

H11761

NOAA FORM 76-35A

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

**DESCRIPTIVE REPORT**

*Type of Survey* **Hydrographic**

*Registry No.* **H11761**

**LOCALITY**

*State* **North Carolina**

*General Locality* **Wilmington**

*Sub-locality* **Midnight Shoal to Southport**

**2007**

CHIEF OF PARTY

**David B. Elliott - Team Leader**

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DATE

NOAA FORM 77-28 U.S. DEPARTMENT OF COMMERCE (11-72) NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  <p style="text-align: center;"><b>HYDROGRAPHIC TITLE SHEET</b></p>	REGISTRY NUMBER:  <p style="text-align: center;"><b>H11761</b></p>
INSTRUCTIONS: The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.	FIELD NUMBER: N/A
<p>State/Territory: <b>North Carolina</b></p> <p>General Locality: <b>Wilmington</b></p> <p>Sub-Locality: <b>Midnight Shoal to Southport</b></p> <p>Scale: <b>1:10,000</b>                      Date of Survey: 31 Oct., 2007 to 12 Dec., 2007</p> <p>Instructions Dated: <b>24 Sep, 2007</b>                      Project Number: <b>OPR-G309-NRT2-07</b></p> <p>Vessel: <b>NOAA Launch 1210</b></p> <p>Chief of Party: <b>David B. Elliott - Team Leader</b></p> <p>Surveyed by: <b>David Elliott, Robert Ramsey, &amp; Aurel Piantanida (NRT2)</b></p> <p>Soundings by: <b>ODOM ECHOTRAC CV</b></p> <p>Graphic record scaled by: <b>DE, RR, AP</b></p> <p>Graphic record checked by: <b>DE, RR, AP</b></p> <p>Protracted by: <b>N/A</b>                      Automated Plot: <b>N/A</b></p> <p>Verification by: <b>Atlantic Hydrographic Branch</b></p> <p>Soundings in: <b>Meters at MLLW</b></p> <p>Remarks:</p> <p><i>1) All Times are UTC.</i></p> <p><i>2) This is a basic Hydrographic Survey under the Navigable Area Concept.</i></p> <p><i>3) Projection is UTM Zone 17.</i></p> <p><i>Comments made in red, bold, italic font)</i></p>	

