	---
1.23	133/155	Shoal	13.83 m	036° 52' 11.410" N	76° 20' 49.218" W	---
1.24	1580/40	Obstruction	6.29 m	036° 52' 54.733" N	76° 20' 57.610" W	---
1.25	---	GP	[None]	036° 52' 33.612" N	76° 20' 56.188" W	---
1.26	---	GP	[None]	036° 52' 26.860" N	76° 20' 45.363" W	---
1.27	---	GP	[None]	036° 52' 49.879" N	76° 20' 50.928" W	---
1.28	---	GP	[None]	036° 52' 11.143" N	76° 20' 45.866" W	---
1.29	1844/14	Mooring buoy	6.75 m	036° 52' 30.913" N	76° 20' 23.220" W	---
1.30	4945/232	Shoal	14.40 m	036° 52' 42.024" N	76° 20' 50.656" W	---
1.31	486/14	Obstruction	16.06 m	036° 52' 11.880" N	76° 20' 50.985" W	---
1.32	1057/218	Obstruction	6.53 m	036° 52' 53.266" N	76° 20' 53.577" W	---
1.33	1453/183	Obstruction	6.42 m	036° 52' 50.978" N	76° 20' 54.769" W	---
1.34	1736/34	Shoal	5.63 m	036° 52' 28.078" N	76° 20' 28.602" W	---
1.35	223/69	Obstruction	6.08 m	036° 52' 33.709" N	76° 20' 24.823" W	---

1 - Charted and Uncharted Features

1.1) Contact/Point - 0002/1 from f00540 / tj_3101_klein5000_sss100 / 2007-117 / 109_1249

Survey Summary

Survey Position: 036° 52' 32.194" N, 76° 20' 12.413" W

Least Depth: [None]

Timestamp: 2007-117.09:37:35 (04/27/2007)

Survey Line: f00540 / tj_3101_klein5000_sss100 / 2007-117 / 109_1249

Contact/Point: 0002/1

Charts Affected: 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

Bottom scour in charted mooring buoy position.

May 5 - Klein 5000 and Reson 8125 data show evidence of scouring in area, but no raised obstructions. Possible from mooring buoy that has been removed.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00540/tj_3101_klein5000_sss100/2007-117/109_1249	0002	0.00	000.0	Primary
ChartGPs - Digitized	3	1.33	067.4	Secondary (grouped)

Hydrographer Recommendations

Delete mooring buoy from chart. See Mooring Buoy 1.

S-57 Data

[None]

Office Notes

Concur. Defer to MCD Chart Update Services Branch for charting recommendations for Aids to Navigation.

1.2) Contact/Point - 0001/1 from f00540 / tj_3101_klein5000_sss100 / 2007-117 / 113_1415

Survey Summary

Survey Position: 036° 52' 31.922" N, 76° 20' 16.954" W

Least Depth: [None]

Timestamp: 2007-117.09:33:55 (04/27/2007)

Survey Line: f00540 / tj_3101_klein5000_sss100 / 2007-117 / 113_1415

Contact/Point: 0001/1

Charts Affected: 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

Uncharted mooring block and chain.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00540/tj_3101_klein5000_sss100/2007-117/113_1415	0001	0.00	000.0	Primary
ChartGPs - Digitized	1	1.43	112.3	Secondary (grouped)

Hydrographer Recommendations

Chart mooring bouy as per present survey findings.

S-57 Data

Geo object 1: Buoy, special purpose/general (BOYSPP)

Attributes: BOYSHP - 3:spherical

CATSPM - 14:mooring mark

COLOUR - 1:white

SORDAT - 27 April 2007

SORIND - Side scan sonar, visual sighting

Office Notes

Concur. Add a mooring buoy in Latitude 36°52'31.92"N, Longitude 76°20'16.95"W. Defer to MCD Chart Update Services Branch for charting recommendations for Aids to Navigation.

1.3) Contact/Point - 0002/1 from f00540 / tj_3101_klein5000_sss100 / 2007-117 / 129_1456

Survey Summary

Survey Position: 036° 53' 07.223" N, 76° 21' 04.707" W

Least Depth: [None]

Timestamp: 2007-138.05:34:16 (05/18/2007)

Survey Line: f00540 / tj_3101_klein5000_sss100 / 2007-117 / 129_1456

Contact/Point: 0002/1

Charts Affected: 12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

Charted light Fl R 2.5s 15ft 3M "14"

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00540/tj_3101_klein5000_sss100/2007-117/129_1456	0002	0.00	000.0	Primary

Hydrographer Recommendations

[None]

S-57 Data

[None]

Office Notes

Retain as charted, defer to MCD Chart Update Services Branch for final recommendations on Aids to Navigation.

1.4) Contact/Point - 0003/1 from f00540 / tj_3101_klein5000_sss100 / 2007-117 / 129_1456

Survey Summary

Survey Position: 036° 53' 05.165" N, 76° 21' 01.819" W

Least Depth: [None]

Timestamp: 2007-138.05:34:29 (05/18/2007)

Survey Line: f00540 / tj_3101_klein5000_sss100 / 2007-117 / 129_1456

Contact/Point: 0003/1

Charts Affected: 12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

Charted light QR 15ft 3M "WR12"

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00540/tj_3101_klein5000_sss100/2007-117/129_1456	0003	0.00	000.0	Primary

Hydrographer Recommendations

[None]

S-57 Data

[None]

Office Notes

Retain as charted, defer to MCD Chart Update Services Branch for final recommendations on Aids to Navigation.

1.5) Profile/Beam - 375/169 from f00540 / tj_3101_reson8125 / 2007-116 / 009_1630

Survey Summary

Survey Position: 036° 52' 36.960" N, 76° 20' 57.011" W

Least Depth: 15.05 m

Timestamp: 2007-116.16:31:36.209 (04/26/2007)

Survey Line: f00540 / tj_3101_reson8125 / 2007-116 / 009_1630

Profile/Beam: 375/169

Charts Affected: 12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

Area is shallower than the 50ft controlling depth of the basin. Reson 8125 MBES data corrected to MLLW, observed tides and preliminary zoning applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00540/tj_3101_reson8125/2007-116/009_1630	375/169	0.00	000.0	Primary

Hydrographer Recommendations

Have area dredged to 50ft control or change control depth to meet present survey findings.

Cartographically-Rounded Depth (Affected Charts):

49ft (12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2)

8 ¼fm (13003_1)

S-57 Data

Geo object 1: Sounding (SOUNDG)

Attributes: QUASOU - 1:depth known

SORDAT - 26 April 2007

SORIND - RESON 8125 MBES

STATUS - 1:permanent

TECSOU - 3:found by multi-beam

VERDAT - 12:Mean lower low water

Office Notes

Concur, chart present survey soundings.

1.6) Profile/Beam - 1061/135 from f00540 / tj_3101_reson8125 / 2007-116 / 010_1627

Survey Summary

Survey Position: 036° 52' 24.252" N, 76° 20' 54.002" W

Least Depth: 14.52 m

Timestamp: 2007-116.16:29:43.321 (04/26/2007)

Survey Line: f00540 / tj_3101_reson8125 / 2007-116 / 010_1627

Profile/Beam: 1061/135

Charts Affected: 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

Dredged area is shallower than the controlling depth of 50 ft. RESON 8125 MBES data analyzed and corrected to MLLW, observed tides and preliminary zoning applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00540/tj_3101_reson8125/2007-116/010_1627	1061/135	0.00	000.0	Primary
f00540/tj_3101_reson8125/2007-117/181_1821	3458/49	7.39	076.2	Secondary

Hydrographer Recommendations

Have area dredged to 50ft control or change control depth to meet present survey findings.

Cartographically-Rounded Depth (Affected Charts):

47ft (12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2)

8fm (13003_1)

S-57 Data

Geo object 1: Sounding (SOUNDG)

Attributes: QUASOU - 1:depth known

SORDAT - 26 April 2007

SORIND - Reson 8125 MBES

STATUS - 1:permanent

TECSOU - 3:found by multi-beam

VERDAT - 12:Mean lower low water

Office Notes

Concur, chart present survey soundings.

1.7) Profile/Beam - 860/217 from f00540 / tj_3101_reson8125 / 2007-116 / 010_1627

Survey Summary

Survey Position: 036° 52' 21.866" N, 76° 20' 52.404" W

Least Depth: 15.01 m

Timestamp: 2007-116.16:29:20.306 (04/26/2007)

Survey Line: f00540 / tj_3101_reson8125 / 2007-116 / 010_1627

Profile/Beam: 860/217

Charts Affected: 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

Area is shallower than the 50ft controlling depth of the basin. Reson 8125 MBES data corrected to MLLW, observed tides and preliminary zoning applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00540/tj_3101_reson8125/2007-116/010_1627	860/217	0.00	000.0	Primary

Hydrographer Recommendations

Have area dredged to 50ft control or change control depth to meet present survey findings.

Cartographically-Rounded Depth (Affected Charts):

49ft (12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2)

8 ¼fm (13003_1)

S-57 Data

Geo object 1: Sounding (SOUNDG)

Attributes: QUASOU - 1:depth known

SORDAT - 26 April 2007

SORIND - Reson 8125 MBES

STATUS - 1:permanent

TECSOU - 3:found by multi-beam

VERDAT - 12:Mean lower low water

Office Notes

Concur, chart present survey soundings.

1.8) Profile/Beam - 2069/186 from f00540 / tj_3101_reson8125 / 2007-116 / 013_1713

Survey Summary

Survey Position: 036° 52' 35.765" N, 76° 20' 42.214" W

Least Depth: 15.08 m

Timestamp: 2007-116.17:16:57.217 (04/26/2007)

Survey Line: f00540 / tj_3101_reson8125 / 2007-116 / 013_1713

Profile/Beam: 2069/186

Charts Affected: 12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

Area is shallower than the 50ft controlling depth of the basin. Reson 8125 MBES data corrected to MLLW, observed tides and preliminary zoning applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00540/tj_3101_reson8125/2007-116/013_1713	2069/186	0.00	000.0	Primary
f00540/tj_3101_reson8125/2007-116/013_1713	2074/150	5.81	002.0	Secondary (grouped)

Hydrographer Recommendations

Have area dredged to 50ft control or change control depth to meet present survey findings.

Cartographically-Rounded Depth (Affected Charts):

49ft (12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2)

8 ¼fm (13003_1)

S-57 Data

Geo object 1: Sounding (SOUNDG)

Attributes: QUASOU - 1:depth known

SORDAT - 26 April 2007

SORIND - Reson 8125 MBES

STATUS - 1:permanent

TECSOU - 3:found by multi-beam

VERDAT - 12:Mean lower low water

Office Notes

Concur, chart present survey soundings.

