

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey

Field No.

Registry No.

LOCALITY

State

General Locality

Sublocality

CHIEF OF PARTY

LIBRARY & ARCHIVES

DATE

HYDROGRAPHIC TITLE SHEET

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

FIELD No.

State _____

General Locality _____

Sub-Locality _____

Scale _____ **Date of Survey** _____

Instructions dated _____ **Project No.** _____

Vessel _____

Chief of party _____

Surveyed by _____

Soundings by echo sounder, hand lead, pole _____

Graphic record scaled by _____

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

Verification by _____

Soundings in fathoms feet at MLW MLLW _____

REMARKS: _____

_____ Red, bold, and italic comments were made during office processing.

Descriptive Report to Accompany Hydrographic Survey F00549

Project S-E926-NRT7-07
Hampton Roads, VA
Newport News Point
Scale 1:10,000
October 30-31, 2007 & January 17, 2008
NRT 7 (S3004)
Chief of Party: LTJG Briana Welton, NOAA

A. AREA SURVEYED

This hydrographic survey was completed as specified by Hydrographic Survey Project Instructions S-E926-NRT7-07 dated September 27, 2007^{*}, and Project Change Instructions dated January 10, 2008^{*} and all other applicable direction¹, with the exception of deviations noted in this report. The survey area is the entrance to Newport News Creek and the Newport News Fuel Terminal. Project S-E926-NRT7-07 responds to a request from USCG Hampton Roads Sector and the VA Pilots Association. The USCG has had received reports of watercraft hitting items entering the channel. The Coast Guard would like to know if there are any obstructions or shoaling that the boats might be hitting. The VA Pilots Association requested resurvey and chart update of the fuel terminal basin, which was recently dredged in November 2007.

Complete, object detection multi-beam coverage was acquired for this survey. The depths ranged from approximately one to thirteen meters. Data acquisition was conducted October 30-31, 2007 (DN304 and DN305) and January 17, 2008 (DN017). *Concur with clarification. Complete multi-beam coverage was acquired, however 100% side scan coverage was not.*

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

^{} filed with original field records*

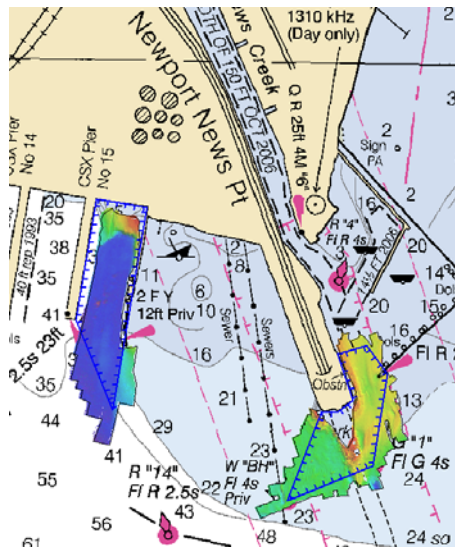


Figure 1. F00549 Survey Limits (Chart 12245).

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

A complete description of data acquisition and processing systems, survey vessels, quality control procedures and data processing methods can be found in the *S-E926-NRT7-07 Data Acquisition and Processing Report (DAPR)**, submitted under separate cover. Items specific to this survey, and any deviations from the DAPR* are discussed in the following sections.

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

B1. Equipment and Vessels

Survey F00549 was conducted aboard NRT 7 (s3004) using a Reson 8125 multibeam echosounder (MBES). *Concur.*

Sound speed profiles were measured with a Seabird 19plus CTD profiler in accordance with the NOS Specifications and Deliverables for Hydrographic Surveys. *Concur.*

No unusual vessel configurations were used for data acquisition. *Concur.*

B2. Quality Control**Crosslines**

Mainscheme MBES crosslines totaled 0.95 nm nautical miles, comprising 14.9% of mainscheme hydrography. Crossline and mainscheme hydrography were manually compared in CARIS HIPS Subset Mode. Crosslines agreed with no discernable vertical discrepancy with mainscheme hydrography. *Concur.*

Junctions

Junction survey data was not available for comparison. *Concur.*

Data Quality Factors

A horizontal offset of approximately 0.3 meters is present in data acquired on January 17, 2008 (DN017). This offset is illustrated by Figure 2. Vessel offsets and patch test values were checked in the HVF and were found to be correct. The hydrographer attributes this offset to loose positioning during the time of acquisition. Though unattractive, this offset is within position standards of the NOS Specifications and Deliverables for Hydrographic Surveys. *Concur.*

**filed with original field records*

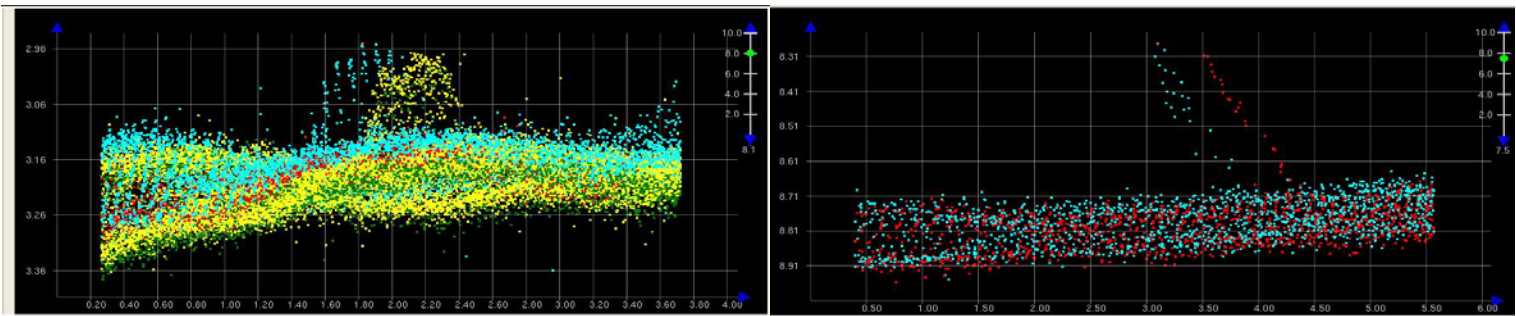


Figure 2. Two examples of a 0.3 meter horizontal offset in data acquired on January 17, 2008 (DN017).

B3. Data Reduction

Data reduction procedures for survey F00549 conform to those detailed in the *S-E926-NRT7-07 DAPR*. **Do not concur. Data reduction procedures are not detailed in DAPR.**

B4. Data Representation

Due to the small size of F00549, one field sheet and one CUBE BASE surface were used in the processing of F00549. The submission Field Sheet and CUBE BASE surface structure is shown in Figure 3. **Concur.**



Figure 3: Field sheet and BASE surface submitted with F00549.

C. VERTICAL AND HORIZONTAL CONTROL

Project S-E926-NRT7-07 did not require static GPS observations or other horizontal control work, and all tide corrections were generated from CO-OPS maintained tide stations. Thus, no Horizontal and Vertical Control Report will be submitted. **Concur.**

Horizontal Control

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

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

Table 1: Differential Corrector Sources for F00549.

Vertical Control

The vertical datum for this project is Mean Lower-Low Water (MLLW). The operating National Water Level Observation Network (NWLON) primary tide station at Sewells Pt, VA (863-8610), served as control for datum determination and as the primary source for water level reducers for survey F00549. **Concur.**

No tertiary gauges were required. **Concur.**

All data were reduced to MLLW using **verified water levels** from station Sewells Pt, VA (863-8610) using the tide file 8638610.tid and **final approved** time and height correctors using the zone corrector file E926NRT72007CORP.zdf. **Concur.**

D. RESULTS AND RECOMMENDATIONS

D.1. Chart Comparison

D.1.a. Survey Agreement with Chart

Survey F00549 was compared with the following charts:

Chart	Scale	Edition and Date	Local Notice to Mariners Applied Through
12245	1:20,000	66 th Ed, Oct 2007	11/24/2007
US5VA15M	ENC	Feb 2008	

Table 3: Charts compared with F00549.

The area south of the bridge-tunnel interchange is surrounded by riprap. Three dangers to navigation were issued in an attempt to define the riprap area. Figure 4 is a side-by-side before-and-after comparison of the chart before the DTONs were applied. **Concur.**

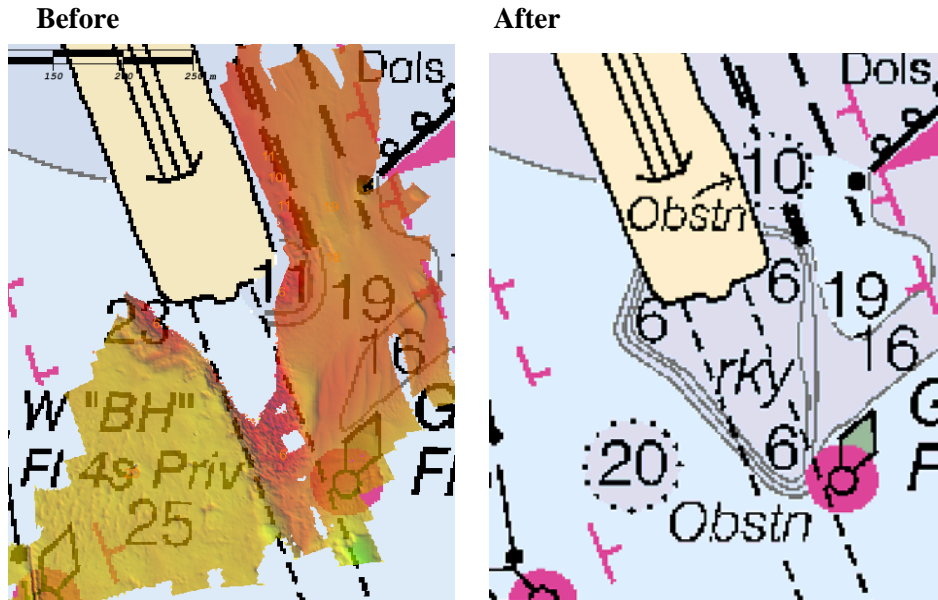


Figure 4: Charted survey area before and after DTON submission.

Two other obstructions were identified within the Newport News Creek entrance area. All other charted soundings agree within one foot of one another. **Concur.**

The fuel terminal area was privately dredged to 36 feet in November 2007, rendering it deeper than charted. The VA Pilots are eager to see the charted depths updated, especially the 29-foot sounding and 30-foot contour south of the fuel pier.