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**DESCRIPTIVE REPORT**

**to accompany**

**OPR-G309-NRT2-07**

**HYDROGRAPHIC SURVEY  
H11761**

**Scale of Survey: 1:10,000**

**Year of Survey: 2007**

**Navigation Response Team 2 - Launch 1210**

**David B. Elliott- Team Leader**

**A. AREA SURVEYED**

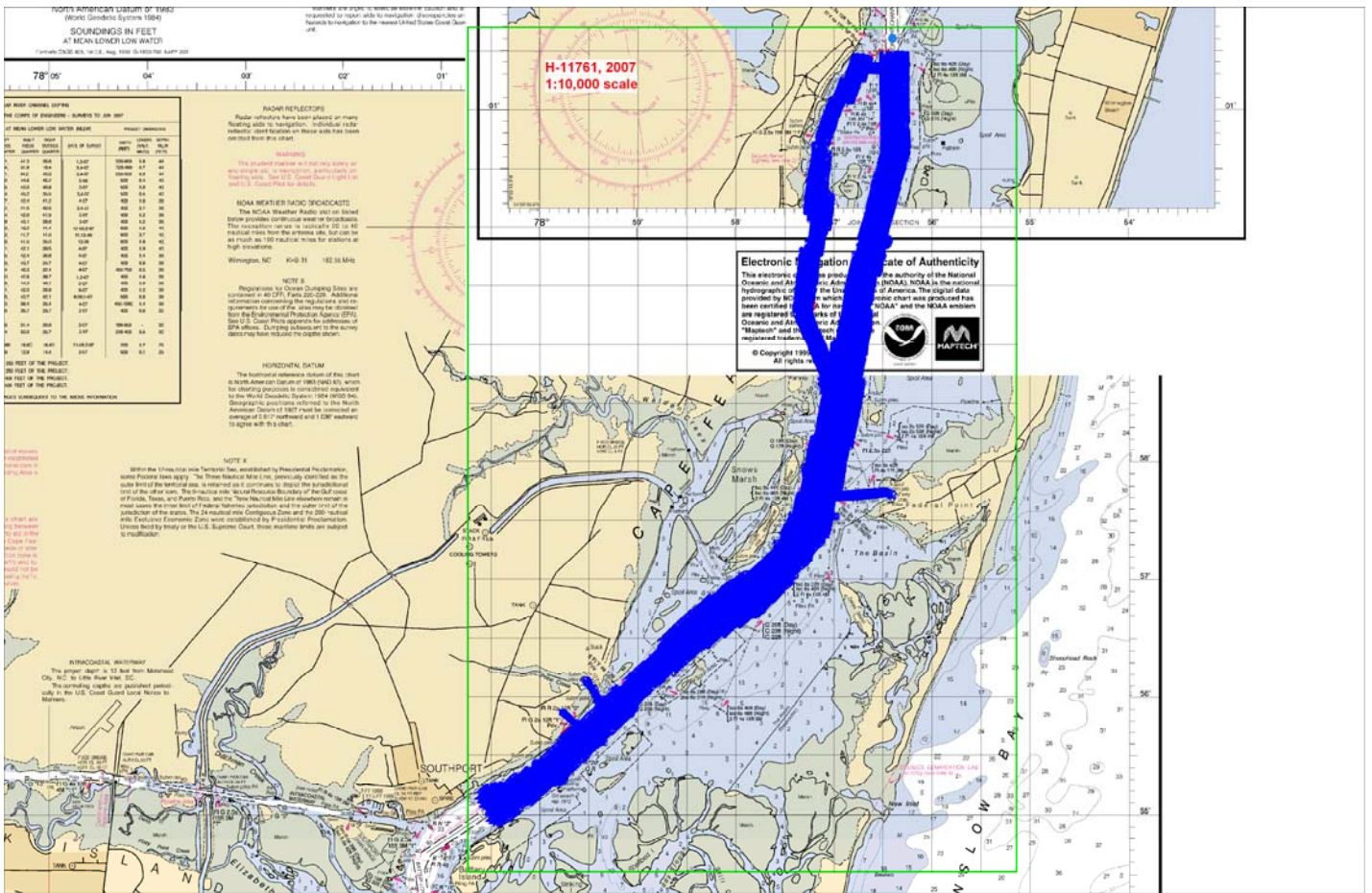
This hydrographic survey was conducted in accordance with Port Letter Instructions for project OPR-G309-NRT2-07, Wilmington, North Carolina. The instructions are dated Sept. 24, 2007.

The purpose of this project is to collect new hydrography in the vicinity of Southport to the Approach to the Cape Fear River. The Port of Wilmington is the leading port in the State. Bathymetry data is needed to be collected from requests obtained by the Regional Navigation Manager and Hydrographic Surveys Division. In addition results from the contemporary hydrography and investigations will also serve as a chart evaluation for NOS Electronic Nautical Charts (ENC). The Remote Sensing Division, from the National Geodetic Survey, has released a Chart Evaluation File of the area for Wilmington, NC. The hydrographic data from this project will help ensure navigational safety through updated critical nautical charts and provide new information for emergency response organizations to use in the event of a marine casualty or coastal storm. *Chart Evaluation Files to satisfy ENC verification requirement (as listed in the Letter Instructions) were included in survey F00548.*

Survey Dates: Oct. 31, 2007 (DN: 304) to Dec. 12, 2007, 2007 (DN: 346)

Survey limits are displayed graphically in the chartlet on the following page .

# H11761 / NRT2



Total LNM of SB & SSS = 105    Total Crosslines = 10.0    Bottom Samples = 0    Total Sq NM = 1.5    *Ratio of crosslines to mainlines exceeds 8%, successfully meeting the requirement.*

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

### **B.1. EQUIPMENT**

Data were acquired by Navigation Response Team 2 and survey Launch 1210. The vessel was configured as described in the Data Acquisition and Processing Report (DAPR) for this project. Major data acquisition systems are summarized below.

NOAA launch 1210, a 30-foot SeaArk with a draft of 0.5 meters, was used to collect all survey data. There were no unusual vessel configurations or problems encountered with the vessel.

An ODOM EchotracCV2, Fathometer, was used to collect all echo soundings on this survey. This echo sounder is a dual frequency instrument but is only used in high frequency with a single transducer.

A Klein 3000 side scan sonar, was used throughout this survey. The side scan sonar equipment was used to investigate AWOIS items.

A Trimble DGPS Beacon Receiver was used as the primary navigation station on launch 1210.

A Trimble Pathfinder ProXRS was used for all ENC high accuracy positioning and establishment of calibration points.