1.9) Profile/Beam - 2043/237 from f00540 / tj_3101_reson8125 / 2007-116 / 015_1445

Survey Summary

Survey Position: 036° 52' 33.756" N, 76° 20' 41.746" W

Least Depth: 15.15 m

Timestamp: 2007-116.14:49:11.803 (04/26/2007)

Survey Line: f00540 / tj_3101_reson8125 / 2007-116 / 015_1445

Profile/Beam: 2043/237

Charts Affected: 12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

Area is shallower than the 50ft controlling depth of the basin. Reson 8125 MBES data corrected to MLLW, observed tides and preliminary zoning applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00540/tj_3101_reson8125/2007-116/015_1445	2043/237	0.00	000.0	Primary
f00540/tj_3101_klein5000_sss200/2007-120/220_1819	0006	37.26	062.8	Secondary (grouped)
f00540/tj_3101_reson8125/2007-117/181_1821	2024/52	44.59	072.0	Secondary (grouped)

Hydrographer Recommendations

Have area dredged to 50ft control or change control depth to meet present survey findings.

Cartographically-Rounded Depth (Affected Charts):

49ft (12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2)

8 ¼fm (13003_1)

S-57 Data

Geo object 1: Sounding (SOUNDG)

Attributes: QUASOU - 1:depth known

SORDAT - 26 April 2007

SORIND - Reson 8125 MBES

STATUS - 1:permanent

TECSOU - 3:found by multi-beam

VERDAT - 12:Mean lower low water

Office Notes

Concur, chart present survey soundings.

1.10) Profile/Beam - 2596/130 from f00540 / tj_3101_reson8125 / 2007-116 / 016_1353

Survey Summary

Survey Position: 036° 52' 41.863" N, 76° 20' 09.559" W

Least Depth: 14.76 m

Timestamp: 2007-116.13:58:21.831 (04/26/2007)

Survey Line: f00540 / tj_3101_reson8125 / 2007-116 / 016_1353

Profile/Beam: 2596/130

Charts Affected: 12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

Area is shallower than the 50ft controlling depth of the basin. Reson 8125 MBES data corrected to MLLW, observed tides and preliminary zoning applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00540/tj_3101_reson8125/2007-116/016_1353	2596/130	0.00	000.0	Primary

Hydrographer Recommendations

Have area dredged to 50ft control or change control depth to meet present survey findings.

S-57 Data

Geo object 1: Sounding (SOUNDG)

Attributes: QUASOU - 1:depth known

SORDAT - 26 April 2007

SORIND - Reson 8125 MBES

STATUS - 1:permanent

TECSOU - 3:found by multi-beam

VERDAT - 12:Mean lower low water

Office Notes

Concur, chart present survey soundings.

1.11) Profile/Beam - 472/123 from f00540 / tj_3101_reson8125 / 2007-116 / 024_1730

Survey Summary

Survey Position: 036° 52' 36.760" N, 76° 20' 45.864" W

Least Depth: 15.12 m

Timestamp: 2007-116.17:30:56.401 (04/26/2007)

Survey Line: f00540 / tj_3101_reson8125 / 2007-116 / 024_1730

Profile/Beam: 472/123

Charts Affected: 12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

Area is shallower than the 50ft controlling depth of the basin. Reson 8125 MBES data corrected to MLLW, observed tides and preliminary zoning applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00540/tj_3101_reson8125/2007-116/024_1730	472/123	0.00	000.0	Primary

Hydrographer Recommendations

Have area dredged to 50ft control or change control depth to meet present survey findings.

Cartographically-Rounded Depth (Affected Charts):

49ft (12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2)

8 ¼fm (13003_1)

S-57 Data

Geo object 1: Sounding (SOUNDG)

Attributes: QUASOU - 1:depth known

SORDAT - 26 April 2007

SORIND - Reson 8125 MBES

STATUS - 1:permanent

TECSOU - 3:found by multi-beam

VERDAT - 12:Mean lower low water

Office Notes

Concur, chart present survey soundings.

1.12) Profile/Beam - 1598/14 from f00540 / tj_3101_reson8125 / 2007-116 / 162_1540

Survey Summary

Survey Position: 036° 53' 02.830" N, 76° 21' 05.556" W

Least Depth: 2.52 m

Timestamp: 2007-116.15:41:12.851 (04/26/2007)

Survey Line: f00540 / tj_3101_reson8125 / 2007-116 / 162_1540

Profile/Beam: 1598/14

Charts Affected: 12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

Old pile, 2m in height. Observed in Klein 5000 SSS and Reson 8125 MBES data. 8125 data corrected to MLLW, observed tides and preliminary zoning applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00540/tj_3101_reson8125/2007-116/162_1540	1598/14	0.00	000.0	Primary
f00540/tj_3101_klein5000_sss200/2007-120/200_1724	0001	2.74	014.1	Secondary
f00540/tj_3101_klein5000_sss100/2007-117/130_1508	0001	3.45	337.2	Secondary (grouped)
f00540/tj_3101_klein5000_sss200/2007-120/201_1720	0001	3.82	128.5	Secondary

Hydrographer Recommendations

Chart submerged pile

Cartographically-Rounded Depth (Affected Charts):

8ft (12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2)

1 ¼fm (13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: QUASOU - 6:least depth known

TECSOU - 3:found by multi-beam

VALSOU - 2.522 m

	VERDAT - 12:Mean lower low water
	WATLEV - 3:always under water/submerged
Geo object 2:	Pile (PILPNT)
Attributes:	CATPLE - 1:stake
	CONDTN - 2:ruined
	CONVIS - 2:not visual conspicuous
	HEIGHT - 2 m
	SORDAT - 26 April 2007
	SORIND - Reson 8215 MBES

Office Notes

Concur, chart a dangerous Obstn with a depth of 8 ft. in Latitude 36°53'02.83"N, Longitude 76°21'05.56"W.

1.13) Profile/Beam - 2349/40 from f00540 / tj_3101_reson8125 / 2007-117 / 066_1615

Survey Summary

Survey Position: 036° 52' 46.800" N, 76° 20' 38.302" W

Least Depth: 3.58 m

Timestamp: 2007-117.16:16:59.439 (04/27/2007)

Survey Line: f00540 / tj_3101_reson8125 / 2007-117 / 066_1615

Profile/Beam: 2349/40

Charts Affected: 12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

May 5 - Obstruction in Reson 8125 MBES data approx .4 - .5m in height. 8125 data corrected to MLLW, observed tides and preliminary zoning applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00540/tj_3101_reson8125/2007-117/066_1615	2349/40	0.00	000.0	Primary
f00540/tj_3101_klein5000_sss200/2007-120/217_1744	0004	15.39	149.3	Secondary (grouped)
f00540/tj_3101_klein5000_sss100/2007-117/034_1349	0004	16.71	153.0	Secondary (grouped)
f00540/tj_3101_klein5000_sss100/2007-117/121_1440	0001	19.45	137.5	Secondary (grouped)
f00540/tj_3101_reson8125/2007-116/004_1813	1353/232	20.63	136.2	Secondary (grouped)

Hydrographer Recommendations

Chart obstruction with least depth per present survey findings. -- Obstn is one of two submerged pilings lying on the seafloor with a height off the seafloor of 0.93m.

Cartographically-Rounded Depth (Affected Charts):

12ft (12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2)

2fm (13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: QUASOU - 1:depth known

SORDAT - 27 April 2007

SORIND - Reson 8125 MBES

STATUS - 1:permanent

TECSOU - 3:found by multi-beam

VALSOU - 3.584 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Concur, chart a dangerous Obstn with a depth of 12 ft. in Latitude 36°52'46.80"N, Longitude 76°20'38.30"W.

1.14) Profile/Beam - 687/164 from f00540 / tj_3101_reson8125 / 2007-117 / 066_1615

Survey Summary

Survey Position: 036° 52' 47.118" N, 76° 20' 27.948" W

Least Depth: 5.75 m

Timestamp: 2007-117.16:15:43.346 (04/27/2007)

Survey Line: f00540 / tj_3101_reson8125 / 2007-117 / 066_1615

Profile/Beam: 687/164

Charts Affected: 12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

Reson 8125 MBES data shows hilly terrain outside channel to CG Station Portsmouth. Klein 5000 side scan data inconclusive. Sounding data corrected to MLLW, observed tides and preliminary zoning applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00540/tj_3101_reson8125/2007-117/066_1615	687/164	0.00	000.0	Primary
f00540/tj_3101_reson8125/2007-117/066_1615	685/160	0.37	308.3	Secondary (grouped)
f00540/tj_3101_klein5000_sss100/2007-117/121_1440	0005	8.13	011.9	Secondary

Hydrographer Recommendations

Chart sounding data per present survey findings.

S-57 Data

Geo object 1: Sounding (SOUNDG)

Attributes: QUASOU - 1:depth known

SORDAT - 27 April 2007

SORIND - Reson 8125 MBES

STATUS - 1:permanent

TECSOU - 3:found by multi-beam

VERDAT - 12:Mean lower low water

Office Notes

Concur, shoal is present near the Coast Guard channel, chart present survey soundings.

1.15) Profile/Beam - 7691/239 from f00540 / tj_3101_reson8125 / 2007-117 / 181_1821

Survey Summary

Survey Position: 036° 52' 34.335" N, 76° 20' 45.073" W

Least Depth: 15.09 m

Timestamp: 2007-117.18:34:11.762 (04/27/2007)

Survey Line: f00540 / tj_3101_reson8125 / 2007-117 / 181_1821

Profile/Beam: 7691/239

Charts Affected: 12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

Dredged area is shallower than the controlling depth of 50 ft. RESON 8125 MBES data analyzed and corrected to MLLW, observed tides and preliminary zoning applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00540/tj_3101_reson8125/2007-117/181_1821	7691/239	0.00	000.0	Primary
f00540/tj_3101_reson8125/2007-116/013_1713	2253/107	8.02	190.1	Secondary (grouped)
f00540/tj_3101_reson8125/2007-117/181_1821	1878/206	31.04	223.1	Secondary (grouped)
f00540/tj_3101_reson8125/2007-117/181_1821	1866/207	34.08	218.3	Secondary (grouped)
f00540/tj_3101_reson8125/2007-116/012_1718	405/236	39.45	209.4	Secondary (grouped)

Hydrographer Recommendations

Have area dredged to 50ft control or change control depth to meet present survey findings.

Cartographically-Rounded Depth (Affected Charts):

49ft (12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2)

8 ¼fm (13003_1)

S-57 Data

Geo object 1: Sounding (SOUNDG)

Attributes: QUASOU - 1:depth known

SORDAT - 27 April 2007

SORIND - Reson 8125 MBES

STATUS - 1:permanent

TECSOU - 3:found by multi-beam

VERDAT - 12:Mean lower low water

Office Notes

Concur, chart present survey soundings.