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

D.1.b. Dangers to Navigation

Five (5) Dangers to Navigation (DTONs) were found on survey F00549, and reported to the Marine Chart Division via email on November 2, 2007. The original DTON submission package is included in Appendix IV**. Descriptions of each DTON are included in the Survey Feature Report in Appendix I*. **Concur with clarification. The original DTON submission package is included in Appendix V**.**

D.1.c. Other Features

No additional charted items were investigated and no other features were located on survey F00549. **Do not concur. Additional features were investigated and are discussed in the Evaluation Report**.**

**** appended to this report**

D.2. Additional Results

D.2.a. Prior Survey Comparison

Prior survey comparison was not performed. *Concur.*

D.2.b. Shoreline Verification

Shoreline verification was not performed for F00549. *Concur.*

D.2.c. Aids to Navigation

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

D.2.d. Overhead Features

There are no overhead features within the limits of survey F00549. *Concur.*

D.2.e. Submarine Cables and Pipelines

One sewer line runs through the western side of the Newport News Creek entrance area, and is clearly visible in the bathymetry. The sewer line appears to be correctly charted in the area common with F00549 as shown in Figure 4. *Do not concur. Actual location of feature is slightly east of charted location. Recommend to MCD to update position.*

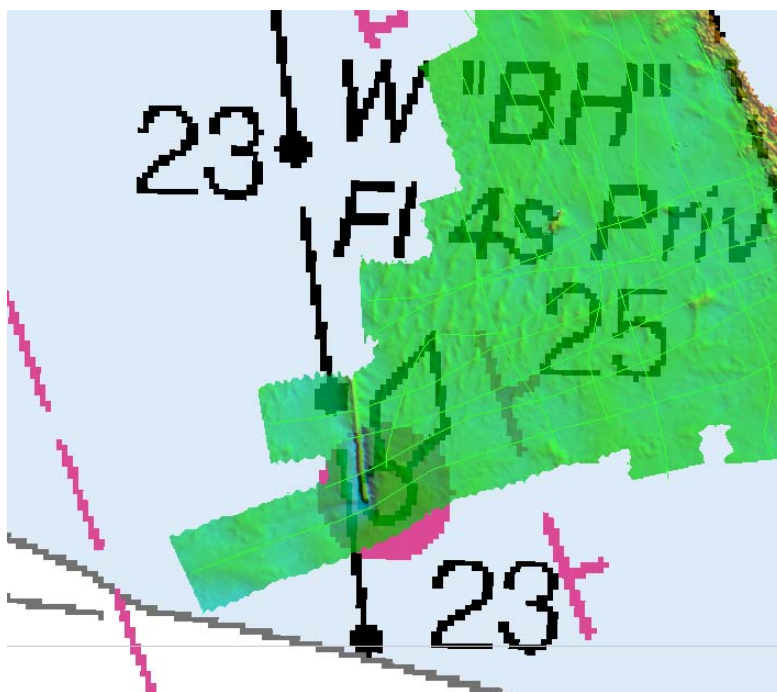


Figure 4. Sewer Line.

D.2.f. Ferry Routes

There are no ferry routes charted within the limits of survey F00549, and none were observed to be operating in the area. *Concur.*

D.2.g. Bottom Samples

Bottom samples were not performed in survey F00549. Navigation Response Team 7 does not have a bottom sampler, a fact noted in the unit's Hydrographic Survey Readiness Review (HSRR) *. *Concur.*

D.2.h. Other Findings

All three bridge tunnels in the Hampton Roads Area—Monitor Merrimac Bridge Tunnel, Hampton Roads Bridge Tunnel, and the Chesapeake Bay Bridge Tunnel—are all charted similarly to the bridge/tunnel interchange in F00549 and all likely have the same rock riprap around each land-sea interchange. The hydrographer recommends further investigation of these areas to prevent further groundings.

Sand waves of varying degree are evident in the bathymetry around the bridge tunnel interchange (see Figure 5). *Concur.*

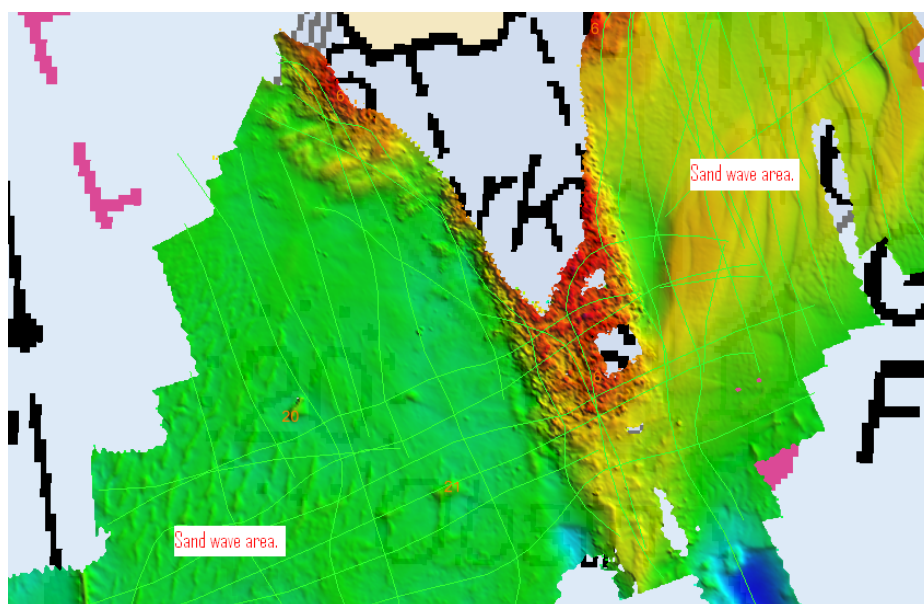


Figure 5. Sand wave areas.

**filed with original field records*

E. APPROVAL

As Chief of Party, field operations for hydrographic survey F00549 were conducted under my direct supervision, with frequent personal checks of progress and adequacy. I have reviewed the attached survey data and reports. The survey data meets or exceeds requirements as set forth in the NOS Hydrographic Surveys Specifications and Deliverables (April 2007), OCS Field Procedures Manual for Hydrographic Surveying (March 2007), Project Instructions and Changes, and all HSD Technical Directives issued through January 2008. These data are adequate to supersede charted data in their common areas. This survey is complete and no additional work is required. All data and reports are respectfully submitted to N/CS33, Atlantic Hydrographic Branch.

Approved and Forwarded:

LTJG Briana J. Welton, NOAA
NRT7 Team Leader

Appendix 1: DTON Reports

F00549 DTON Report

Registry Number: F00549
State: Virginia
Locality: Newport News
Sub-locality: Entrance to Newport News Creek
Project Number: S-E926-NRT7-07
Survey Dates: 10/31/2007 - 11/01/2007

This is a report of Dangers to Navigation around the Monitor-Merrimac Memorial Bridge and Newport News Creek.

Charts Affected

Number	Version	Date	Scale
12245	65th Ed.	11/01/2005	1:20000
12222	47th Ed.	11/01/2005	1:40000
12248	41st Ed.	12/01/2005	1:40000
12221	78th Ed.	04/01/2006	1:80000
12280	6th Ed.	09/01/2005	1:200000
13003	48th Ed.	10/01/2004	1:1200000

Features

No.	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	Obstruction	6.17 m	036° 57' 27.854" N	76° 24' 40.233" W	---
1.2	Rock	1.79 m	036° 57' 31.515" N	76° 24' 39.595" W	---
1.3	Rock	2.00 m	036° 57' 28.361" N	76° 24' 35.893" W	---
1.4	Rock	1.89 m	036° 57' 32.329" N	76° 24' 36.003" W	---
1.5	Obstruction	3.22 m	036° 57' 35.096" N	76° 24' 36.227" W	---

1 - Danger To Navigation

1.1) Profile/Beam - 165/229 from f00549 / nrt7_s3004_reson8125 / 2007-304 / 110_1802**DANGER TO NAVIGATION****Survey Summary**

Survey Position: 036° 57' 27.854" N, 76° 24' 40.233" W
Least Depth: 6.17 m
Timestamp: 2007-304.18:02:55.389 (10/31/2007)
Survey Line: f00549 / nrt7_s3004_reson8125 / 2007-304 / 110_1802
Profile/Beam: 165/229
Charts Affected: 12245_1, 12222_1, 12248_1, 12221_1, 12280_2, 13003_1

Remarks:

pipe

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00549/nrt7_s3004_reson8125/2007-304/110_1802	165/229	0.00	000.0	Primary

Hydrographer Recommendations

Chart obstruction.

Cartographically-Rounded Depth (Affected Charts):

20ft (12245_1, 12222_1, 12248_1, 12221_1, 12280_2)

3 ¼fm (13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)
Attributes: QUASOU - 1:depth known
TECSOU - 3:found by multi-beam
VALSOU - 6.169 m
WATLEV - 3:always under water/submerged

Feature Images

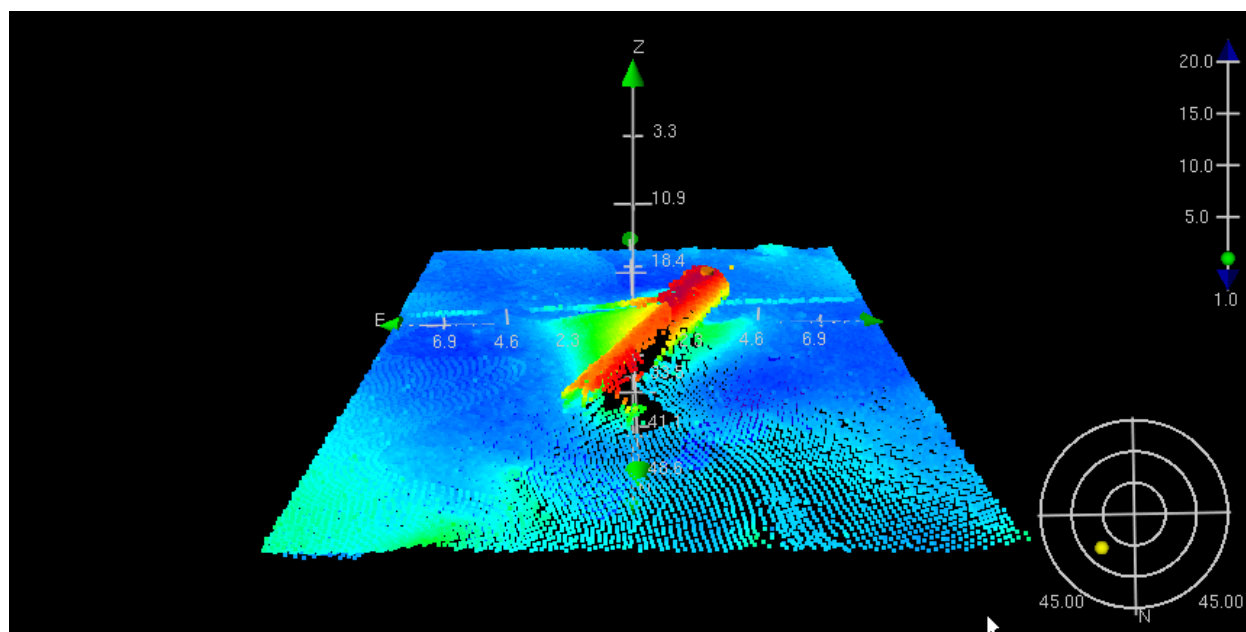


Figure 1.1.1

1.2) Profile/Beam - 2300/240 from f00549 / nrt7_s3004_reson8125 / 2007-304 / 904_1748

DANGER TO NAVIGATION

Survey Summary

Survey Position: 036° 57' 31.515" N, 76° 24' 39.595" W
Least Depth: 1.79 m
Timestamp: 2007-304.17:50:29.540 (10/31/2007)
Survey Line: f00549 / nrt7_s3004_reson8125 / 2007-304 / 904_1748
Profile/Beam: 2300/240
Charts Affected: 12245_1, 12222_1, 12248_1, 12221_1, 12280_2, 13003_1

Remarks:

NW extent riprap area adjacent tunnel bridge.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00549/nrt7_s3004_reson8125/2007-304/904_1748	2300/240	0.00	000.0	Primary

Hydrographer Recommendations

Chart least depth, or add riprap area around tunnel bridge as depicted by data.