The Instruments used for determining corrections for the speed of sound through the water column were an ODOM Digibar Ser # 98295-020606 and a Seabird-Seacat Velocity Profiler, model 19-03, Ser# 198671-1477. CTD casts are downloaded and processed in the Velociwin program supplied by the Hydrographic Systems and Technology Program (HSTP). *Concur.*

### **B.2. QUALITY CONTROL**

Following the Field Procedures Manual and the NOS Hydrographic Surveys Specifications and Deliverables Manual, June 14, 2006 has insured the integrity of the survey data for H11761.

Differential GPS (DGPS) was used for all hydrographic data acquired on this survey. DGPS performance checks were conducted in accordance with FPM 3.4.4 by comparing the DGPS position of the vessel to a high accuracy (1<sup>st</sup> order) calibration point weekly. *Concur.*

#### **Echo Sounder Control**

Lead line comparisons were conducted weekly and compared to the digital depth and draft. The leadline log comparisons are in Appendix V. *Concur.*

### **Side Scan Sonar Quality Control**

Daily confidence checks were conducted by observing side scan imagery in the vicinity of known contacts, such as buoys or sand waves. Side scan data were considered satisfactory if these contacts could be distinguished throughout the entire range of the side scan trace. The confidence checks were performed daily at 100/500kHz.

A coverage of 200% was obtained wherever possible in the required survey areas and where water depth and/or hazards permitted. Side scan sonar coverage was conducted to the 12-foot depth curve and single beam reduced line spacing was performed in other areas where warranted. The towfish was deployed off the starboard quarter of the vessel, which proved very stable. Distorted images caused by strong tidal currents, or sea state, were seen periodically. Significant contacts and shadows were processed with Caris HIPS/SIPS to determine the height off the bottom. The significant contacts were then compared by position, as well as common depth and relationship to channels to determine if further investigations were needed. All areas surveyed were track line/swath line plotted to insure complete coverage.

The system frequencies used were 100kHz and 500kHz. The recorder was set on one of either 50/75/100-meter range scales. There were no water depths greater than 35 meters.

When operating in shoaler waters (e.g. less than 30 meters deep), a short tow was required for the Klein system. When cable-out was approximately 4 meters or less, minor degradation of the side scan imagery resulted from the Odom EchoTrack CV2 echosounder. Traces were noted due to cross-talk between the two systems. *Concur.*

### **Junctions**

This survey junctions with NRT2 survey H11762-2007, 1:10,000 to the southwest, H09489-1975, 1:10,000 on all sides, and H09501-1975, 1:10,000. *Overlaps with the survey junctions have not been compared and discussed in the Descriptive Report as specified in the FPM 4.4.3.3.*

### **B.3. CORRECTIONS TO ECHO SOUNDING**

Velocwin SV and cast GP's have been inserted into the final Pydro PSS as suggested in the Field Procedures Manual.

The leadline log comparisons are in Appendix V.

There are no deviations to be discussed in this section. *Concur.*

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

The Instruments used for determining corrections for the speed of sound through the water column were an ODOM Digibar and a Seabird-Seacat Velocity Profiler. CTD casts are downloaded and processed in

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the Velociwin program supplied by the Hydrographic Systems and Technology Program (HSTP). Corrections were applied to the sounding plot using the Carris HIPS.

Field soundings are corrected by verified tides data from NOAA/CO-OPS.

The Real Time Actual 6 min Tides are downloaded from:

"http://co-ops.nos.noaa.gov/data\_res.html", for all gauges required in the given projects defined by the ZDF file provided in the project letter, and instruction. Tide values are downloaded in blocks of data that covers the Times of Hydrography, and saved in a text file format. The MapInfo program is then used with the "HYDRO\_MI" pre-Survey function, of "Create Cowlis", this function converts the text file into a Caris tide file (.tid). The final soundings have discrete zoning (smooth tides) applied with ZDF from NOAA/CO-OPS.

All elevations and soundings on survey H11761 are based on MLLW unless otherwise specified.

A Request for Approved Tides letter was sent to <smooth.tides@noaa.gov> on Jan. 10, 2008. This request also includes the CORP.tab, the STNP.tab and LABP.tab all found (Appendix IV). Final tidal zoning approval e-mail was received on Jan 25, 2008. *At the time of this survey, NRT2 did not have an IMU, hence none of the data has been corrected for heave, pitch, and roll.*

### **Horizontal Control**

The horizontal datum used for this survey is the North American Datum of 1983 (NAD 83), projected using UTM zone 17. The control reference station used for this survey was the USCG DGPS Beacon.