1.16) Profile/Beam - 9044/158 from f00540 / tj_3101_reson8125 / 2007-117 / 181_1821

Survey Summary

Survey Position: 036° 52' 43.633" N, 76° 20' 58.816" W

Least Depth: 15.10 m

Timestamp: 2007-117.18:36:27.751 (04/27/2007)

Survey Line: f00540 / tj_3101_reson8125 / 2007-117 / 181_1821

Profile/Beam: 9044/158

Charts Affected: 12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

Area is shallower than the 50ft controlling depth of the basin. Reson 8125 MBES data corrected to MLLW, observed tides and preliminary zoning applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00540/tj_3101_reson8125/2007-117/181_1821	9044/158	0.00	000.0	Primary

Hydrographer Recommendations

Have area dredged to 50ft control or change control depth to meet present survey findings.

Cartographically-Rounded Depth (Affected Charts):

49ft (12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2)

8 ¼fm (13003_1)

S-57 Data

Geo object 1: Sounding (SOUNDG)

Attributes: QUASOU - 1:depth known

SORDAT - 27 April 2007

SORIND - Reson 8125 MBES

STATUS - 1:permanent

TECSOU - 3:found by multi-beam

VERDAT - 12:Mean lower low water

Office Notes

Concur, chart present survey soundings.

1.17) Profile/Beam - 18558/237 from f00540 / tj_3101_reson8125 / 2007-117 / 181_1821

Survey Summary

Survey Position: 036° 52' 40.461" N, 76° 20' 33.378" W

Least Depth: 15.06 m

Timestamp: 2007-117.18:44:46.230 (04/27/2007)

Survey Line: f00540 / tj_3101_reson8125 / 2007-117 / 181_1821

Profile/Beam: 18558/237

Charts Affected: 12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

Area is shallower than the 50ft controlling depth of the basin. Reson 8125 data corrected to MLLW, observed tides and preliminary zoning applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00540/tj_3101_reson8125/2007-117/181_1821	18558/237	0.00	000.0	Primary

Hydrographer Recommendations

Have area dredged to 50ft control or change control depth to meet present survey findings.

Cartographically-Rounded Depth (Affected Charts):

49ft (12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2)

8 ¼fm (13003_1)

S-57 Data

Geo object 1: Sounding (SOUNDG)

Attributes: QUASOU - 1:depth known

SORDAT - 27 April 2007

SORIND - Reson 8125 MBES

STATUS - 1:permanent

TECSOU - 3:found by multi-beam

VERDAT - 12:Mean lower low water

Office Notes

Concur, chart present survey soundings.

1.18) Profile/Beam - 1759/215 from f00540 / tj_3101_reson8125 / 2007-120 / 051_1551

Survey Summary

Survey Position: 036° 52' 20.174" N, 76° 20' 31.543" W

Least Depth: 4.34 m

Timestamp: 2007-120.15:52:44.329 (04/30/2007)

Survey Line: f00540 / tj_3101_reson8125 / 2007-120 / 051_1551

Profile/Beam: 1759/215

Charts Affected: 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

May 5 - Obstruction is 1 meter in height. 200% Klein Side Scan and 100% Reson 8125 MBES acquired. Tide corrected to MLLW, observed tides and preliminary zoning applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00540/tj_3101_reson8125/2007-120/051_1551	1759/215	0.00	000.0	Primary
f00540/tj_3101_klein5000_sss100/2007-117/112_1407	0001	2.59	263.2	Secondary

Hydrographer Recommendations

Chart obstruction with least depth per present survey findings. -- Obstr is a submerged piling with a height of 1.63m.

Cartographically-Rounded Depth (Affected Charts):

14ft (12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2)

2 ¼fm (13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: QUASOU - 1:depth known

SORDAT - 30 April 2007

SORIND - Reson 8125 MBES

STATUS - 1:permanent

TECSOU - 3:found by multi-beam

VALSOU - 4.335 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Concur, chart a dangerous Obstn with a depth of 14 ft. in Latitude 36°52'20.17"N, Longitude 76°20'31.54"W.

1.19) Profile/Beam - 1083/40 from f00540 / tj_3101_reson8125 / 2007-120 / 126_1404

Survey Summary

Survey Position: 036° 52' 26.070" N, 76° 20' 22.603" W

Least Depth: 6.12 m

Timestamp: 2007-120.14:05:51.968 (04/30/2007)

Survey Line: f00540 / tj_3101_reson8125 / 2007-120 / 126_1404

Profile/Beam: 1083/40

Charts Affected: 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

May 5 - Rectangular object 4 meters in length with height of .5m at one end and 1 meter at the other. 200% KLEIN Side Scan and Reson 8125 data acquired. Tide corrected to MLLW, observed tides and preliminary zoning applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00540/tj_3101_reson8125/2007-120/126_1404	1083/40	0.00	000.0	Primary
f00540/tj_3101_klein5000_sss100/2007-117/118_1424	0001	0.62	090.5	Secondary (grouped)
f00540/tj_3101_klein5000_sss100/2007-117/117_1421	0001	11.70	163.6	Secondary (grouped)
f00540/tj_3101_reson8125/2007-120/126_1404	1141/11	12.84	143.3	Secondary (grouped)
f00540/tj_3101_klein5000_sss200/2007-120/207_1837	0001	13.44	148.9	Secondary
f00540/tj_3101_reson8125/2007-120/129_1407	1755/18	17.05	172.2	Secondary

Hydrographer Recommendations

Chart sounding data per present survey findings.

Cartographically-Rounded Depth (Affected Charts):

20ft (12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2)

3 ¼fm (13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: QUASOU - 1:depth known

	STATUS - 1:permanent
	TECSOU - 3:found by multi-beam
	VALSOU - 6.116 m
	VERDAT - 12:Mean lower low water
	WATLEV - 3:always under water/submerged
Geo object 2:	Sounding (SOUNDG)
Attributes:	QUASOU - 1:depth known
	SORDAT - 30 April 2007
	SORIND - Reson 8125 MBES
	STATUS - 1:permanent
	TECSOU - 3:found by multi-beam
	VERDAT - 12:Mean lower low water

Office Notes

Do not concur. Object is actually two-part angled object, with one side approx. 16m long and the other approx. 13m long in the shape of a V. Chart a dangerous Obstn with a depth of 20ft. in Latitude 36°52'26.07"N, Longitude 76°20'22.60"W. Recommend submitting this feature to the appropriate authorities for dive investigation and possible removal or recovery.

1.20) Profile/Beam - 174/95 from f00540 / tj_3101_reson8125 / 2007-116 / 040_1342

Survey Summary

Survey Position: 036° 52' 41.363" N, 76° 20' 07.964" W

Least Depth: 15.14 m

Timestamp: 2007-116.13:42:48.177 (04/26/2007)

Survey Line: f00540 / tj_3101_reson8125 / 2007-116 / 040_1342

Profile/Beam: 174/95

Charts Affected: 12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

Area is shallower than the 50ft controlling depth. Reson 8125 MBES data corrected to MLLW, observed tides and preliminary zoning applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00540/tj_3101_reson8125/2007-116/040_1342	174/95	0.00	000.0	Primary

Hydrographer Recommendations

Have area dredged to 50ft control or change control depth to meet present survey findings.

Cartographically-Rounded Depth (Affected Charts):

49ft (12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2)

8 ¼fm (13003_1)

S-57 Data

Geo object 1: Sounding (SOUNDG)

Attributes: QUASOU - 1:depth known

SORDAT - 26 April 2007

SORIND - Reson 8125 MBES

STATUS - 1:permanent

TECSOU - 3:found by multi-beam

VERDAT - 12:Mean lower low water

Office Notes

Concur, chart present survey soundings.

1.21) Profile/Beam - 1240/223 from f00540 / tj_3101_reson8125 / 2007-116 / 155_1436

Survey Summary

Survey Position: 036° 52' 50.735" N, 76° 20' 07.779" W

Least Depth: 15.10 m

Timestamp: 2007-116.14:39:02.176 (04/26/2007)

Survey Line: f00540 / tj_3101_reson8125 / 2007-116 / 155_1436

Profile/Beam: 1240/223

Charts Affected: 12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

Area is shallower than the 50ft controlling depth of the basin. Reson 8125 MBES data corrected to MLLW, observed tides and preliminary zoning applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00540/tj_3101_reson8125/2007-116/155_1436	1240/223	0.00	000.0	Primary
f00540/tj_3101_klein5000_sss200/2007-120/221_1903	0001	1.76	001.3	Secondary (grouped)

Hydrographer Recommendations

Have area dredged to 50ft control or change control depth to meet present survey findings.

Cartographically-Rounded Depth (Affected Charts):

49ft (12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2)

8 ¼fm (13003_1)

S-57 Data

Geo object 1: Sounding (SOUNDG)

Attributes: QUASOU - 1:depth known

SORDAT - 26 April 2007

SORIND - Reson 8125 MBES

STATUS - 1:permanent

TECSOU - 3:found by multi-beam

VERDAT - 12:Mean lower low water

Office Notes

Concur, chart present survey soundings.

1.22) Profile/Beam - 393/154 from f00540 / tj_3101_reson8125 / 2007-117 / 176_1602

Survey Summary

Survey Position: 036° 52' 30.533" N, 76° 20' 40.459" W

Least Depth: 15.05 m

Timestamp: 2007-117.16:03:37.567 (04/27/2007)

Survey Line: f00540 / tj_3101_reson8125 / 2007-117 / 176_1602

Profile/Beam: 393/154

Charts Affected: 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

Area is shallower than the 50ft controlling depth. Reson 8125 MBES data corrected to MLLW, observed tides and preliminary zoning applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00540/tj_3101_reson8125/2007-117/176_1602	393/154	0.00	000.0	Primary

Hydrographer Recommendations

Have area dredged to 50ft control or change control depth to meet present survey findings.

Cartographically-Rounded Depth (Affected Charts):

49ft (12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2)

8 ¼fm (13003_1)

S-57 Data

Geo object 1: Sounding (SOUNDG)

Attributes: QUASOU - 1:depth known

SORDAT - 27 April 2007

SORIND - Reson 8125 MBES

STATUS - 1:permanent

TECSOU - 3:found by multi-beam

VERDAT - 12:Mean lower low water

Office Notes

Concur, chart present survey soundings.