Cartographically-Rounded Depth (Affected Charts):

6ft (12245_1, 12222_1, 12248_1, 12221_1, 12280_2)

1fm (13003_1)

S-57 Data

Geo object 1: Sounding (SOUNDG)
Attributes: QUASOU - 1:depth known
 TECSOU - 3:found by multi-beam

Feature Images

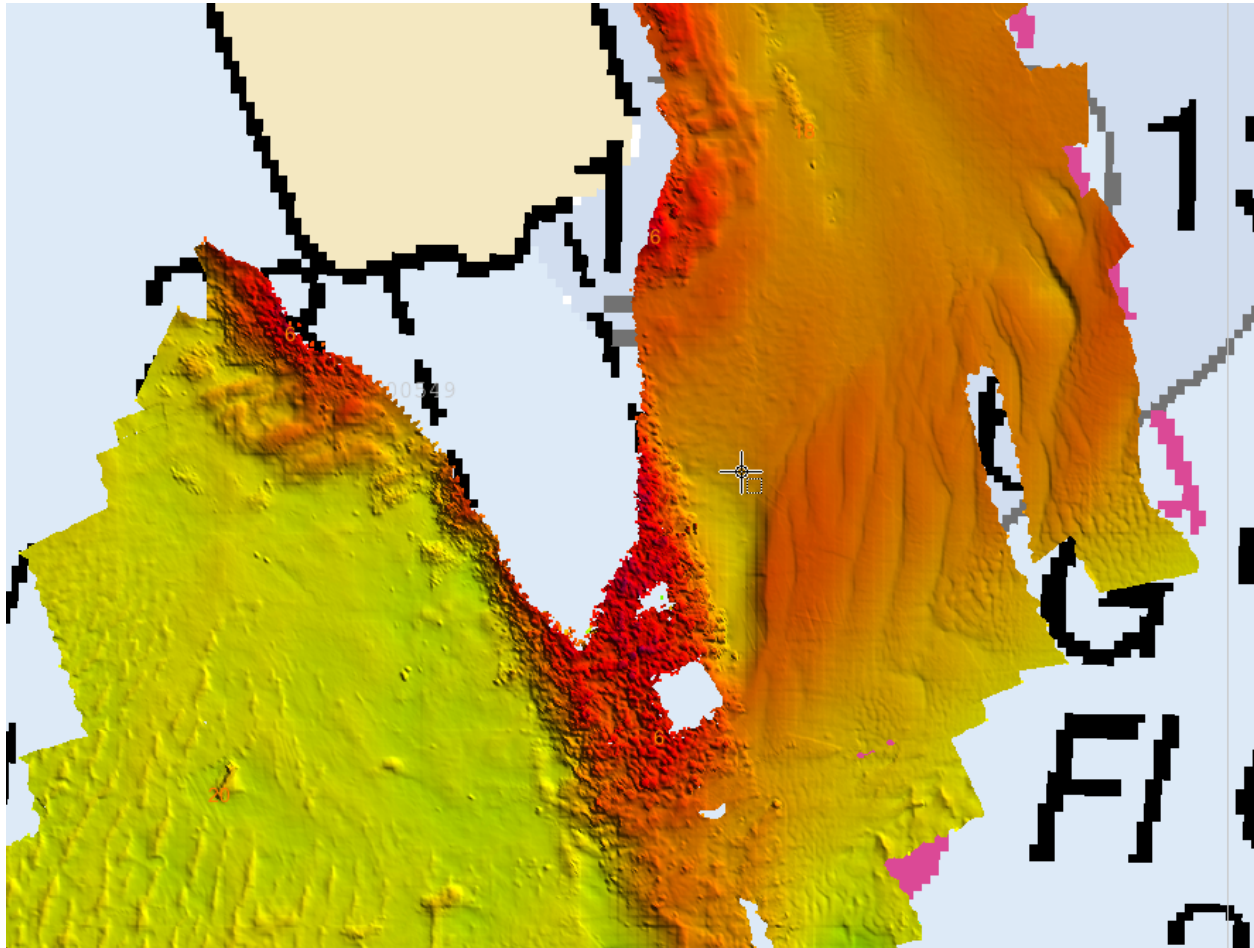


Figure 1.2.1

1.3) Profile/Beam - 804/191 from f00549 / nrt7_s3004_reson8125 / 2007-304 / 906_1757

DANGER TO NAVIGATION

Survey Summary

Survey Position: 036° 57' 28.361" N, 76° 24' 35.893" W
Least Depth: 2.00 m
Timestamp: 2007-304.17:58:02.297 (10/31/2007)
Survey Line: f00549 / nrt7_s3004_reson8125 / 2007-304 / 906_1757
Profile/Beam: 804/191
Charts Affected: 12245_1, 12222_1, 12248_1, 12221_1, 12280_2, 13003_1

Remarks:

southern extent submerged riprap from tunnel bridge

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00549/nrt7_s3004_reson8125/2007-304/906_1757	804/191	0.00	000.0	Primary

Hydrographer Recommendations

Chart least depth, or add riprap area around tunnel bridge as depicted by data.

Cartographically-Rounded Depth (Affected Charts):

6ft (12245_1, 12222_1, 12248_1, 12221_1, 12280_2)

1fm (13003_1)

S-57 Data

Geo object 1: Sounding (SOUNDG)
Attributes: QUASOU - 1:depth known
 TECSOU - 3:found by multi-beam

Feature Images

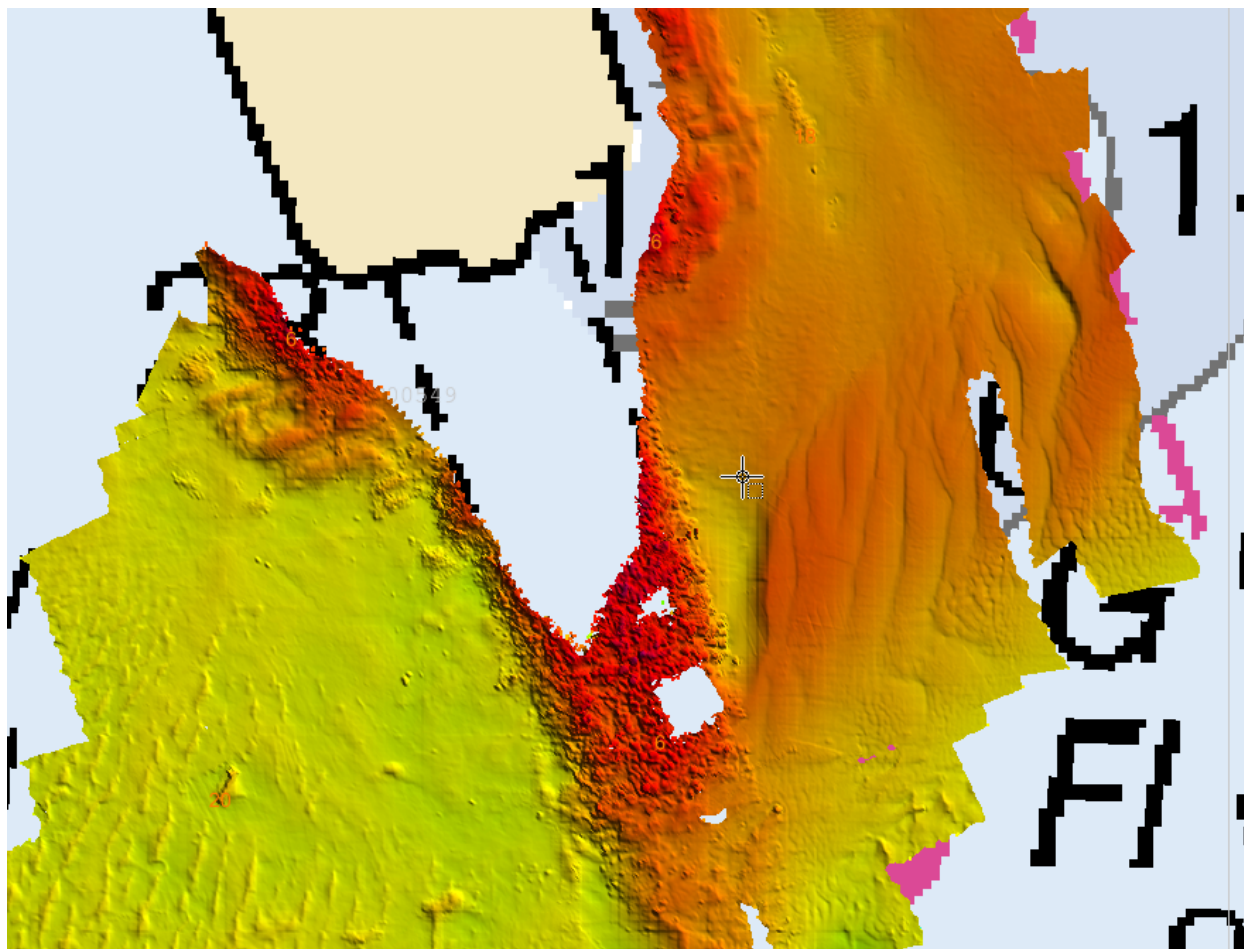


Figure 1.3.1

1.4) Profile/Beam - 1053/222 from f00549 / nrt7_s3004_reson8125 / 2007-305 / 112_1405

DANGER TO NAVIGATION

Survey Summary

Survey Position: 036° 57' 32.329" N, 76° 24' 36.003" W
Least Depth: 1.89 m
Timestamp: 2007-305.14:05:51.063 (11/01/2007)
Survey Line: f00549 / nrt7_s3004_reson8125 / 2007-305 / 112_1405
Profile/Beam: 1053/222
Charts Affected: 12245_1, 12222_1, 12248_1, 12221_1, 12280_2, 13003_1

Remarks:

NE extent rip rap around tunnel bridge.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00549/nrt7_s3004_reson8125/2007-305/112_1405	1053/222	0.00	000.0	Primary

Hydrographer Recommendations

Chart least depth, or add riprap area around tunnel bridge as depicted by data.