Horizontal dilution of precision (HDOP) was monitored on Hypack daily on the survey platform. The value never exceeded 2.5 HDOP, and adequate satellite coverage was maintained throughout the survey period. All positioning equipment was operated in a manner consistent with the manufacturer's requirements and as described in the DAPR. There were no equipment malfunctions, which affected the positional quality of the data.

*Concur.*

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

### **D.1 Chart Comparison**

There was one chart used for comparison on this survey:

<b><u>Chart Number</u></b>	<b><u>Edition</u></b>	<b><u>Edition Date</u></b>	<b><u>Scale</u></b>
11537	37th	Dec, 2006	1:40,000
<b><u>ENC Cell</u></b>	<b><u>Edition</u></b>	<b><u>Last Updated</u></b>	<b><u>Corresponding Chart</u></b>



**General Agreement with Charted soundings**

In general survey soundings compared reasonably well within three to four feet of the charted soundings. There is considerable change throughout the region with depths deeper than charted. All charted soundings should be superseded by this survey. *Concur.*

**The following is a list of comparisons between the survey data and charted shoals or potentially hazardous features as well as notable sounding discrepancies on the chart:**

1. The eighteen-foot contour along the eastern side of Snows Marsh Channel Range has receded approximately 200 meters east. *Concur.*
2. The currently charted isolated two-foot sounding at 34° 00' 42.52" N, 077° 56' 16.86"W, does not exist. Soundings in the area reflect depths of 17 to 20 feet deep. *Concur.*
3. The eighteen-foot contour at 34° 01' 02.16" N, 077° 56' 50.63" W, has encroached to the northwest approximately 100 meters. *Concur.*

Note: Side scan sonar identified numerous abandoned dredge pipes along the Cape Fear River outside of the channel. These items were flat on the bottom and posed no danger to navigation. No charting recommendations are necessary. *Concur.*

**The following is a list of comparisons with controlling depths, tabulated depths and reported depths of maintained channels:**

1. The northern approach channel to wharf #3 at Reaves Pt. is currently charted at 22 foot. The survey depths show shoaling in mid-channel to eighteen foot at 34° 01' 20.50" N, 077° 56' 32.87" W. *Concur.*

**AWOIS Item Investigations**

There were two AWOIS items within the confines of H11761. Detailed information of these features can be found in the PSS and in Appendix V.

<u>AWOIS#</u>	<u>Search</u>	<u>Recommendation</u>
14059	200% SSS	Exists, Retain & Add foul area to chart <i>(as noted by present survey limits)</i>
14060	200% SSS	Exists, Retain as charted with revised depth

*Concur with both AWOIS recommendations.*

**The following is a list of charted features that were investigated on H11761 that contain the label PA, ED, PD or Rep that were not assigned as AWOIS:**

1. The Dol PA at 33° 55' 34.60" N, 077° 59' 42.72" W, does not exist and was disproved by 200% side scan sonar. This feature should be removed from chart. *Concur.*
2. The row of five submerged Dols centered at 33° 55' 40.51" N, 077° 59' 41.60" W, were found lying flat on the bottom with by 200% side scan sonar. The piles are insignificant in projection and are of no danger to navigation in very shallow water. These features should be removed from the chart. *Concur.*
3. The row of five piles centered at 33° 57' 31.50" N, 077° 57' 02.34" W, were disproved with the exception of one lying flat on the bottom with 200% side scan sonar. The pile is insignificant in projection and is of no danger to navigation. These features should be removed from the chart. *Concur.*
4. The piles (2) at 33° 58' 13.77" N, 077° 56' 47.99" W, were located by 200% side scan sonar. The piles are lying flat on the bottom and are insignificant in projection and are of no danger to navigation. These features should be removed from chart. *Do no concur with Field Unit – no SB verification and SSS reveals a pile with a significant shadow.*
5. The pile at 33° 58' 36.00" N, 077° 56' 42.10" W, was located by 200% side scan sonar. The pile is lying flat on the bottom and is insignificant in projection and of no danger to navigation. This feature should be removed from chart. *Concur.*

### **Dangers to Navigation**

There were five DTONS within the confines of H11761. These features were sent in advance to MCD in a zip file via e-mail transmission on Jan. 7, 2008. Detailed information can be found in Appendix I. *Concur.*

## **D. 2. ADDITIONAL RESULTS**

### **Aids to Navigation and Other Detached Positions**

Navigation Aids serve their intended purpose. Charted positions should be superseded by new survey positions. *Concur*