1.23) Profile/Beam - 133/155 from f00540 / tj_3101_reson8125 / 2007-120 / 195_1642

Survey Summary

Survey Position: 036° 52' 11.410" N, 76° 20' 49.218" W

Least Depth: 13.83 m

Timestamp: 2007-120.16:43:09.352 (04/30/2007)

Survey Line: f00540 / tj_3101_reson8125 / 2007-120 / 195_1642

Profile/Beam: 133/155

Charts Affected: 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

Klein 5000 SSS data shows rock-like object or a pile of mud. Reson 8125 MBES data shows what appears to be a big mound of mud left by the dredge, with two smaller ones to the east. The biggest contact is 1m in height. 8125 data corrected to MLLW, observed tides and preliminary zoning applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00540/tj_3101_reson8125/2007-120/195_1642	133/155	0.00	000.0	Primary
f00540/tj_3101_klein5000_sss100/2007-117/107_1401	0001	3.75	224.6	Secondary (grouped)
f00540/tj_3101_klein5000_sss200/2007-120/212_1759	0009	9.18	258.1	Secondary (grouped)

Hydrographer Recommendations

Chart obstruction per current survey findings, or have dredge company remove.

Cartographically-Rounded Depth (Affected Charts):

45ft (12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2)

7 ½fm (13003_1)

S-57 Data

Geo object 1: Sounding (SOUNDG)

Attributes: QUASOU - 1:depth known

STATUS - 1:permanent

TECSOU - 3:found by multi-beam

VERDAT - 12:Mean lower low water

Office Notes

Do not concur, feature is a mud pile left over from dredging operations, chart present survey soundings.

1.24) Profile/Beam - 1580/40 from f00540 / tj_3101_reson8125 / 2007-117 / 086_1743

Survey Summary

Survey Position: 036° 52' 54.733" N, 76° 20' 57.610" W

Least Depth: 6.29 m

Timestamp: 2007-117.17:45:07.803 (04/27/2007)

Survey Line: f00540 / tj_3101_reson8125 / 2007-117 / 086_1743

Profile/Beam: 1580/40

Charts Affected: 12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

Appears to be a dinghy on the seafloor in the US Coast Guard basin with a least depth of 20 feet.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00540/tj_3101_reson8125/2007-117/086_1743	1580/40	0.00	000.0	Primary
f00540/tj_3101_klein5000_sss100/2007-117/125_1500	0007	3.01	071.7	Secondary

Hydrographer Recommendations

Cartographically-Rounded Depth (Affected Charts):

20ft (12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2)

3 ½fm (13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: QUASOU - 6:least depth known

STATUS - 1:permanent

TECSOU - 3:found by multi-beam

VALSOU - 6.288 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Submit to US Coast Guard for investigation and removal. Chart a dangerous Obstn with a depth of 20 ft. in Latitude 36°52'54.73"N, Longitude 76°20'57.61"W.

1.25) GP No. - 4 from ChartGPs - Digitized

Survey Summary

Survey Position: 036° 52' 33.612" N, 76° 20' 56.188" W

Least Depth: [None]

Timestamp: 2007-136.11:53:23 (05/16/2007)

GP Dataset: ChartGPs - Digitized

GP No.: 4

Charts Affected: 12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

Dredging operations removed 49 feet of material, current depths are 51 ft.

Feature Correlation

Address	Feature	Range	Azimuth	Status
ChartGPs - Digitized	4	0.00	000.0	Primary

Hydrographer Recommendations

As this area has been fully dredged and there is no SSS or MBES data supporting the existence of pipe or piles, these objects are considered disproved.

S-57 Data

[None]

Office Notes

Charted Pipe was removed during dredging operations, delete the charted Pipe in Latitude 36°52'33.61"N, Longitude 76°20'56.19"W.

1.26) GP No. - 5 from ChartGPs - Digitized

Survey Summary

Survey Position: 036° 52' 26.860" N, 76° 20' 45.363" W

Least Depth: [None]

Timestamp: 2007-136.11:54:05 (05/16/2007)

GP Dataset: ChartGPs - Digitized

GP No.: 5

Charts Affected: 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

AWOIS Item #13539 - UNDETERMINED SOURCE, PREDATES STANDARD FROM 1966 -- SUBM PILES NOW CHARTED IN POSITION: 36 52 26.86 N, 076 20 45.35 W (NAD 83). UPDATED 3/14/2006 JCM.

Dredging operations removed 49 feet of material, current depths are 50 ft.

Feature Correlation

Address	Feature	Range	Azimuth	Status
ChartGPs - Digitized	5	0.00	000.0	Primary

Hydrographer Recommendations

As this area has been fully dredged and there is no SSS or MBES data supporting the existence of pipe or piles, these objects are considered disproved.

S-57 Data

[None]

Office Notes

Charted Subm piles were removed during dredging operations, delete the two charted Subm piles in Latitude 36°52'26.86"N, Longitude 76°20'45.36"W.

1.27) GP No. - 6 from ChartGPs - Digitized

Survey Summary

Survey Position: 036° 52' 49.879" N, 76° 20' 50.928" W

Least Depth: [None]

Timestamp: 2007-138.15:57:17 (05/18/2007)

GP Dataset: ChartGPs - Digitized

GP No.: 6

Charts Affected: 12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

Charted Piles not found in sss or mb during office processing.

Feature Correlation

Address	Feature	Range	Azimuth	Status
ChartGPs - Digitized	6	0.00	000.0	Primary

Hydrographer Recommendations

As this area has been fully dredged and there is no SSS or MBES data supporting the existence of pipe or piles, these objects are considered disproved.

S-57 Data

[None]

Office Notes

Delete charted Piles in Latitude 36°52'49.88"N, Longitude 76°20'50.93"W.

1.28) GP No. - 7 from ChartGPs - Digitized

Survey Summary

Survey Position: 036° 52' 11.143" N, 76° 20' 45.866" W

Least Depth: [None]

Timestamp: 2007-143.13:30:33 (05/23/2007)

GP Dataset: ChartGPs - Digitized

GP No.: 7

Charts Affected: 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

Charted sewer at the south end of the sheet, near the south end of the sheet by charted Lake Kingman. There are 2 sss lines over this sewer and there is no evidence that the sewer remains in place.

Feature Correlation

Address	Feature	Range	Azimuth	Status
ChartGPs - Digitized	7	0.00	000.0	Primary

Hydrographer Recommendations

Defer to MCD Chart Update Services branch to contact US Army Corps of Engineers to obtain updated information about the charted sewer.

S-57 Data

[None]

Office Notes

Retain as charted.

1.29) Profile/Beam - 1844/14 from f00540 / tj_3101_reson8125 / 2007-120 / 137_1358

Survey Summary

Survey Position: 036° 52' 30.913" N, 76° 20' 23.220" W

Least Depth: 6.75 m

Timestamp: 2007-120.14:00:16.100 (04/30/2007)

Survey Line: f00540 / tj_3101_reson8125 / 2007-120 / 137_1358

Profile/Beam: 1844/14

Charts Affected: 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

Charted mooring buoy moved approximately 65 m SW of charted position. Acquired with Klein 5000 SSS and Reson 8125 MBES. Soundings corrected to MLLW with preliminary water levels and tide zoning.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00540/tj_3101_reson8125/2007-120/137_1358	1844/14	0.00	000.0	Primary
ChartGPs - Digitized	2	0.36	352.3	Secondary (grouped)

Hydrographer Recommendations

Update mooring buoy to current surveyed position on chart.

Cartographically-Rounded Depth (Affected Charts):

22ft (12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2)

3 ¾fm (13003_1)

S-57 Data

Geo object 1: Buoy, special purpose/general (BOYSPP)

Attributes: BOYSHP - 3:spherical

CATSPM - 14:mooring mark

COLOUR - 1:white

SORDAT - 30 April 2007

SORIND - Side scan sonar, Multibeam sonar, visual sighting

Office Notes

Concur. Revise position of mooring buoy to surveyed location in Latitude 36°52'30.91"N, Longitude 76°20'23.22"W. Defer to MCD Chart Update Services Branch for charting recommendations for Aids to Navigation.

1.30) Profile/Beam - 4945/232 from f00540 / tj_3101_reson8125 / 2007-116 / 006_1454

Survey Summary

Survey Position: 036° 52' 42.024" N, 76° 20' 50.656" W

Least Depth: 14.40 m

Timestamp: 2007-116.15:00:58.395 (04/26/2007)

Survey Line: f00540 / tj_3101_reson8125 / 2007-116 / 006_1454

Profile/Beam: 4945/232

Charts Affected: 12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

Area is shallower than the 50ft controlling depth. Reson 8125 MBES data corrected to MLLW, observed tides and preliminary zoning applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00540/tj_3101_reson8125/2007-116/006_1454	4945/232	0.00	000.0	Primary

Hydrographer Recommendations

Have area dredged to 50ft control or change control depth to meet present survey findings.

Cartographically-Rounded Depth (Affected Charts):

47ft (12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2)

7 ¾fm (13003_1)

S-57 Data

Geo object 1: Sounding (SOUNDG)

Attributes: QUASOU - 1:depth known

TECSOU - 3:found by multi-beam

VERDAT - 12:Mean lower low water

Office Notes

Concur, chart present survey soundings.

1.31) Profile/Beam - 486/14 from f00540 / tj_3101_reson8125 / 2007-116 / 175_1625

Survey Summary

Survey Position: 036° 52' 11.880" N, 76° 20' 50.985" W

Least Depth: 16.06 m

Timestamp: 2007-116.16:26:42.648 (04/26/2007)

Survey Line: f00540 / tj_3101_reson8125 / 2007-116 / 175_1625

Profile/Beam: 486/14

Charts Affected: 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

Feature present in multibeam

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00540/tj_3101_reson8125/2007-116/175_1625	486/14	0.00	000.0	Primary
f00540/tj_3101_klein5000_sss100/2007-117/101_1332	0001	3.84	114.6	Secondary

Hydrographer Recommendations

Unidentifiable obstruction, but below minimum depth for the Maersk shipping terminal.

S-57 Data

[None]

Office Notes

Submit to the dredging authorities for informational purposes and for possible dive investigation and removal.

1.32) Profile/Beam - 1057/218 from f00540 / tj_3101_reson8125 / 2007-117 / 083_1750

Survey Summary

Survey Position: 036° 52' 53.266" N, 76° 20' 53.577" W

Least Depth: 6.53 m

Timestamp: 2007-117.17:51:12.262 (04/27/2007)

Survey Line: f00540 / tj_3101_reson8125 / 2007-117 / 083_1750

Profile/Beam: 1057/218

Charts Affected: 12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

Unidentifiable feature in the US Coast Guard basin with a least depth of 21 feet.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00540/tj_3101_reson8125/2007-117/083_1750	1057/218	0.00	000.0	Primary
f00540/tj_3101_klein5000_sss100/2007-117/125_1500	0006	0.65	091.5	Secondary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

21ft (12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2)

3 ½fm (13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: QUASOU - 6:least depth known

STATUS - 1:permanent

TECSOU - 3:found by multi-beam

VALSOU - 6.530 m

Office Notes

Chart a dangerous Obstn with a depth of 21 ft. in Latitude 36°52'53.27"N, Longitude 76°20'53.58"W. Submit to US Coast Guard for investigation and removal. Defer to MCD for final charting dispensation.