Cartographically-Rounded Depth (Affected Charts):

6ft (12245_1, 12222_1, 12248_1, 12221_1, 12280_2)

1fm (13003_1)

S-57 Data

Geo object 1: Sounding (SOUNDG)
Attributes: QUASOU - 1:depth known
 TECSOU - 3:found by multi-beam

Feature Images

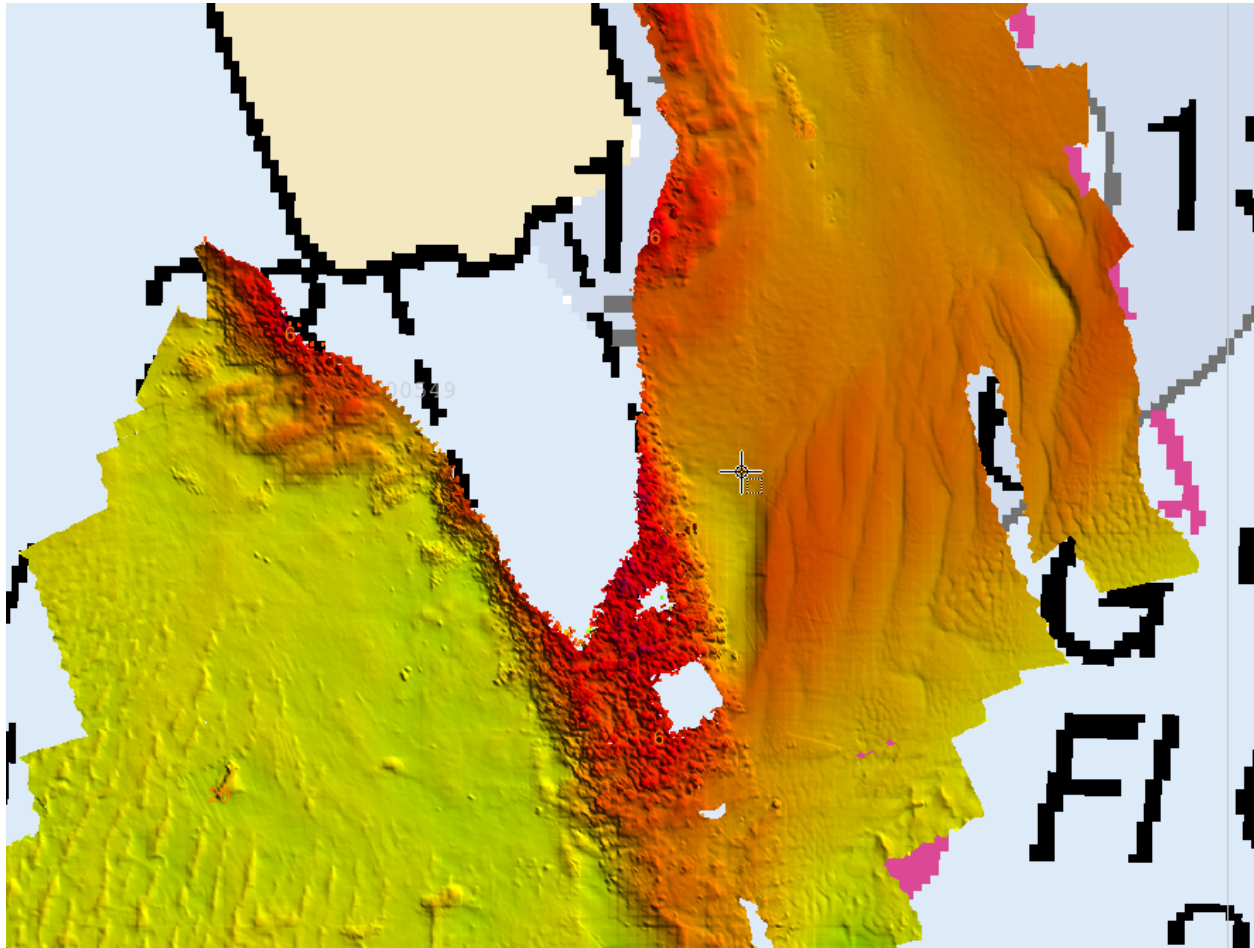


Figure 1.4.1

1.5) Profile/Beam - 2228/227 from f00549 / nrt7_s3004_reson8125 / 2007-304 / 107_1719**DANGER TO NAVIGATION****Survey Summary**

Survey Position: 036° 57' 35.096" N, 76° 24' 36.227" W
Least Depth: 3.22 m
Timestamp: 2007-304.17:20:50.620 (10/31/2007)
Survey Line: f00549 / nrt7_s3004_reson8125 / 2007-304 / 107_1719
Profile/Beam: 2228/227
Charts Affected: 12245_1, 12222_1, 12248_1, 12221_1, 12280_2, 13003_1

Remarks:

debris along bridge

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00549/nrt7_s3004_reson8125/2007-304/107_1719	2228/227	0.00	000.0	Primary
f00549/nrt7_s3004_reson8125/2007-304/900_1730	1423/240	17.43	160.3	Secondary (grouped)
f00549/nrt7_s3004_reson8125/2007-304/107_1719	1892/161	21.65	343.6	Secondary (grouped)

Hydrographer Recommendations

Chart least depth.

Cartographically-Rounded Depth (Affected Charts):

10ft (12245_1, 12222_1, 12248_1, 12221_1, 12280_2)

1 ¾fm (13003_1)

S-57 Data

Geo object 1: Sounding (SOUNDG)
Attributes: QUASOU - 1:depth known
TECSOU - 3:found by multi-beam

Feature Images

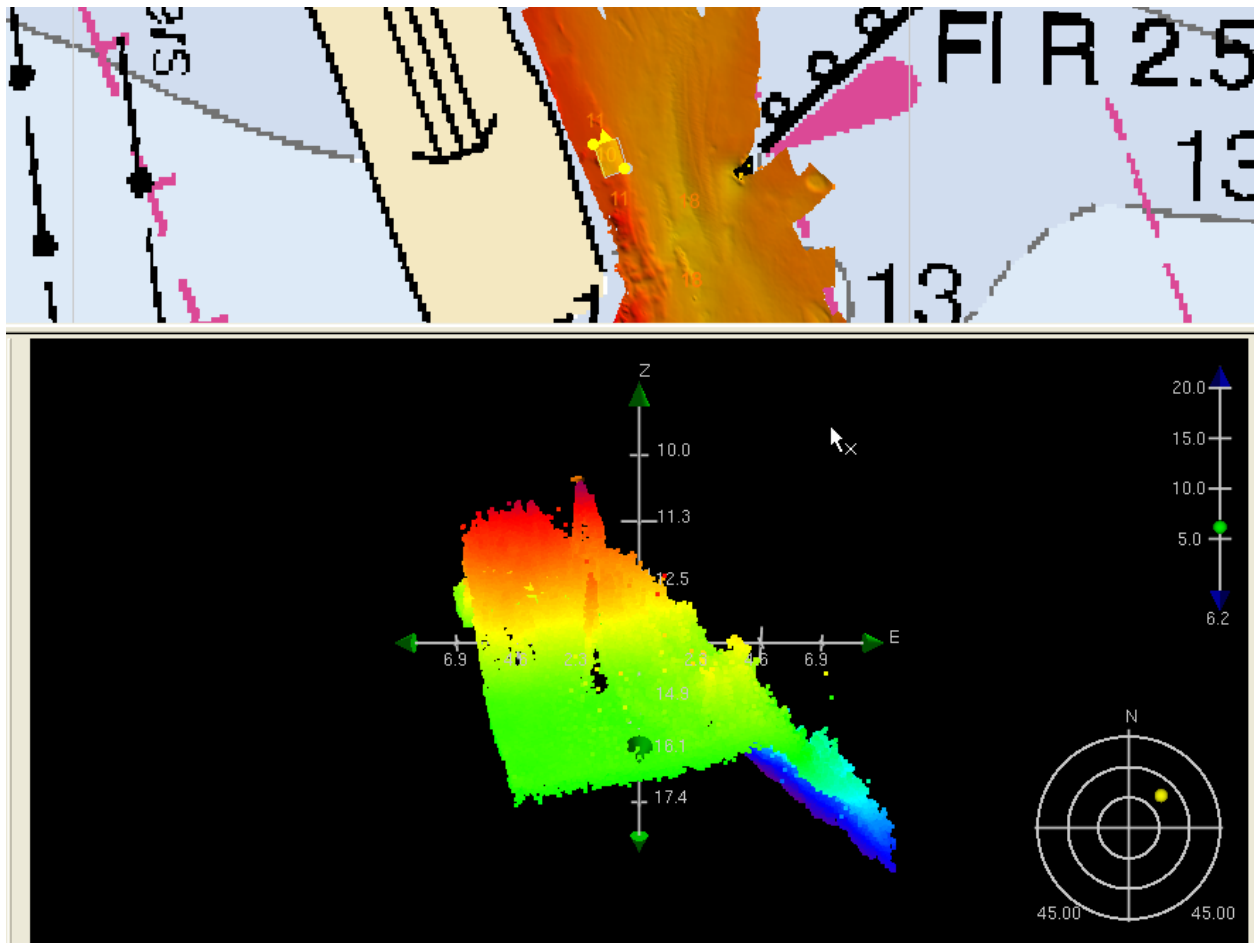


Figure 1.5.1

Appendix 2: Survey Feature Report

F00549 Feature Report

Registry Number: F00549
State: Virginia
Locality: Newport News
Sub-locality: Entrance to Newport News Creek
Project Number: S-E926-NRT7-07
Survey Dates: 10/31/2007 - 01/24/2008

Charts Affected

Number	Edition	Date	Scale (RNC)	RNC Correction(s)*
12245	66th	10/01/2007	1:20,000 (12245_1)	USCG LNM: 05/27/2008 (06/03/2008) NGA NTM: 01/07/2006 (06/07/2008)
12248	41st	12/01/2005	1:40,000 (12248_1)	[L]NTM: ?
12222	47th	11/01/2005	1:40,000 (12222_1)	[L]NTM: ?
12221	78th	04/01/2006	1:80,000 (12221_1)	[L]NTM: ?
12280	6th	09/01/2005	1:200,000 (12280_2)	[L]NTM: ?
13003	48th	10/01/2004	1:1,200,000 (13003_1)	[L]NTM: ?