1.33) Profile/Beam - 1453/183 from f00540 / tj_3101_reson8125 / 2007-117 / 096_1733

Survey Summary

Survey Position: 036° 52' 50.978" N, 76° 20' 54.769" W

Least Depth: 6.42 m

Timestamp: 2007-117.17:34:29.828 (04/27/2007)

Survey Line: f00540 / tj_3101_reson8125 / 2007-117 / 096_1733

Profile/Beam: 1453/183

Charts Affected: 12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

Unidentifiable feature in the US Coast Guard basin with a least depth of 21 feet.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00540/tj_3101_reson8125/2007-117/096_1733	1453/183	0.00	000.0	Primary
f00540/tj_3101_klein5000_sss100/2007-117/125_1500	0005	3.26	104.7	Secondary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

21ft (12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2)

3 ½fm (13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: QUASOU - 6:least depth known

STATUS - 1:permanent

TECSOU - 3:found by multi-beam

VALSOU - 6.424 m

WATLEV - 3:always under water/submerged

Office Notes

Chart a dangerous Obstn with a depth of 21 ft. in Latitude 36°52'50.98"N, Longitude 76°20'54.77"W. Submit to US Coast Guard for investigation and removal. Defer to MCD for final charting dispensation.

1.34) Profile/Beam - 1736/34 from f00540 / tj_3101_reson8125 / 2007-120 / 120_1456

Survey Summary

Survey Position: 036° 52' 28.078" N, 76° 20' 28.602" W

Least Depth: 5.63 m

Timestamp: 2007-120.14:58:07.230 (04/30/2007)

Survey Line: f00540 / tj_3101_reson8125 / 2007-120 / 120_1456

Profile/Beam: 1736/34

Charts Affected: 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

Could be an old buoy block, feature is only 1m wide and 0.5m tall.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00540/tj_3101_reson8125/2007-120/120_1456	1736/34	0.00	000.0	Primary
f00540/tj_3101_klein5000_sss200/2007-120/208_1833	0001	3.20	292.5	Secondary

Hydrographer Recommendations

Office review shows no significant feature in this surveyed location.

S-57 Data

Geo object 1: Sounding (SOUNDG)

Attributes: QUASOU - 1:depth known

STATUS - 1:permanent

TECSOU - 3:found by multi-beam

VERDAT - 12:Mean lower low water

Office Notes

Chart present survey soundings.

1.35) Profile/Beam - 223/69 from f00540 / tj_3101_reson8125 / 2007-120 / 122_1401

Survey Summary

Survey Position: 036° 52' 33.709" N, 76° 20' 24.823" W

Least Depth: 6.08 m

Timestamp: 2007-120.14:01:49.267 (04/30/2007)

Survey Line: f00540 / tj_3101_reson8125 / 2007-120 / 122_1401

Profile/Beam: 223/69

Charts Affected: 12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

Feature is a submerged piling.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00540/tj_3101_reson8125/2007-120/122_1401	223/69	0.00	000.0	Primary
f00540/tj_3101_klein5000_sss200/2007-120/206_1840	0002	12.15	009.8	Secondary

Hydrographer Recommendations

Subm piling with a height above seafloor of nearly 0.7m

Cartographically-Rounded Depth (Affected Charts):

20ft (12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2)

3 ¼fm (13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: QUASOU - 6:least depth known

TECSOU - 3:found by multi-beam

VALSOU - 6.083 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Geo object 2: Pile (PILPNT)

Attributes: CATPLE - 3:post
CONDTN - 2:ruined
CONVIS - 2:not visual conspicuous
HEIGHT - 0.7 m

Office Notes

Chart a dangerous Obstn with a depth of 20 ft in Latitude 36°52'33.71"N, Longitude 76°20'24.82"W.

ATLANTIC HYDROGRAPHIC BRANCH
EVALUATION REPORT FOR F00540 (2007)

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 Equipment

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

CARIS HIPS/SIPS version 6.0 service pack 2
CARIS Bathy DataBASE 2.0
CARIS HOM 3.3 service pack 3
PYDRO, version 7.3 (r2014_TCfix)
dKart Inspector 5.0 build 707

B.2 HOM Processing

Chart compilation was done by Atlantic Hydrographic Branch personnel in Norfolk, Virginia. Compilation data will be forwarded to Marine Chart Division, Silver Spring, Maryland.

H-Cells

One H-cell was created for chart 12253 at the 1:20,000 chart scale.

H-cell layers in CARIS HOM are organized as follows:

Layer 20	Sounding Objects, survey scale
Layer 200	Skin of the Earth
Layer 300	Obstructions
Layer 400	Subm Pilings
Layer 500	Mooring Buoy
Layer 600	Metadata Objects

Attributes:

Inform: F00540, S-E923-TJ-07, NOAA Ship Thomas Jefferson, Capt Raymond C. Slagle
SorDat: 20070430

SorInd: US,US,surve,F00540 (features); US,US,nsurf,F00540 (soundings); and
US,US,graph,12253 (for features originating with the chart)

In the office, using CARIS HIPS, a 1m combined finalized BASE surface was created from the multibeam and singlebeam data at the 1:5000 survey scale. The survey scale sounding data set was extracted from the survey scale surface with a sounding spacing of 5mm at 1:2500 scale. Shoal biased chart scale sounding compilation was accomplished through the CARIS HOM sounding suppression routine using the table (0,100, 25). 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 seabed classified area (bottom sample) within the survey area was not transferred to the H-cell from the raster chart. It had been collected in the current dredged shipping terminal channel and cannot be assumed to be accurate any longer.

Contour and Depth Area Feature Objects

No contours were created for this H-Cell based on HSD H-Cell Specifications 2.0 (April, 2007). Depth areas were created, covering the areas of the survey that were not dredged areas, ranging in depth from 0m to 999m.

Soundings during HOM processing were selected with the CARIS GIS Environmental Variable set to a metric scale (-1,-1,T) to accommodate millimeter precision of the sounding value. This environmental variable was reset to NOAA standard charting values (0,0,N) to convert the metric sounding values to whole feet.

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 values (ENC_CU.000) with all values measured in feet.

dKart Inspector

The final ENC_CU.000 file was examined using dKart Inspector. Warnings received were all inconsequential. The DSPM.HUNI and DSPM.DUNI were reported to have illegal values, but these errors were expected as originating during ENC conversion to NOAA chart values, so they also can be ignored.

C. VERTICAL AND HORIZONTAL CONTROL

Office processing of this survey as an ENC required translating the datum to meet S-57 ENC requirements. During CARIS HOM processing the horizontal geodetic datum was translated from the survey datum (NAD83, UTM Zone 18) to Latitude and Longitude (LLDG) World Geodetic System-84 (WGS-84) prior to exporting the HOM file to the S-57 format. The

S-57 ENC format serves as the exchange file submitted to the Marine Chart Division.

Observed tides were downloaded from Co-Ops and reapplied to the survey during office processing using preliminary tide zoning. Due to the accelerated pace of the desired final product, final tide zoning was not received before compilation was completed by AHB. However, due to the well defined tide zoning covering the survey area, final tidal zoning is not expected to show any difference in water levels compared with preliminary tidal zoning.

D. RESULTS AND RECOMMENDATIONS

D.1. CHART COMPARISONS

12253 44th Ed., Dec. /04
Corrected through NM Dec. 25/04
Corrected through LNM Dec. 14/04
12253 65th Ed., Nov. /05
Corrected through NM Nov. 26/05
Corrected through LNM Nov. 22/05

ENC: US5VA15M
ENC: US5VA17M

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 and in the feature report listing in Appendix II. The following should be noted:

Automated Wreck and Obstruction Information Service (AWOIS) Items

There were two AWOIS Items for informational purposes only as detailed in the project instructions. AWOIS Item #13538, Subm piles in the vicinity of Latitude 36°52’43.39”N, Longitude 76°20’41.28”W fall outside the survey area and were not investigated. It is recommended these charted Subm piles be retained as charted. The recommendation for AWOIS Item #13539, Subm piles, is detailed in Appendix II of the Descriptive Report, Charted and Uncharted Features Item #1.26.

Dangers to Navigation (DtoNs)

Thirteen Dangers to Navigation (DtoN) Reports were submitted during office processing to the Marine Chart Division, N/CS3x1, Silver Spring, Maryland. Copies of these DtoNs are appended to this report.

Charted and Uncharted Features

Charted and uncharted features are adequately described in Appendix II of the Descriptive Report. The following notations are recommended for update:

	Latitude	Longitude	Charted Notation	Present Survey Notation
1)	36°53'06.02" N	76°21'12.26" W	6 ft. rep	5 ft rep Apr. 2007
2)	36°53'05.63" N	76°21'09.34" W	8 ft. rep 1974	6 ft rep Apr. 2007
3)	36°52'51.10" N	76°20'48.69" W	23 ft rep Apr 1972	21 ft rep Apr. 2007

Controlling Depths

During office processing 15 conflicts with the controlling depth of 50 ft. for the privately maintained APM Shipping Terminal Approach channel were identified. Conflicts with the controlling depth were noted in the following locations:

	Latitude	Longitude	Least Depth (ft)
1)	36°52'36.96" N	76°20'57.01" W	49
2)	36°52'24.25" N	76°20'54.00" W	47
3)	36°52'21.87" N	76°20'52.40" W	49
4)	36°52'35.76" N	76°20'42.21" W	49
5)	36°52'33.76" N	76°20'41.75" W	49
6)	36°52'41.86" N	76°20'09.56" W	48
7)	36°52'36.76" N	76°20'45.86" W	49
8)	36°52'34.33" N	76°20'45.07" W	49
9)	36°52'43.63" N	76°20'58.82" W	49
10)	36°52'40.46" N	76°20'33.38" W	49
11)	36°52'41.36" N	76°20'07.96" W	49
12)	36°52'50.73" N	76°20'07.78" W	49
13)	36°52'30.53" N	76°20'40.46" W	49
14)	36°52'11.41" N	76°20'49.22" W	45
15)	36°52'42.02" N	76°20'50.66" W	47

Aids to Navigation

Green daymark #7 and Charted lights "2C," "5," "6," "WR12," and "14" were identified and located by office personnel in their properly charted positions. Defer to MCD Update Services Branch for updates to Aids to Navigation.

Comparison with Prior Surveys

A comparison with prior surveys was not done during office processing in accordance with section 4. of the memorandum titled "Changes to Hydrographic Survey Processing", dated May 24, 1995.

Junctions

The Bay Hydrographer survey H11599 (2006) junctions with survey F00540 on the eastern edge of the survey area. No junction analysis was undertaken as survey H11599 was not available in office for comparison.

Adequacy of Survey

Except as noted above, the present survey is adequate to supersede the charted hydrography within the common area. This is an adequate hydrographic/multibeam/side scan sonar survey. No additional field work is recommended.

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. The following NOS charts were used for compilation of the present survey:

12253 44th Ed., Dec. /04
Corrected through NM Dec. 25/04
Corrected through LNM Dec. 14/04

12253 65th Ed., Nov. /05
Corrected through NM Nov. 26/05
Corrected through LNM Nov. 22/05

ENC: US5VA15M
ENC: US5VA17M

Bryan Chauveau
Physical Scientist
Verification of Data
Evaluation and Analysis Report

F00540DtoNs Report

Registry Number: F00540

State: Virginia

Locality: Elizabeth River

Sub-locality: AMP Terminal Basin

Project Number: S-E923-TJ-07

Survey Dates: 04/26/2007 - 04/30/2007

Charts Affected

Number	Version	Date	Scale
12245	65th Ed.	11/01/2005	1:20000
12253	44th Ed.	12/01/2004	1:20000
12206	31st Ed.	04/01/2005	1:40000
12222	47th Ed.	11/01/2005	1:40000
12207	21st Ed.	03/01/2004	1:80000
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.	Name	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	AHB DtoN #1 - 2894/209	Shoal	6.02 m	036° 52' 47.449" N	76° 20' 22.811" W	---
1.2	AHB DtoN #7 - 551/83	Obstruction	6.59 m	036° 52' 22.668" N	76° 20' 16.563" W	---
1.3	AHB DtoN #8 - 1844/1	Obstruction	5.29 m	036° 52' 30.913" N	76° 20' 23.218" W	---
1.4	AHB DtoN #2 - 110/1	Pipe	5.02 m	036° 52' 35.736" N	76° 20' 21.446" W	---
1.5	AHB DtoN #3 - 2209/77	Obstruction	5.81 m	036° 52' 33.136" N	76° 20' 22.530" W	---
1.6	AHB DtoN #9 - 2481/9	Obstruction	4.76 m	036° 52' 32.039" N	76° 20' 31.133" W	---
1.7	AHB DtoN #4 - 54/7	Obstruction	4.17 m	036° 52' 34.776" N	76° 20' 27.544" W	---
1.8	AHB DtoN #5 - 2027/240	Obstruction	5.81 m	036° 52' 31.683" N	76° 20' 16.927" W	---
1.9	AHB DtoN #10 - 2411/140	Obstruction	4.92 m	036° 52' 31.095" N	76° 20' 34.734" W	---
1.10	AHB DtoN #6 - 360/74	Obstruction	7.04 m	036° 52' 38.655" N	76° 20' 15.948" W	---
1.11	AHB DtoN #11 - 3353/240	Obstruction	4.25 m	036° 52' 50.606" N	76° 20' 51.816" W	---

Generated by Pydro v7.3 (r2014_TCfix) on Wed May 30 19:53:24 2007 [UTC]

1.12	AHB DtoN #12 - 1629/1	Obstruction	4.65 m	036° 52' 27.039" N	76° 20' 26.586" W	---
1.13	AHB DtoN #13 - 1638/200	Obstruction	4.86 m	036° 52' 24.805" N	76° 20' 30.087" W	---

1 - DtoNs

1.1) Profile/Beam - 2894/209 from f00540 / tj_3101_reson8125 / 2007-116 / 071_1757

DANGER TO NAVIGATION

Survey Summary

Survey Position: 036° 52' 47.449" N, 76° 20' 22.811" W

Least Depth: 6.02 m

Timestamp: 2007-116.17:59:29.693 (04/26/2007)

Survey Line: f00540 / tj_3101_reson8125 / 2007-116 / 071_1757

Profile/Beam: 2894/209

Charts Affected: 12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

Deep scour with a mound of sand or mud approximately 2m in height. Mound is outside the proposed terminal channel and basin, however is within close proximity to the entrance channel to the Portsmouth CG base. Reson 8125 MBES data corrected to MLLW, observed tides and preliminary zoning applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00540/tj_3101_reson8125/2007-116/071_1757	2894/209	0.00	000.0	Primary
f00540/tj_3101_klein5000_sss200/2007-120/217_1744	0001	19.83	106.4	Secondary (grouped)

Hydrographer Recommendations

Chart sounding data per present survey findings. Chart a shoal 20 ft. depth, in surrounding depths of 24 ft., near the entrance to the Coast Guard Channel with a controlling US Army Corps. maintained depth of 23 ft rep Apr. 1972.

Cartographically-Rounded Depth (Affected Charts):

20ft (12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2)

3 ¼fm (13003_1)

S-57 Data

Geo object 1: Sounding (SOUNDG)

Attributes: QUASOU - 1:depth known

SORDAT - 26 April 2007

SORIND - Reson 8125 MBES

STATUS - 1:permanent

TECSOU - 3:found by multi-beam

VERDAT - 12:Mean lower low water

Office Notes

Concur, chart a shoal 20 ft. depth in Latitude 36°52'47.45"N, Longitude 76°20'22.81"W.

1.2) Profile/Beam - 551/83 from f00540 / tj_3101_reson8125 / 2007-120 / 050_1346

DANGER TO NAVIGATION

Survey Summary

Survey Position: 036° 52' 22.668" N, 76° 20' 16.563" W

Least Depth: 6.59 m

Timestamp: 2007-120.13:46:42.581 (04/30/2007)

Survey Line: f00540 / tj_3101_reson8125 / 2007-120 / 050_1346

Profile/Beam: 551/83

Charts Affected: 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

Klein 5000 SSS data shows long thin object with hard hit. Reson 8125 MBES data shows object with navigationally significant least depth. 8125 data corrected to MLLW, observed tides and preliminary zoning applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00540/tj_3101_reson8125/2007-120/050_1346	551/83	0.00	000.0	Primary
f00540/tj_3101_klein5000_sss100/2007-117/117_1421	0003	2.28	167.0	Secondary
f00540/tj_3101_klein5000_sss100/2007-117/116_1418	0001	5.45	266.9	Secondary (grouped)

Hydrographer Recommendations

Chart obstruction with least depth per present survey findings.

Cartographically-Rounded Depth (Affected Charts):

21ft (12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2)

3 ½fm (13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: QUASOU - 1:depth known

SORDAT - 30 April 2007

SORIND - Reson 8125 MBES

STATUS - 1:permanent

TECSOU - 3:found by multi-beam

VALSOU - 6.590 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Concur. Chart a dangerous Obstn with a depth of 21 ft. in Latitude 36°52'22.67"N, Longitude 76°20'16.56"W.

1.3) Profile/Beam - 1844/1 from f00540 / tj_3101_reson8125 / 2007-120 / 137_1358

DANGER TO NAVIGATION

Survey Summary

Survey Position: 036° 52' 30.913" N, 76° 20' 23.218" W

Least Depth: 5.29 m

Timestamp: 2007-120.14:00:16.100 (04/30/2007)

Survey Line: f00540 / tj_3101_reson8125 / 2007-120 / 137_1358

Profile/Beam: 1844/1

Charts Affected: 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

Feature appears to be a submerged piling.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00540/tj_3101_reson8125/2007-120/137_1358	1844/1	0.00	000.0	Primary
f00540/tj_3101_klein5000_sss100/2007-117/117_1421	0002	4.91	123.2	Secondary (grouped)
f00540/tj_3101_reson8125/2007-120/119_1355	870/156	48.47	315.8	Secondary

Hydrographer Recommendations

Subm piling with a least depth of 17 ft. in charted depths of 27 ft.

Cartographically-Rounded Depth (Affected Charts):

17ft (12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2)

2 ¾fm (13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: QUASOU - 6:least depth known

STATUS - 1:permanent

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

VALSOU - 5.292 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Chart a dangerous Obstn with a depth of 17 ft. in Latitude 36°52'30.91"N, Longitude 76°20'23.22"W.

1.4) Profile/Beam - 110/1 from f00540 / tj_3101_reson8125 / 2007-116 / 154_1421

DANGER TO NAVIGATION

Survey Summary

Survey Position: 036° 52' 35.736" N, 76° 20' 21.446" W

Least Depth: 5.02 m

Timestamp: 2007-116.14:21:36.827 (04/26/2007)

Survey Line: f00540 / tj_3101_reson8125 / 2007-116 / 154_1421

Profile/Beam: 110/1

Charts Affected: 12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

Identified during office review, appears to be a submerged pipe. Height of the seafloor is 2.39m, least depth is 5.02m (16.47 ft). Reson 8125 MBES data corrected to MLLW, observed tides and preliminary zoning applied.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00540/tj_3101_reson8125/2007-116/154_1421	110/1	0.00	000.0	Primary
f00540/tj_3101_klein5000_sss200/2007-120/205_1843	0001	3.29	166.2	Secondary
f00540/tj_3101_klein5000_sss100/2007-117/113_1415	0002	4.08	166.1	Secondary
f00540/tj_3101_klein5000_sss100/2007-117/116_1418	0002	5.26	008.4	Secondary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

16ft (12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2)

2 ¾fm (13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: QUASOU - 6:least depth known

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

VALSOU - 5.019 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Chart a dangerous Obstn with a depth of 16 ft. in Latitude 36°52'35.74"N, Longitude 76°20'21.45"W.

1.5) Profile/Beam - 2209/77 from f00540 / tj_3101_reson8125 / 2007-120 / 114_1352

DANGER TO NAVIGATION

Survey Summary

Survey Position: 036° 52' 33.136" N, 76° 20' 22.530" W

Least Depth: 5.81 m

Timestamp: 2007-120.13:54:18.650 (04/30/2007)

Survey Line: f00540 / tj_3101_reson8125 / 2007-120 / 114_1352

Profile/Beam: 2209/77

Charts Affected: 12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

Feature identified during office processing appears to be a submerged piling

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00540/tj_3101_reson8125/2007-120/114_1352	2209/77	0.00	000.0	Primary
f00540/tj_3101_klein5000_sss100/2007-117/116_1418	0003	4.88	268.2	Secondary

Hydrographer Recommendations

Subm. piling with a least depth of 19 ft. in charted 27 ft. of water.