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

Features

No.	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	Sounding	6.43 m	36° 57' 27.1" N	076° 24' 37.9" W	---
1.2	Rock	[None]	36° 57' 30.0" N	076° 24' 36.7" W	---
1.3	Dolphin	[None]	36° 57' 46.3" N	076° 24' 58.0" W	---
1.4	Sounding	5.02 m	36° 57' 36.9" N	076° 24' 58.5" W	---
2.1	Obstruction	6.24 m	36° 57' 27.9" N	076° 24' 40.2" W	---
2.2	Rock	1.81 m	36° 57' 31.5" N	076° 24' 39.6" W	---
2.3	Rock	2.01 m	36° 57' 28.4" N	076° 24' 35.9" W	---
2.4	Rock	1.90 m	36° 57' 32.3" N	076° 24' 36.0" W	---
2.5	Obstruction	3.25 m	36° 57' 35.1" N	076° 24' 36.2" W	---

1 - New Features

1.1) Profile/Beam - 669/3 from f00549 / nrt7_s3004_reson8125 / 2007-304 / 904_1748

Survey Summary

Survey Position: 36° 57' 27.1" N, 076° 24' 37.9" W
Least Depth: 6.43 m (= 21.09 ft = 3.515 fm = 3 fm 3.09 ft)
TPU ($\pm 1.96\sigma$): THU (TPEh) ± 2.044 m ; TVU (TPEv) ± 0.561 m
Timestamp: 2007-304.17:48:59.855 (10/31/2007)
Survey Line: f00549 / nrt7_s3004_reson8125 / 2007-304 / 904_1748
Profile/Beam: 669/3
Charts Affected: 12245_1, 12222_1, 12248_1, 12221_1, 12280_2, 13003_1

Remarks:

unidentified obstruction ~5m above seafloor

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00549/nrt7_s3004_reson8125/2007-304/904_1748	669/3	0.00	000.0	Primary

Hydrographer Recommendations

chart obstruction or least depth

Cartographically-Rounded Depth (Affected Charts):

21ft (12245_1, 12222_1, 12248_1, 12221_1, 12280_2)

3 ½fm (13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)
Attributes: QUASOU - 6:least depth known
 SORDAT - 20071031
 SORIND - US,US,nsurf,F00549
 TECSOU - 3:found by multi-beam
 VALSOU - 6.429 m
 VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Do not concur. The feature is ~1.5 meters high. The feature is not a discrete feature but a general bathymetric high. Chart survey soundings.

[Image file T:/SAR/F00549_E926-NRT7/AHB_F00549/PSS/Feature_Images/669-3.bmp does not exist.]

1.2) GP No. - 1 from ChartGPs - Digitized

Survey Summary

Survey Position: 36° 57' 30.0" N, 076° 24' 36.7" W
Least Depth: [None]
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 2007-306.14:09:35 (11/02/2007)
GP Dataset: ChartGPs - Digitized
GP No.: 1
Charts Affected: 12245_1, 12222_1, 12248_1, 12221_1, 12280_2, 13003_1

Remarks:

Riprap area.

Feature Correlation

Address	Feature	Range	Azimuth	Status
ChartGPs - Digitized	1	0.00	000.0	Primary

Hydrographer Recommendations

Chart as rky.

S-57 Data

Geo object 1: Shoreline Construction (SLCONS)
Attributes: CATSLC - 8:rip rap
 SORDAT - 20080117
 SORIND - US,US,survey,FOO549

Office Notes

Concur with clarification. This 'rky' was charted as a result of a field-submitted DtoN letter. This 'rky' and three nearby 6-foot depths were charted to indicate the extents of a riprap area. Recommend changing 'rky' area to rip rap.

1.3) GP No. - 2 from ChartGPs - Digitized

Survey Summary

Survey Position: 36° 57' 46.3" N, 076° 24' 58.0" W
Least Depth: [None]
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 2008-024.14:27:25 (01/24/2008)
GP Dataset: ChartGPs - Digitized
GP No.: 2
Charts Affected: 12245_1, 12248_1, 12221_1, 12280_2, 13003_1

Remarks:

Concrete platform similar to that charted on southern end of pier.

Feature Correlation

Address	Feature	Range	Azimuth	Status
ChartGPs - Digitized	2	0.00	000.0	Primary

Hydrographer Recommendations

Add concrete platform to chart in this position.

S-57 Data

Geo object 1: Mooring/warping facility (MORFAC)
Attributes: CATMOR - 1:dolphin
 SORDAT - 20080117
 SORIND - US,US,survy,FOO549

Office Notes

Concur. For additional reference, see screengrab with hand-digitized yellow arrow indicating the position of the structure.

[Image file t:/sar/f00549_e926-nrt7/ahb_f00549/pss/feature_images/concrete_platform.jpg does not exist.]

[Image file T:/SAR/F00549_E926-NRT7/AHB_F00549/PSS/Feature_Images/PierStructure.JPG does not exist.]

1.4) Profile/Beam - 37/185 from f00549 / nrt7_s3004_reson8125 / 2008-017 / 012_1604

Survey Summary

Survey Position: 36° 57' 36.9" N, 076° 24' 58.5" W
Least Depth: 5.02 m (= 16.48 ft = 2.747 fm = 2 fm 4.48 ft)
TPU ($\pm 1.96\sigma$): THU (TPEh) ± 1.986 m ; TVU (TPEv) ± 0.394 m
Timestamp: 2008-017.16:04:44.688 (01/17/2008)
Survey Line: f00549 / nrt7_s3004_reson8125 / 2008-017 / 012_1604
Profile/Beam: 37/185
Charts Affected: 12245_1, 12248_1, 12221_1, 12280_2, 13003_1

Remarks:

pile of debris

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00549/nrt7_s3004_reson8125/2008-017/012_1604	37/185	0.00	000.0	Primary
f00549/nrt7_s3004_reson8125/2008-017/012_1604	17/173	1.76	199.6	Secondary (grouped)

Hydrographer Recommendations

chart obstruction

Cartographically-Rounded Depth (Affected Charts):

16ft (12245_1, 12248_1, 12221_1, 12280_2)

2 ¾fm (13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)
Attributes: QUASOU - 6:least depth known
 SORDAT - 20080117
 SORIND - US,US,nsurf,F00549
 TECSOU - 3:found by multi-beam
 VALSOU - 5.024 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Concur. Chart obstruction at surveyed location.

2 - Dangers to Navigation

2.1) Profile/Beam - 165/229 from f00549 / nrt7_s3004_reson8125 / 2007-304 / 110_1802

DANGER TO NAVIGATION

Survey Summary

Survey Position: 36° 57' 27.9" N, 076° 24' 40.2" W
Least Depth: 6.24 m (= 20.46 ft = 3.409 fm = 3 fm 2.46 ft)
TPU ($\pm 1.96\sigma$): THU (TPEh) ± 2.020 m ; TVU (TPEv) ± 0.484 m
Timestamp: 2007-304.18:02:55.389 (10/31/2007)
Survey Line: f00549 / nrt7_s3004_reson8125 / 2007-304 / 110_1802
Profile/Beam: 165/229
Charts Affected: 12245_1, 12222_1, 12248_1, 12221_1, 12280_2, 13003_1

Remarks:

pipe

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00549/nrt7_s3004_reson8125/2007-304/110_1802	165/229	0.00	000.0	Primary
ChartGPs - ENC US5VA15M	Danger 2	0.46	325.2	Secondary (grouped)

Hydrographer Recommendations

Chart obstruction.

Cartographically-Rounded Depth (Affected Charts):

20ft (12245_1, 12222_1, 12248_1, 12221_1, 12280_2)

3 ¼fm (13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)
Attributes: QUASOU - 6:least depth known
 SORDAT - 20071031
 SORIND - US,US,nsurf,F00549

TECSOU - 3:found by multi-beam

VALSOU - 6.235 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Concur with clarification. Feature was charted as result of DtoN letter submission. Retain feature as charted.

[Image file T:/SAR/F00549_E926-NRT7/AHB_F00549/PSS/Feature_Images/pipe.bmp does not exist.]

2.2) Profile/Beam - 2300/240 from f00549 / nrt7_s3004_reson8125 / 2007-304 / 904_1748

DANGER TO NAVIGATION

Survey Summary

Survey Position: 36° 57' 31.5" N, 076° 24' 39.6" W
Least Depth: 1.81 m (= 5.94 ft = 0.990 fm = 0 fm 5.94 ft)
TPU ($\pm 1.96\sigma$): THU (TPEh) ± 1.976 m ; TVU (TPEv) ± 0.397 m
Timestamp: 2007-304.17:50:29.540 (10/31/2007)
Survey Line: f00549 / nrt7_s3004_reson8125 / 2007-304 / 904_1748
Profile/Beam: 2300/240
Charts Affected: 12245_1, 12222_1, 12248_1, 12221_1, 12280_2, 13003_1

Remarks:

NW extent riprap area adjacent tunnel bridge.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00549/nrt7_s3004_reson8125/2007-304/904_1748	2300/240	0.00	000.0	Primary

Hydrographer Recommendations

Chart least depth, or add riprap area around tunnel bridge as depicted by data.

Cartographically-Rounded Depth (Affected Charts):

6ft (12245_1, 12222_1, 12248_1, 12221_1, 12280_2)

1fm (13003_1)

S-57 Data

Geo object 1: Sounding (SOUNDG)
Attributes: QUASOU - 6:least depth known
 SORDAT - 20071031
 SORIND - US,US,survey,F00549
 TECSOU - 3:found by multi-beam

VERDAT - 12:Mean lower low water

Office Notes

Concur with clarification. This 6-foot depth was charted as a result of a field-submitted DtoN letter. This 6-foot depth, two other nearby 6-foot depths, and a 'rky' were charted to indicate the extents of a riprap area. Retain as charted.

[Image file T:/SAR/F00549_E926-NRT7/AHB_F00549/PSS/Feature_Images/riprap area.bmp does not exist.]

2.3) Profile/Beam - 804/191 from f00549 / nrt7_s3004_reson8125 / 2007-304 / 906_1757

DANGER TO NAVIGATION

Survey Summary

Survey Position: 36° 57' 28.4" N, 076° 24' 35.9" W
Least Depth: 2.01 m (= 6.60 ft = 1.100 fm = 1 fm 0.60 ft)
TPU ($\pm 1.96\sigma$): THU (TPEh) ± 1.975 m ; TVU (TPEv) ± 0.385 m
Timestamp: 2007-304.17:58:02.297 (10/31/2007)
Survey Line: f00549 / nrt7_s3004_reson8125 / 2007-304 / 906_1757
Profile/Beam: 804/191
Charts Affected: 12245_1, 12222_1, 12248_1, 12221_1, 12280_2, 13003_1

Remarks:

southern extent submerged riprap from tunnel bridge

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00549/nrt7_s3004_reson8125/2007-304/906_1757	804/191	0.00	000.0	Primary

Hydrographer Recommendations

Chart least depth, or add riprap area around tunnel bridge as depicted by data.