Cartographically-Rounded Depth (Affected Charts):

19ft (12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2)

3fm (13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: QUASOU - 6:least depth known

STATUS - 1:permanent

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

VALSOU - 5.808 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Chart a dangerous Obstn with a depth of 19 ft. in Latitude 36°52'33.14"N, Longitude 76°20'22.53"W.

1.6) Profile/Beam - 2481/9 from f00540 / tj_3101_reson8125 / 2007-120 / 149_1502

DANGER TO NAVIGATION

Survey Summary

Survey Position: 036° 52' 32.039" N, 76° 20' 31.133" W

Least Depth: 4.76 m

Timestamp: 2007-120.15:04:43.051 (04/30/2007)

Survey Line: f00540 / tj_3101_reson8125 / 2007-120 / 149_1502

Profile/Beam: 2481/9

Charts Affected: 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

Sand bump or rock.

May 5 - Small pile of sand or debris, Reson 8125 data shows within .4m of surrounding depths. Insignificant contact within surrounding waters

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00540/tj_3101_reson8125/2007-120/149_1502	2481/9	0.00	000.0	Primary
f00540/tj_3101_klein5000_sss200/2007-120/209_1827	0002	5.99	339.9	Secondary
f00540/tj_3101_klein5000_sss100/2007-117/119_1428	0001	20.51	276.0	Secondary

Hydrographer Recommendations

Office identification of an obstr, least depth 15.61 ft, appears to possibly be a pipe or piling with sand build up around the base and perhaps something hanging off the obstr.

Cartographically-Rounded Depth (Affected Charts):

15ft (12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2)

2 ½fm (13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: QUASOU - 6:least depth known

STATUS - 1:permanent

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

VALSOU - 4.758 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Chart a dangerous Obstn with a depth of 15 ft. in Latitude 36°52'32.04"N, Longitude 76°20'31.13"W.

1.7) Profile/Beam - 54/7 from f00540 / tj_3101_reson8125 / 2007-116 / 153_1412

DANGER TO NAVIGATION

Survey Summary

Survey Position: 036° 52' 34.776" N, 76° 20' 27.544" W

Least Depth: 4.17 m

Timestamp: 2007-116.14:12:12.725 (04/26/2007)

Survey Line: f00540 / tj_3101_reson8125 / 2007-116 / 153_1412

Profile/Beam: 54/7

Charts Affected: 12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

Identified during office processing, appears to be a submerged piling.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00540/tj_3101_reson8125/2007-116/153_1412	54/7	0.00	000.0	Primary
f00540/tj_3101_klein5000_sss100/2007-117/104_1301	0001	1.04	090.3	Secondary
f00540/tj_3101_klein5000_sss200/2007-120/207_1837	0002	4.96	097.3	Secondary
f00540/tj_3101_klein5000_sss100/2007-117/117_1421	0004	5.26	113.0	Secondary
f00540/tj_3101_klein5000_sss100/2007-117/118_1424	0002	5.47	013.3	Secondary
f00540/tj_3101_reson8125/2007-116/040_1342	1360/55	25.00	187.9	Secondary

Hydrographer Recommendations

Subm piling with a least depth of 13 ft. in charted depths of between 19 and 28 ft., 50 meters ESE of the new Maersk terminal channel.

Cartographically-Rounded Depth (Affected Charts):

13ft (12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2)

2 ¼fm (13003_1)

S-57 Data

Geo object 1:	Obstruction (OBSTRN)
Attributes:	QUASOU - 6:least depth known
	STATUS - 1:permanent
	TECSOU - 2,3:found by side scan sonar,found by multi-beam
	VALSOU - 4.172 m
	VERDAT - 12:Mean lower low water
	WATLEV - 3:always under water/submerged

Office Notes

Chart a dangerous Obstn with a depth of 13 ft. in Latitude 36°52'34.78"N, Longitude 76°20'27.54"W.

1.8) Profile/Beam - 2027/240 from f00540 / tj_3101_reson8125 / 2007-120 / 125_1333

DANGER TO NAVIGATION

Survey Summary

Survey Position: 036° 52' 31.683" N, 76° 20' 16.927" W

Least Depth: 5.81 m

Timestamp: 2007-120.13:35:35.933 (04/30/2007)

Survey Line: f00540 / tj_3101_reson8125 / 2007-120 / 125_1333

Profile/Beam: 2027/240

Charts Affected: 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

Uncharted mooring block and chain.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00540/tj_3101_reson8125/2007-120/125_1333	2027/240	0.00	000.0	Primary
f00540/tj_3101_klein5000_sss200/2007-120/205_1843	0002	2.29	136.0	Secondary

Hydrographer Recommendations

Chart mooring bouy as per present survey findings. Feature is a subm piling, chart an Obstn (subm piling) with a depth of 19 ft in charted 28 ft depths.

Cartographically-Rounded Depth (Affected Charts):

19ft (12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2)

3fm (13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: QUASOU - 6:least depth known

STATUS - 1:permanent

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

VALSOU - 5.807 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Do not concur, chart a dangerous Obstn with a depth of 19 ft. in Latitude 36°52'31.68"N, Longitude 76°20'16.93"W.

1.9) Profile/Beam - 2411/140 from f00540 / tj_3101_reson8125 / 2007-120 / 144_1543

DANGER TO NAVIGATION

Survey Summary

Survey Position: 036° 52' 31.095" N, 76° 20' 34.734" W

Least Depth: 4.92 m

Timestamp: 2007-120.15:45:14.003 (04/30/2007)

Survey Line: f00540 / tj_3101_reson8125 / 2007-120 / 144_1543

Profile/Beam: 2411/140

Charts Affected: 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

Another submerged pile

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00540/tj_3101_reson8125/2007-120/144_1543	2411/140	0.00	000.0	Primary
f00540/tj_3101_klein5000_sss100/2007-117/104_1301	0003	33.00	120.0	Secondary

Hydrographer Recommendations

Subm Pile with a least depth of 16 ft outside the charted 18 ft. contour with charted depths of 20 ft.

Cartographically-Rounded Depth (Affected Charts):

16ft (12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2)

2 ¾fm (13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: QUASOU - 6:least depth known

STATUS - 1:permanent

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

VALSOU - 4.920 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Chart a dangerous Obstn with a depth of 16 ft. in Latitude 36°52'31.09"N, Longitude 76°20'34.73"W.

1.10) Profile/Beam - 360/74 from f00540 / tj_3101_reson8125 / 2007-120 / 198_1632

DANGER TO NAVIGATION

Survey Summary

Survey Position: 036° 52' 38.655" N, 76° 20' 15.948" W

Least Depth: 7.04 m

Timestamp: 2007-120.16:33:10.567 (04/30/2007)

Survey Line: f00540 / tj_3101_reson8125 / 2007-120 / 198_1632

Profile/Beam: 360/74

Charts Affected: 12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

Another submerged piling

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00540/tj_3101_reson8125/2007-120/198_1632	360/74	0.00	000.0	Primary
f00540/tj_3101_klein5000_sss100/2007-117/109_1249	0004	2.58	232.0	Secondary

Hydrographer Recommendations

Subm piling is 1.4m off the seafloor, least depth of 23 ft in between charted 29 and 34 depths and is 45 m east of the Maersk terminal channel.

Cartographically-Rounded Depth (Affected Charts):

23ft (12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2)

3 ¾fm (13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: QUASOU - 6:least depth known

STATUS - 1:permanent

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

VALSOU - 7.041 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Chart a dangerous Obstn with a depth of 23 ft. in Latitude 36°52'38.65"N, Longitude 76°20'15.95"W.

1.11) Profile/Beam - 3353/240 from f00540 / tj_3101_reson8125 / 2007-116 / 006_1454

DANGER TO NAVIGATION

Survey Summary

Survey Position: 036° 52' 50.606" N, 76° 20' 51.816" W

Least Depth: 4.25 m

Timestamp: 2007-116.14:58:45.819 (04/26/2007)

Survey Line: f00540 / tj_3101_reson8125 / 2007-116 / 006_1454

Profile/Beam: 3353/240

Charts Affected: 12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

Appears to be two submerged pilings.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00540/tj_3101_reson8125/2007-116/006_1454	3353/240	0.00	000.0	Primary
f00540/tj_3101_reson8125/2007-117/065_1619	4127/1	3.15	220.1	Secondary
f00540/tj_3101_klein5000_sss100/2007-117/125_1500	0004	3.58	060.0	Secondary
f00540/tj_3101_klein5000_sss100/2007-117/032_1345	0002	4.85	281.5	Secondary
f00540/tj_3101_klein5000_sss100/2007-117/032_1345	0003	12.04	128.3	Secondary

Hydrographer Recommendations

Shoalest of two subm. pilings with a least depth of 14 ft. just at the corner of the entrance to the US Coast Guard basin. Nearby charted depths are 21 ft.

Cartographically-Rounded Depth (Affected Charts):

14ft (12245_1, 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2)

2 ¼fm (13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: QUASOU - 6:least depth known
STATUS - 1:permanent
TECSOU - 2,3:found by side scan sonar,found by multi-beam
VALSOU - 4.253 m
VERDAT - 12:Mean lower low water
WATLEV - 3:always under water/submerged

Office Notes

Chart dangerous Obstns with a depth of 14 ft. in Latitude 36°52'50.61"N, Longitude 76°20'51.82"W.

1.12) Profile/Beam - 1629/1 from f00540 / tj_3101_reson8125 / 2007-120 / 111_1435

DANGER TO NAVIGATION

Survey Summary

Survey Position: 036° 52' 27.039" N, 76° 20' 26.586" W

Least Depth: 4.65 m

Timestamp: 2007-120.14:37:06.415 (04/30/2007)

Survey Line: f00540 / tj_3101_reson8125 / 2007-120 / 111_1435

Profile/Beam: 1629/1

Charts Affected: 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

Feature appears to be a submerged piling with something hung up on it.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00540/tj_3101_reson8125/2007-120/111_1435	1629/1	0.00	000.0	Primary
f00540/tj_3101_klein5000_sss100/2007-117/118_1424	0003	2.77	280.5	Secondary
f00540/tj_3101_klein5000_sss200/2007-120/208_1833	0002	3.42	322.6	Secondary

Hydrographer Recommendations

Subm. piling with a least depth of 15 ft. in charted depths of 19 ft.

Cartographically-Rounded Depth (Affected Charts):

15ft (12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2)

2 ½fm (13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: QUASOU - 6:least depth known

STATUS - 1:permanent

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

VALSOU - 4.646 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Chart a dangerous Obstn with a depth of 15 ft. in Latitude 36°52'27.04"N, Longitude 76°20'26.59"W.