Cartographically-Rounded Depth (Affected Charts):

6ft (12245_1, 12222_1, 12248_1, 12221_1, 12280_2)

1fm (13003_1)

S-57 Data

Geo object 1: Sounding (SOUNDG)
Attributes: QUASOU - 6:least depth known
 SORDAT - 20071031
 SORIND - US,US,survey,F00549
 TECSOU - 3:found by multi-beam

VERDAT - 12:Mean lower low water

Office Notes

Concur with clarification. This 6-foot depth was charted as a result of a field-submitted DtoN letter. This 6-foot depth, two other nearby 6-foot depths, and a 'rky' were charted to indicate the extents of a riprap area. Retain as charted.

2.4) Profile/Beam - 1053/222 from f00549 / nrt7_s3004_reson8125 / 2007-305 / 112_1405

DANGER TO NAVIGATION

Survey Summary

Survey Position: 36° 57' 32.3" N, 076° 24' 36.0" W
Least Depth: 1.90 m (= 6.23 ft = 1.038 fm = 1 fm 0.23 ft)
TPU ($\pm 1.96\sigma$): THU (TPEh) ± 1.972 m ; TVU (TPEv) ± 0.386 m
Timestamp: 2007-305.14:05:51.063 (11/01/2007)
Survey Line: f00549 / nrt7_s3004_reson8125 / 2007-305 / 112_1405
Profile/Beam: 1053/222
Charts Affected: 12245_1, 12222_1, 12248_1, 12221_1, 12280_2, 13003_1

Remarks:

NE extent rip rap around tunnel bridge.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00549/nrt7_s3004_reson8125/2007-305/112_1405	1053/222	0.00	000.0	Primary

Hydrographer Recommendations

Chart least depth, or add riprap area around tunnel bridge as depicted by data.

Cartographically-Rounded Depth (Affected Charts):

6ft (12245_1, 12222_1, 12248_1, 12221_1, 12280_2)

1fm (13003_1)

S-57 Data

Geo object 1: Sounding (SOUNDG)
Attributes: QUASOU - 6:least depth known
 SORDAT - 20071031
 SORIND - US,US,survey,F00549
 TECSOU - 3:found by multi-beam

VERDAT - 12:Mean lower low water

Office Notes

Concur with clarification. This 6-foot depth was charted as a result of a field-submitted DtoN letter. This 6-foot depth, two other nearby 6-foot depths, and a 'rky' were charted to indicate the extents of a riprap area. Retain as charted.

2.5) Profile/Beam - 2228/227 from f00549 / nrt7_s3004_reson8125 / 2007-304 / 107_1719

DANGER TO NAVIGATION

Survey Summary

Survey Position: 36° 57' 35.1" N, 076° 24' 36.2" W
Least Depth: 3.25 m (= 10.67 ft = 1.778 fm = 1 fm 4.67 ft)
TPU ($\pm 1.96\sigma$): THU (TPEh) ± 1.984 m ; TVU (TPEv) ± 0.410 m
Timestamp: 2007-304.17:20:50.620 (10/31/2007)
Survey Line: f00549 / nrt7_s3004_reson8125 / 2007-304 / 107_1719
Profile/Beam: 2228/227
Charts Affected: 12245_1, 12222_1, 12248_1, 12221_1, 12280_2, 13003_1

Remarks:

debris along bridge

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00549/nrt7_s3004_reson8125/2007-304/107_1719	2228/227	0.00	000.0	Primary
f00549/nrt7_s3004_reson8125/2007-304/103_1712	3158/59	0.19	241.3	Secondary
ChartGPs - ENC US5VA15M	Danger 1	0.23	180.0	Secondary (grouped)

Hydrographer Recommendations

Chart least depth.

Cartographically-Rounded Depth (Affected Charts):

10ft (12245_1, 12222_1, 12248_1, 12221_1, 12280_2)

1 $\frac{3}{4}$ fm (13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)
Attributes: QUASOU - 6:least depth known
 SORDAT - 20080117

SORIND - US,US,nsurf,F00549

TECSOU - 3:found by multi-beam

VALSOU - 3.252 m

WATLEV - 3:always under water/submerged

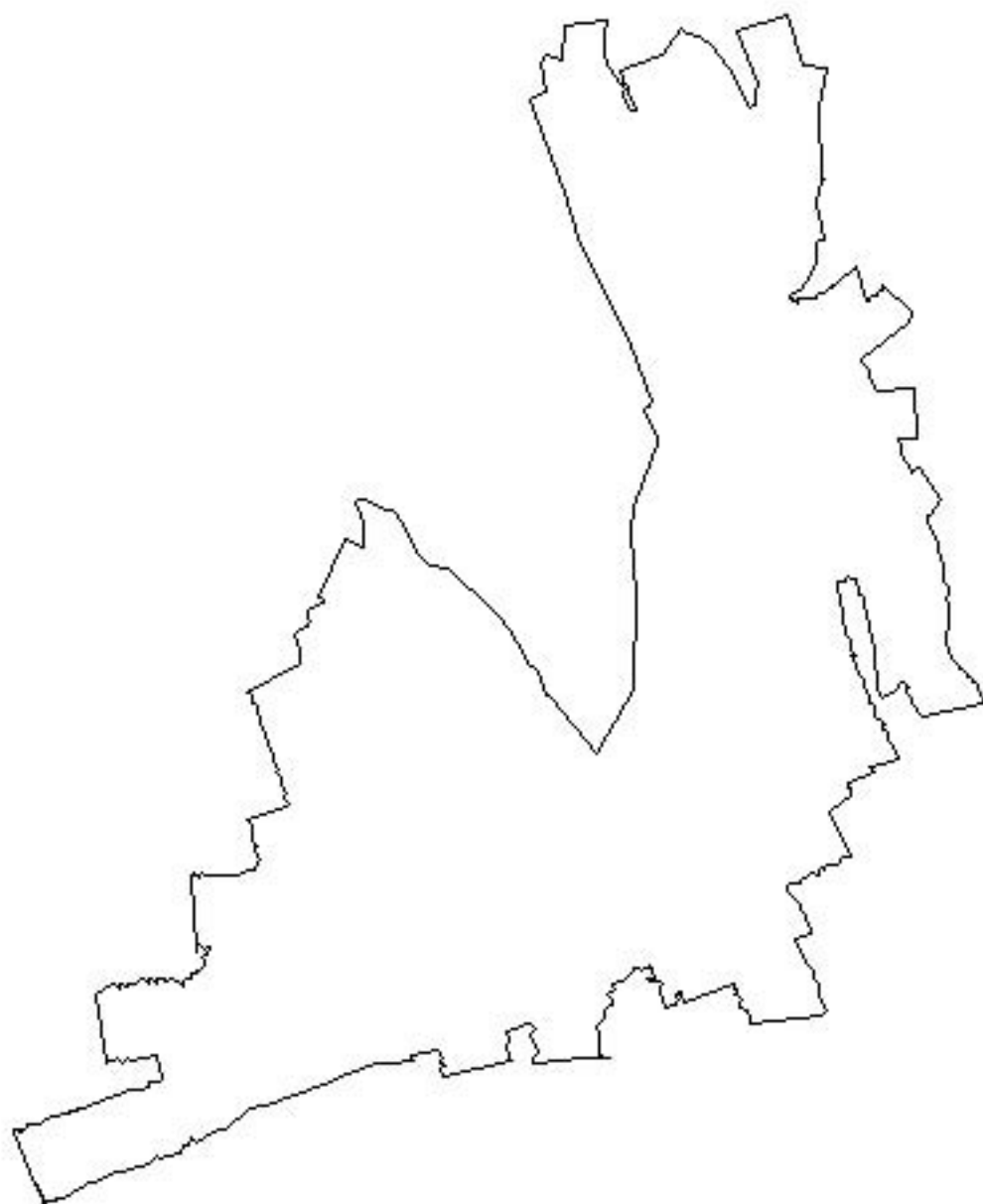
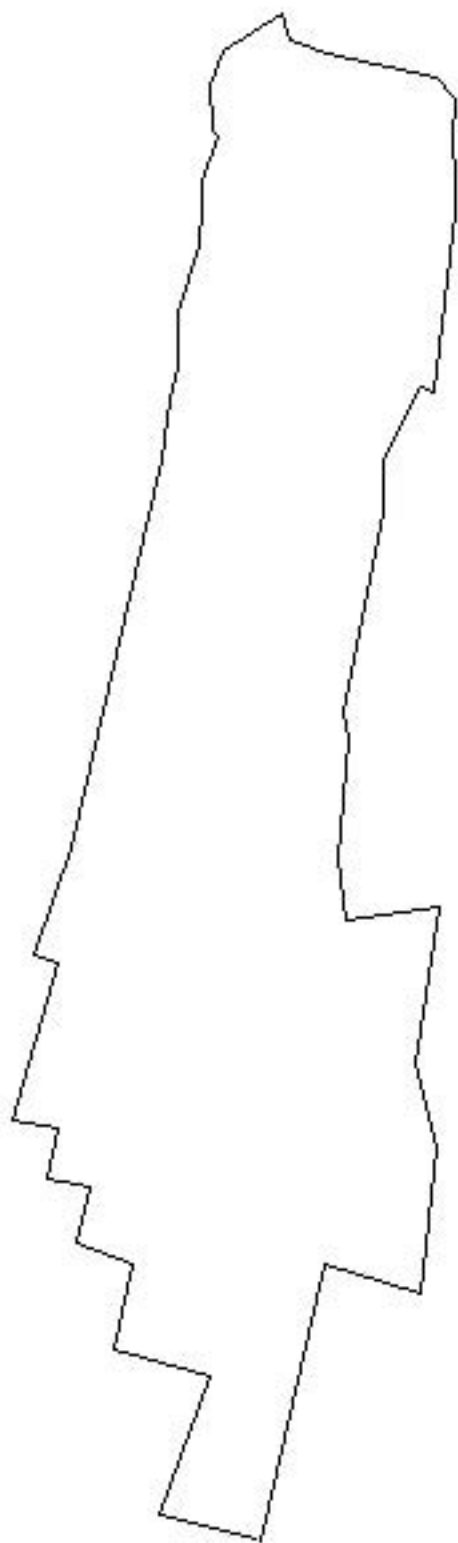
Office Notes

Concur with clarification. Item was charted as a result of DtoN letter submission. Retain as charted.

[Image file T:/SAR/F00549_E926-NRT7/AHB_F00549/PSS/Feature_Images/2228-227 debris along bridge.bmp does not exist.]