1.13) Profile/Beam - 1638/200 from f00540 / tj_3101_reson8125 / 2007-120 / 133_1525

DANGER TO NAVIGATION

Survey Summary

Survey Position: 036° 52' 24.805" N, 76° 20' 30.087" W

Least Depth: 4.86 m

Timestamp: 2007-120.15:26:47.989 (04/30/2007)

Survey Line: f00540 / tj_3101_reson8125 / 2007-120 / 133_1525

Profile/Beam: 1638/200

Charts Affected: 12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2, 13003_1

Remarks:

Feature is an indeterminate obstr.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00540/tj_3101_reson8125/2007-120/133_1525	1638/200	0.00	000.0	Primary
f00540/tj_3101_reson8125/2007-120/150_1516	1172/10	29.56	286.1	Secondary
f00540/tj_3101_klein5000_sss100/2007-117/119_1428	0002	33.06	290.5	Secondary
f00540/tj_3101_reson8125/2007-120/150_1516	1120/14	36.08	296.7	Secondary
f00540/tj_3101_klein5000_sss100/2007-117/119_1428	0003	49.90	298.4	Secondary
f00540/tj_3101_reson8125/2007-120/150_1516	1025/154	53.32	301.5	Secondary (grouped)
f00540/tj_3101_klein5000_sss200/2007-120/209_1827	0003	58.70	304.4	Secondary (grouped)

Hydrographer Recommendations

Obstn. with a least depth of 16 ft. in charted depths of 19 ft.

Cartographically-Rounded Depth (Affected Charts):

16ft (12253_1, 12206_1, 12222_1, 12207_1, 12221_1, 12280_2)

2 ½fm (13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: QUASOU - 6:least depth known

STATUS - 1:permanent

TECSOU - 3:found by multi-beam

VALSOU - 4.859 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Chart a dangerous Obstn with a depth of 16 ft. in Latitude 36°52'24.80"N, Longitude 76°20'30.09"W.

ATLANTIC HYDROGRAPHIC BRANCH
EVALUATION REPORT FOR F00540 (2007)

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 Equipment

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

CARIS HIPS/SIPS version 6.0 service pack 2
CARIS Bathy DataBASE 2.0
CARIS HOM 3.3 service pack 3
PYDRO, version 7.3 (r2014_TCfix)
dKart Inspector 5.0 build 707

B.2 HOM Processing

Chart compilation was done by Atlantic Hydrographic Branch personnel in Norfolk, Virginia. Compilation data will be forwarded to Marine Chart Division, Silver Spring, Maryland.

H-Cells

One H-cell was created for chart 12253 at the 1:20,000 chart scale.

H-cell layers in CARIS HOM are organized as follows:

Layer 20	Sounding Objects, survey scale
Layer 200	Skin of the Earth
Layer 300	Obstructions
Layer 400	Subm Pilings
Layer 500	Mooring Buoy
Layer 600	Metadata Objects

Attributes:

Inform: F00540, S-E923-TJ-07, NOAA Ship Thomas Jefferson, Capt Raymond C. Slagle
SorDat: 20070430

SorInd: US,US,surve,F00540 (features); US,US,nsurf,F00540 (soundings); and
US,US,graph,12253 (for features originating with the chart)

In the office, using CARIS HIPS, a 1m combined finalized BASE surface was created from the multibeam and singlebeam data at the 1:5000 survey scale. The survey scale sounding data set was extracted from the survey scale surface with a sounding spacing of 5mm at 1:2500 scale. Shoal biased chart scale sounding compilation was accomplished through the CARIS HOM sounding suppression routine using the table (0,100, 25). 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 seabed classified area (bottom sample) within the survey area was not transferred to the H-cell from the raster chart. It had been collected in the current dredged shipping terminal channel and cannot be assumed to be accurate any longer.

Contour and Depth Area Feature Objects

No contours were created for this H-Cell based on HSD H-Cell Specifications 2.0 (April, 2007). Depth areas were created, covering the areas of the survey that were not dredged areas, ranging in depth from 0m to 999m.

Soundings during HOM processing were selected with the CARIS GIS Environmental Variable set to a metric scale (-1,-1,T) to accommodate millimeter precision of the sounding value. This environmental variable was reset to NOAA standard charting values (0,0,N) to convert the metric sounding values to whole feet.

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 values (ENC_CU.000) with all values measured in feet.

dKart Inspector

The final ENC_CU.000 file was examined using dKart Inspector. Warnings received were all inconsequential. The DSPM.HUNI and DSPM.DUNI were reported to have illegal values, but these errors were expected as originating during ENC conversion to NOAA chart values, so they also can be ignored.

C. VERTICAL AND HORIZONTAL CONTROL

Office processing of this survey as an ENC required translating the datum to meet S-57 ENC requirements. During CARIS HOM processing the horizontal geodetic datum was translated from the survey datum (NAD83, UTM Zone 18) to Latitude and Longitude (LLDG) World Geodetic System-84 (WGS-84) prior to exporting the HOM file to the S-57 format. The

S-57 ENC format serves as the exchange file submitted to the Marine Chart Division.

Observed tides were downloaded from Co-Ops and reapplied to the survey during office processing using preliminary tide zoning. Due to the accelerated pace of the desired final product, final tide zoning was not received before compilation was completed by AHB. However, due to the well defined tide zoning covering the survey area, final tidal zoning is not expected to show any difference in water levels compared with preliminary tidal zoning.

D. RESULTS AND RECOMMENDATIONS

D.1. CHART COMPARISONS

12253 44th Ed., Dec. /04
Corrected through NM Dec. 25/04
Corrected through LNM Dec. 14/04
12245 65th Ed., Nov. /05
Corrected through NM Nov. 26/05
Corrected through LNM Nov. 22/05

ENC: US5VA15M
ENC: US5VA17M

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 and in the feature report listing in Appendix II. The following should be noted:

Automated Wreck and Obstruction Information Service (AWOIS) Items

There were two AWOIS Items for informational purposes only as detailed in the project instructions. AWOIS Item #13538, Subm piles in the vicinity of Latitude 36°52’43.39”N, Longitude 76°20’41.28”W fall outside the survey area and were not investigated. It is recommended these charted Subm piles be retained as charted. The recommendation for AWOIS Item #13539, Subm piles, is detailed in Appendix II of the Descriptive Report, Charted and Uncharted Features Item #1.26.

Dangers to Navigation (DtoNs)

Thirteen Dangers to Navigation (DtoN) Reports were submitted during office processing to the Marine Chart Division, N/CS3x1, Silver Spring, Maryland. Copies of these DtoNs are appended to this report.

Charted and Uncharted Features

Charted and uncharted features are adequately described in Appendix II of the Descriptive Report. The following notations are recommended for update:

	Latitude	Longitude	Charted Notation	Present Survey Notation
1)	36°53'06.02" N	76°21'12.26" W	6 ft. rep	5 ft rep Apr. 2007
2)	36°53'05.63" N	76°21'09.34" W	8 ft. rep 1974	6 ft rep Apr. 2007
3)	36°52'51.10" N	76°20'48.69" W	23 ft rep Apr 1972	21 ft rep Apr. 2007

Controlling Depths

During office processing 15 conflicts with the controlling depth of 50 ft. for the privately maintained APM Shipping Terminal Approach channel were identified. Conflicts with the controlling depth were noted in the following locations:

	Latitude	Longitude	Least Depth (ft)
1)	36°52'36.96" N	76°20'57.01" W	49
2)	36°52'24.25" N	76°20'54.00" W	47
3)	36°52'21.87" N	76°20'52.40" W	49
4)	36°52'35.76" N	76°20'42.21" W	49
5)	36°52'33.76" N	76°20'41.75" W	49
6)	36°52'41.86" N	76°20'09.56" W	48
7)	36°52'36.76" N	76°20'45.86" W	49
8)	36°52'34.33" N	76°20'45.07" W	49
9)	36°52'43.63" N	76°20'58.82" W	49
10)	36°52'40.46" N	76°20'33.38" W	49
11)	36°52'41.36" N	76°20'07.96" W	49
12)	36°52'50.73" N	76°20'07.78" W	49
13)	36°52'30.53" N	76°20'40.46" W	49
14)	36°52'11.41" N	76°20'49.22" W	45
15)	36°52'42.02" N	76°20'50.66" W	47

Aids to Navigation

Green daymark #7 and Charted lights "2C," "5," "6," "WR12," and "14" were identified and located by office personnel in their properly charted positions. Defer to MCD Update Services Branch for updates to Aids to Navigation.

Comparison with Prior Surveys

A comparison with prior surveys was not done during office processing in accordance with section 4. of the memorandum titled "Changes to Hydrographic Survey Processing", dated May 24, 1995.

Junctions

The Bay Hydrographer survey H11599 (2006) junctions with survey F00540 on the eastern edge of the survey area. No junction analysis was undertaken as survey H11599 was not available in office for comparison.

Adequacy of Survey

Except as noted above, the present survey is adequate to supersede the charted hydrography within the common area. This is an adequate hydrographic/multibeam/side scan sonar survey. No additional field work is recommended.

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. The following NOS charts were used for compilation of the present survey:

12253 44th Ed., Dec. /04
Corrected through NM Dec. 25/04
Corrected through LNM Dec. 14/04

ENC: US5VA15M
ENC: US5VA17M

Bryan Chauveau
Physical Scientist
Verification of Data
Evaluation and Analysis Report

APPROVAL SHEET
F00540

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. 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 NOS requirements except where noted in the Evaluation Report.

Digitally signed by Bryan Chauveau
DN: cn=Bryan Chauveau, c=US, o=NOAA - National Ocean Service, ou=Office of Coast Survey - Atlantic Hydrographic Branch, email=bryan.chauveau@noaa.gov
Date: 2007.05.31 11:07:52 -04'00'

Bryan Chauveau
Physical Scientist,
Atlantic Hydrographic Branch

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 in the Evaluation Report.

Edward Owens
2007.05.31
10:41:29 -04'00'

Edward A. Owens
Physical Scientist,
Atlantic Hydrographic Branch

I have reviewed the Base Cell files, accompanying data, and reports. This survey and accompanying Marine Chart Division deliverables meet or exceed NOS requirements and standards for products in support of nautical charting except where noted in the Evaluation Report.

Approved:

Digitally signed by CDR P. Tod Schattgen
DN: cn=CDR P. Tod Schattgen, c=US, o=NOAA Office of Coast Survey, ou=Atlantic Hydrographic Branch, email=tod.schattgen@noaa.gov
Date: 2007.05.31 10:51:09 -04'00'

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

Jeremy McHugh
AWOIS / SURF check for H-cell is complete
2007.05.31 15:54:30 -04'00'