Appendix 3: Final Progress Sketch and Survey Outline

S-E926-NRT7-07
F00549

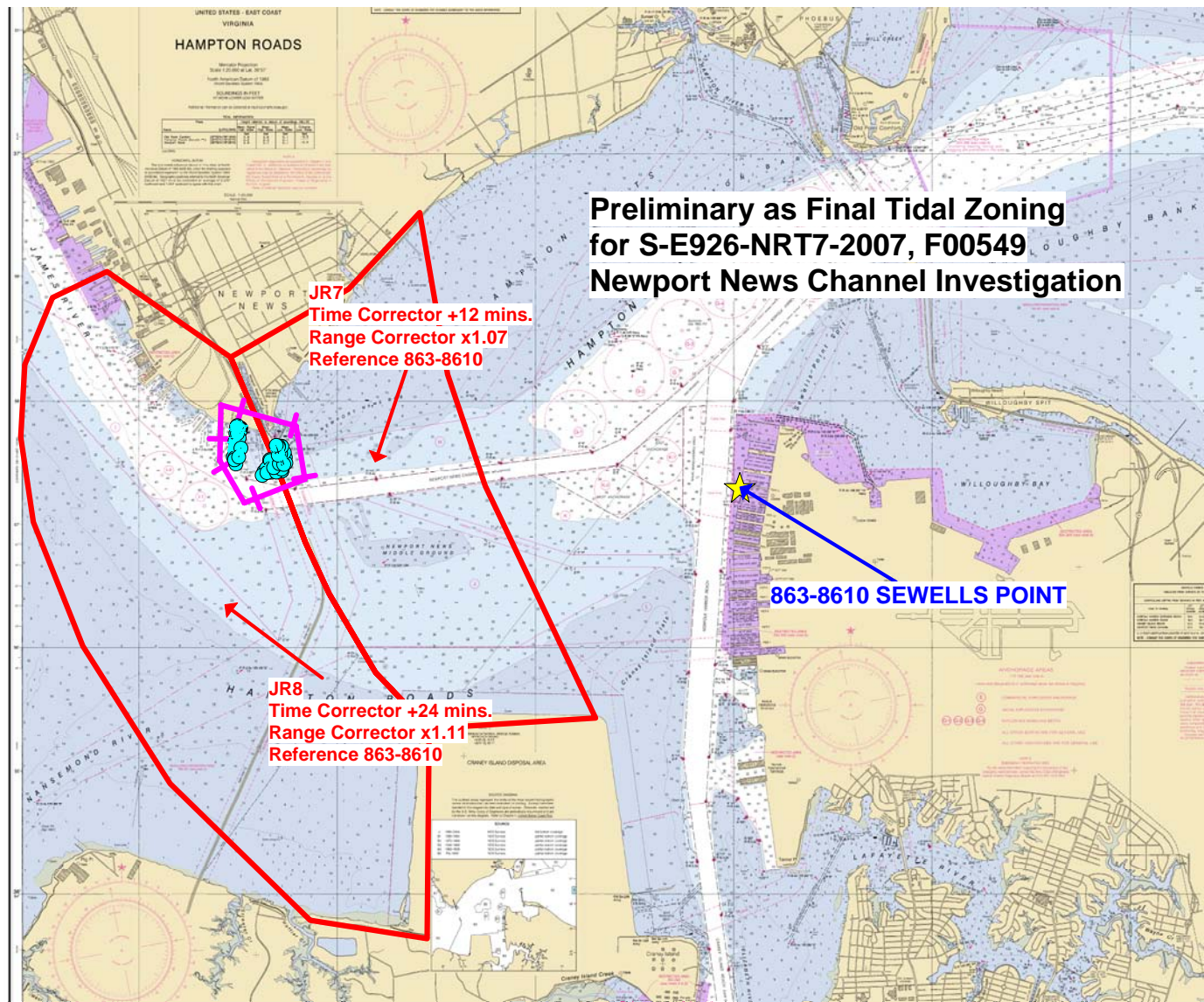


Appendix 4: Tides and Water Levels



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





Appendix 5: Supplemental Survey Records and Correspondence

From <Briana.Welton@noaa.gov>
Sent Thursday, January 24, 2008 2:00 pm
To smooth.tides@noaa.gov
Cc lawrence.t.krepp@noaa.gov christopher.hare@noaa.gov shep.smith@noaa.gov jack.herbert@noaa.gov
Bcc
Subject F00549 Tides Request Amended (S-E926-NRT7-07)
Attachments F00549_TideRequest_Amended.zip 11K

Good Afternoon,

Attached is an amended tides request for F00549. The survey area for this project was recently amended to include a pier face in Newport News, near Newport News Creek, where the original field exam took place. I have already received a notice of final, approved tides for day numbers 2007-304 and 2007-305; but I need approved tides for 2008-017. Please let me know if you have any questions. I apologize for the inconvenience.

Thanks,

Bri

LTJG Briana Welton, NOAA
Navigation Response Team 7
Mid-Atlantic Region
439 W York St
Norfolk, VA 23510
757-771-5304 (cell)
757-441-6319 x104 (office)

From <Briana.Welton@noaa.gov>
Sent Friday, November 2, 2007 2:22 pm
To mcd.dton@noaa.gov
Cc lawrence.t.krepp@noaa.gov shep.smith@noaa.gov howard.danley@noaa.gov doug.baird@noaa.gov christopher.hare@noaa.gov
Bcc
Subject S-E926-NRT7-07, F00549 DTON Report- Newport News Creek
Attachments F00549_DTON_Report1.zip 1.6MB F00549_Feature_Report.pdf 1.0MB

Attached is a DTON Report of items around the Monitor-Merrimac Bridge Tunnel in Newport News, VA. I've also attached a Feature Report including a GP with the recommendation to chart the rip-rap area around the bridge as rocky.

V/r,

Bri

LTJG Briana Welton, NOAA
Mid-Atlantic Region Hydro Team Leader
Navigation Response Team 7

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

From: <Briana.Welton@noaa.gov>
Date: Friday, November 2, 2007 10:55 am
Subject: F00549 depth MI table and DTON report

> Here's the MI depth table and proposed DTON report for the Newport
> News survey, F00549. There's a pipe on the west side of the
> tunnel,
> the riprap area that extends from the bridge (above water) to the
> tunnel (below water), and some debris along the creek entrance on
> the
> east side of the bridge.
>
> For the riprap area of the tunnel, my recommendation would be a
> ledge
> (above water @ mllw) and a riprap line around the rocks (below
> water). After talking with Shep about it this morning, I've
> submitted the extents of the riprap as point in the DTON report.

>
> I'll submit this DTON report as soon as soon as you give the go-
> ahead
> (not sure if there are issues with the CG on this).
>
> V/r,
>
> BriFrom View message header detail <Jack.Herbert@noaa.gov>
Sent Friday, November 2, 2007 9:07 am
To smooth.tides@noaa.gov
Cc Briana.Welton@noaa.gov
Bcc
Subject Request for smooth tides SE926-NRT7-07, FOO549 attached
Attachments
FOO549_Smooth_Tides.zip 33K

The mailing address in our letterhead is incorrect. 439 W. York St,
Norfolk, VA 23510 is correct.
Thanks.
-Jack Herbert

From View message header detail Briana.Welton@noaa.gov
Sent Monday, December 17, 2007 9:37 am
To Jack.Herbert@noaa.gov
Cc
Bcc
Subject Fwd: Final Tidal Zoning for S-E926-NRT7-2007, F00549
Attachments
image/png 39K F00549.pdf 454K

----- Original Message -----
From Lijuan Huang <Lijuan.Huang@noaa.gov>
Date Tue, 20 Nov 2007 17:26:30 -0500
To Norris A Wike <Norris.A.Wike@noaa.gov>
Cc Monica Cisternelli <Monica.Cisternelli@noaa.gov>, Gerald Hovis <Gerald.Hovis@noaa.gov>, Briana.Welton@noaa.gov
Subject Final Tidal Zoning for S-E926-NRT7-2007, F00549

DATE: 11/20/2007

MEMORANDUM FOR: LCDR Shepard Smith
 Chief, Atlantic Hydrographic
Branch

FROM: Gerald Hovis
 Requirements and
Development Division, N/OPS1

SUBJECT: Delivery of Tide Requirements for
Hydrographic Surveys

This is notification that the preliminary zoning is accepted as the
final zoning correctors for survey project S-E926-NRT7-2007, registry
No. F00549 during the time period between October 31 to November 1,
2007. The accepted reference station for registry No. F00549 is
Sewells Point, VA (863-8610).

Included with this memo are Tide Notes in .PDF format , stating the
preliminary zones have been accepted as the final zoning.

DATE: 11/20/2007

MEMORANDUM FOR: LCDR Shepard Smith
 Chief, Atlantic Hydrographic Branch

FROM: Gerald Hovis
 Requirements and Development Division, N/OPS1

SUBJECT: Delivery of Tide Requirements for Hydrographic Surveys

This is notification that the preliminary zoning is accepted as the final zoning correctors for survey project S-E926-NRT7-2007, registry No. F00549 during the time period between October 31 to November 1, 2007. The accepted reference station for registry No. F00549 is Sewells Point, VA (863-8610).

Included with this memo are Tide Notes in .PDF format , stating the preliminary zones have been accepted as the final zoning.

From View message header detail <Jack.Herbert@noaa.gov>
Sent Thursday, December 20, 2007 9:47 am
To survey.outlines@noaa.gov
Cc Briana.Welton@noaa.gov , Shep.Smith@noaa.gov , christopher.Hare@noaa.gov , Lawrence.T.Krepp@noaa.gov
Bcc
Subject F00549, S-E926-NRT7-07_Newportnews
Attachments
F00549_Survey_Outline.zip 9K

Good morning,
Attached is the survey outline of the Newport News survey.
Thank you.

-Jack Herbert
NRT 7

From View message header detail <Jack.Herbert@noaa.gov>
Sent Thursday, December 20, 2007 9:36 am
To hydro.info@noaa.gov
Cc briana.welton@noaa.gov , shep.smith@noaa.gov , lawrence.t.krepp@noaa.gov , christopher.hare@noaa.gov
Bcc
Subject F00549, S-E926-NRT7-07 data directory size report

Good morning,
The total raw MBES data for this survey is 1.77 gigabytes. Multibeam
was the only type of sonar used on this project.
Thank you.

-Jack Herbert
NRT 7

From View message header detail Briana.Welton@noaa.gov
Sent Thursday, December 20, 2007 10:37 am
To Jack.Herbert@noaa.gov
Cc
Bcc
Subject Fwd: S-E926-NRT7-07, F00549 DTON Report- Newport News Creek
Attachments
F00549_DTON_Report1.zip 1.6MB F00549_Feature_Report.pdf 1.0MB

----- Original Message -----
From <Briana.Welton@noaa.gov>
Date Fri, 02 Nov 2007 14:22:38 -0400
To mcd.dton@noaa.gov
Cc lawrence.t.krepp@noaa.gov,shep.smith@noaa.gov,howard.danley@noaa.gov, doug.baird@noaa.gov,christopher.hare@noaa.gov
Subject S-E926-NRT7-07, F00549 DTON Report- Newport News Creek

Attached is a DTON Report of items around the Monitor-Merrimac Bridge
Tunnel in Newport News, VA. I've also attached a Feature Report
including a GP with the recommendation to chart the rip-rap area
around the bridge as rocky.

V/r,

Bri

LTJG Briana Welton, NOAA
Mid-Atlantic Region Hydro Team Leader
Navigation Response Team 7

From Lijuan Huang <Lijuan.Huang@noaa.gov>
Sent Monday, February 4, 2008 11:58 am
To Norris A Wike <Norris.A.Wike@noaa.gov> , Briana.Welton@noaa.gov
Cc Monica Cisternelli <Monica.Cisternelli@noaa.gov> , Gerald Hovis <Gerald.Hovis@noaa.gov>
Bcc
Subject Final Tidal Zoning for OPR-E926-NRT7-2007, F00549_Revised
Attachments Project Instruction.png 39K F00549_Revised.pdf 714K

DATE: 02/03/2008

MEMORANDUM FOR: LCDR Shepard Smith
Chief, Atlantic Hydrographic Branch

FROM: Gerald Hovis
Requirements and Development Division, N/OPS1

SUBJECT: Delivery of Tide Requirements for Hydrographic Surveys

This is notification that the preliminary zoning is accepted as the final zoning correctors for survey project S-E926-NRT7-2007, registry No. F00549 during the time period between October 31, 2007 to January 17, 2008. The accepted reference station for registry No. F00549 is Sewells Point, VA (863-8610).

Included with this memo are Tide Notes in .PDF format , stating the preliminary zones have been accepted as the final zoning.

--
Name: Lijuan Huang
Title: ERT contractor
Organization: NOAA/NOS/CO-OPS
Address: 1305 East-West Highway
N/OPS3, Sta. 6422, SSMC4
Silver Spring, MD 20910-3218
Phone: 1-301-713-2897 x188
Fax: 1-301-713-4465

DATE: 02/03/2008

MEMORANDUM FOR: LCDR Shepard Smith
Chief, Atlantic Hydrographic Branch

FROM: Gerald Hovis
Requirements and Development Division, N/OPS1

SUBJECT: Delivery of Tide Requirements for Hydrographic Surveys

This is notification that the preliminary zoning is accepted as the final zoning correctors for survey project S-E926-NRT7-2007, registry No. F00549 during the time period between October 31, 2007 to January 17, 2008. The accepted reference station for registry No. F00549 is Sewells Point, VA (863-8610).

Included with this memo are Tide Notes in .PDF format , stating the preliminary zones have been accepted as the final zoning.

--
Name: Lijuan Huang
Title: ERT contractor
Organization: NOAA/NOS/CO-OPS
Address: 1305 East-West Highway
N/OPS3, Sta. 6422, SSMC4
Silver Spring, MD 20910-3218
Phone: 1-301-713-2897 x188
Fax: 1-301-713-4465

**ATLANTIC HYDROGRAPHIC BRANCH
EVALUATION REPORT to Accompany
Survey F00549 (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 data at the Atlantic Hydrographic Branch:

HSTP PYDRO version 8.6 r2361
CARIS HIPS/SIPS version 6.1 SP1 HF 1-6
CARIS Bathy Manager version 2.1 HF 1-7
DKART INSPECTOR, version 5.0 Build 732 SP1
CARIS HOM version 3.3 HF 8
CARIS S57 Composer version 1.0 HF 1

B.2. QUALITY CONTROL

B.2.1. H-Cell

AHB created and finalized a depth grid at 50 centimeter resolution. This finalized grid was used to create a product surface grid with a resolution of five meters. The survey scale selected soundings were extracted from the 50 centimeter resolution at a scale of 1:10,000. The selected sounding set is approximately 10 to 20 times the number of charted depths at the largest scale chart available scale 1:20,000. The chart scale selected soundings are a subset of the survey scale selected soundings and sounding spacing is representative to the appropriate largest scale in the area. The surface model was referenced when selected the chart scale soundings, to ensure that the selected sounding portrayed the bathymetry within the common area.

Depth curves were created from a five meter product surface grid. The five meter grid resolution product surface was generated at a scale of 1:10,000, generalization radius of 100 meters with no defocusing. The depth curves are forwarded to MCD for reference only. The curves were utilized during chart scale sounding selection and quality assurance efforts at AHB. The depth curves are incorporated into the S57 Blue Note deliverable.

The pre-compilation products of components (Stand Alone HOB (SAHOB)) are detailed in the Pre-Compile Process Log attached at the end of this document. The SAHOB files included sounding selections (SOUNDG), features (OBSTRN, SLCONS,

SBDARE, MORFAC), depth areas (DEPCNT), meta objects (M_COVR, M_QUAL), depth areas (DEPARE), and cartographic Blue Notes.

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

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

The F00549 CARIS H-Cell final deliverables include the following products:

US500549_CU.000	1:40,000 Scale	F00549 H-Cell with Chart Scale Selected Soundings
US500549_SS.000	1:10,000 Scale	F00549 Selected Soundings (Survey Scale)
US500549_BlueNotes.000	1:40,000 Scale	F00549 Cartographic Notes and Depth Curves

B.2.2. Junctions

No contemporary surveys exist for junctioning.

C. VERTICAL AND HORIZONTAL CONTROL

Final vertical correction processing was completed by the field unit with no additional correction required by Atlantic Hydrographic Branch. The field unit applied verified water levels in conjunction with the preliminary tidal zoning which was accepted and approved by N/OPSI CO-OPS as the final zoning for F00549. Sounding datum is Mean Lower Low Water (MLLW). Vertical datum is Mean High Water (MHW)

Horizontal control used for this survey during data acquisition is based upon the North American Datum of 1983 (NAD83), UTM projection zone 18. Office ENC processing of this survey required translating the datum to meet S-57 ENC requirements.

D. RESULTS AND RECOMMENDATIONS

D.1 CHART COMPARISON

12245 (66th Edition, OCT/07)
Corrected through NM 10/27/2007
Corrected through LNM 10/23/2007
Scale 1:20,000

ENC Comparison

US5VA15M
Hampton Roads Virginia
Edition 17
Update Application Date 2008-05-19

D.1.1 Hydrography

The charted hydrography originates with prior surveys and requires no further consideration. The hydrographer makes adequate chart comparisons in section “D” and Appendix 1&2 of the Descriptive Report. The following exceptions are noted:

4. The project letter instructions listed for 100% side scan coverage in conjunction with the object-detection multi-beam. Side scan was not run.

D.2. ADDITIONAL RESULTS

D.2.1. Aids to Navigation

D.3. MISCELLANEOUS

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

D.4. ADEQUACY OF SURVEY

The present survey is adequate to supersede the charted bathymetry within the common area. Any features not specifically addressed either in the H-Cell BASE Cell File or the Blue Notes should be retained as charted. Refer to the Descriptive Report for further recommendations by the hydrographer.

AHB PRE-COMPILATION PROCESS

REGISTRY No.	FOO549
PROJECT No.	S-E926_NRT7_07
FIELD UNIT	NRT7
PRE-COMPILER	CAITLIN JOHNSON
LARGEST SCALE CHART	#12245, edition 66, 20071001
CHART SCALE	1: 20000
SURVEY SCALE	1: 10000
DATE OF SURVEY	October 30-31 2007, January 17, 2008
CONTENT REVIEW DATE	August 4, 2008

Components	File Names
<i>Product Surface</i>	PS_FOO549_10k_30mrad_5mres.hns
<i>Shifted Surface</i>	PS_FOO549_10k_100mrad_5mres_Shifted.hns
<i>Contour Layer</i>	PS_FOO549_10k_100mrad_5mres_Contours.hob
<i>Survey Scale Soundings</i>	FOO549_SS_Soundings.hob
<i>Chart Scale Soundings</i>	FOO549_CS_Soundings.hob
<i>ENC Retain Soundings</i>	N/A
<i>Feature Layer</i>	FOO549_Features.hob
<i>Meta-Objects Layer</i>	FOO549_MetaObjects.hob
<i>Blue Notes</i>	FOO549_BlueNotes.hob

SPECIFICATIONS:

- I. COMBINED SURFACE:
 - a. Final Fieldsheet Location: H:\Compilation\F00549_E926-NRT7\AHB_F00549\E-SAR Final Products\GRIDS
- II. PRODUCT SURFACE (SOUNDINGS):
 - a. Scale: 1: 10000
 - b. Radius: 30m
 - c. Resolution: 5m
 - d. Depth
 - i. Minimum: 1.438m
 - ii. Maximum: 12.469m

PRODUCT SURFACE (CONTOURS):

 - a. Scale: 1:10000
 - b. Radius: 100m
 - c. Resolution: 5m
- III. SHIFTED SURFACE:

Single Shift Value: -.229 [-0.229m (feet), (≤ 10 fathoms)]

[-1.372m (fathoms), (> 10 fathoms)]
- IV. CONTOUR LAYER:
 - a. Use a Depth List: FOO549_NOAA_depth_curves_list.txt

Depth List:
0.000

Version 1.0

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0.914

1.829

3.658

5.486

9.144

10.973

18.288

b. Output Options:

i. Create contour lines:

1. Line Object: DEPCNT

2. Value Attribute: VALDCO

V. SOUNDING SELECTION:

a. Selection Criteria:

i. Radius

ii. Shoal biased

iii. Use Single-Defined Radius: 9.4 distance on ground (m)

iv. Filter: Generalized !=1

VI. FEATURES:

a. Brought in from Survey

Total No. 7

b. Brought in from ENC

ENC: #US5VA15M

Total No. 3

VII. META-OBJECTS:

a. M_COVR attributes

Acronym	Value
INFORM	FOO549
SORDAT	20080117
CATCOV	Coverage available
SORIND	US,US,survy,FOO549

b. M_QUAL attributes

Acronym	Value
CATZOC	A1
INFORM	FOO549, S-E926_NRT7-07, NRT7
POSACC	10
SORDAT	20080117
SORIND	US,US,survy,FOO549
SUREND	20080117
SURSTA	20071030
TECSOU	Found by multi-beam

c. DEPARE attributes

Acronym	Value
DRVALV 1	3.500ft
DRVALV2	42.000ft
SORDAT	20080117
SORIND	US,US,nsurf,FOO549
INFORM	FOO549

VIII. NOTES:

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Figure 1 shows a satellite image of the rip rap area that surrounds the extends of the bridge tunnel area.



Figure 2. The yellow area points to the concrete structure that is visible in both survey data of F00549 and satellite images. This concrete structure is currently not charted on Chart 12245. Recommend updating Chart 12245.



APPROVAL SHEET
FOO549

Initial Approvals:

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

All final products have undergone a comprehensive reviews per the Hydrographic surveys Division Office Processing Manual and are verified to be accurate and complete except where noted.

Caitlin Johnson
Hydrographic Intern
Atlantic Hydrographic Branch

Bridget Williams
Hydrographic Intern
Atlantic Hydrographic Branch

Edward A. Owens
Physical Scientist
Atlantic Hydrographic Branch

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

Approved: _____

Shepard Smith
Lieutenant Commander, NOAA
Chief, Atlantic Hydrographic Branch