### **Ferry Routes**

There is one Ferry route within the confines of H11761. *Concur*

### **Submarine Cables and Pipelines**

There are no submerged cables or pipelines on H11761. *Concur*

## **Bridges**

There are no bridges within the confines of H11761. *Concur*

## **Bottom Samples**

There were no bottom samples taken on H11761. The majority of the survey work was channel oriented and there was no need for sampling. There were no charted bottom characteristics in these regions nor were there any anchorages. *Concur*

**E. APPROVAL SHEET**

**OPR-G309-NRT2-07**

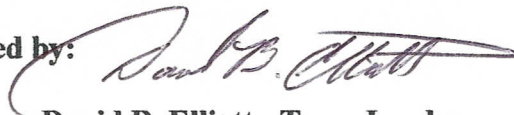
**Wilmington, NC**

**Survey Registry No. H11761**

Field operations for this basic hydrographic survey were conducted under my daily supervision with frequent checks of progress and adequacy. All field sheets, this Descriptive Report, and all accompanying records and data are approved.

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

Submitted by:

A handwritten signature in cursive script, appearing to read "David B. Elliott", written in black ink.

**David B. Elliott - Team Leader  
Navigation Response Team 2**

## APPENDIX I

### DANGERS TO NAVIGATION REPORT

# H11761 DTON Report

**Registry Number:** H11761  
**State:** North Carolina  
**Locality:** Wilmington  
**Sub-locality:** Midnight Shoal to Southport  
**Project Number:** OPR-G309-NRT2-07  
**Survey Dates:** 12/10/2007 - 12/11/2007

DTON's located during H11761, 2007.

## Charts Affected

Number	Version	Date	Scale
11534	34th Ed.	08/01/2006	1:40000
11537	37th Ed.	12/01/2006	1:40000
11536	18th Ed.	05/01/2005	1:80000
11539	18th Ed.	07/14/2001	1:80000
11520	42nd Ed.	09/01/2005	1:432720
11009	37th Ed.	07/01/2004	1:1200000

## Features

No.	Name	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	USCG LL # 30577 Lighted buoy 6S	Sounding	10.20 m	33° 59' 19.616" N	077° 57' 15.029" W	---
1.2	North DANGER BEACON WHITE LT	Sounding	-4.26 m	34° 01' 28.242" N	077° 56' 30.898" W	---
1.3	South DANGER BEACON WHITE LT	Sounding	-4.12 m	33° 58' 53.049" N	077° 57' 02.518" W	---
1.4	1449/1 subm obstrn LD= 15ft @ mllw	Sounding	4.50 m	33° 57' 55.056" N	077° 57' 15.960" W	---
1.5	439/1 subm obstr LD= 17ft @ mllw	Sounding	5.13 m	33° 57' 45.272" N	077° 56' 58.706" W	---

## **1 - Danger To Navigation**

## 1.1) Profile/Beam - 1/1 from h11761 / nrt2\_1210\_dpnonechosounder / 2007-344 / dps dn344 2007

### DANGER TO NAVIGATION

#### Survey Summary

**Survey Position:** 33° 59' 19.616" N, 077° 57' 15.029" W  
**Least Depth:** 10.20 m  
**Timestamp:** 2007-344.16:24:04.000 (12/10/2007)  
**DP Dataset:** h11761 / nrt2\_1210\_dpnonechosounder / 2007-344 / dps dn344 2007  
**Profile/Beam:** 1/1  
**Charts Affected:** 11534\_1, 11537\_1, 11539\_1, 11520\_1, 11009\_1

#### Remarks:

buoy missing from the charts.

30577 - Lighted Buoy 6S Fl R 2.5s 3 Red.

#### Feature Correlation

Address	Feature	Range	Azimuth	Status
h11761/nrt2_1210_dpnonechosounder/2007-344/dps dn344 2007	1/1	0.00	000.0	Primary

#### Hydrographer Recommendations

Add lighted buoy.

#### Cartographically-Rounded Depth (Affected Charts):

33ft (11534\_1, 11537\_1, 11539\_1)

5 ½fm (11520\_1, 11009\_1)

#### S-57 Data

**Geo object 1:** Buoy, lateral (BOYLAT)  
**Attributes:** BOYSHP - 1:conical (nun, ogival)  
 CATLAM - 2:starboard-hand lateral mark  
 COLOUR - 3:red  
 CONRAD - 2:not radar conspicuous



INFORM - USCG LL# 30577

**Geo object 2:** Light (LIGHTS)

**Attributes:** CATLIT - 19:horizontally disposed  
COLOUR - 3:red  
INFORM - USCG LL # 30577 Lighted buoy 6S  
LITCHR - 2:flashing  
SIGPER - 2.5 s

*Defer to MCD for charting decision.*



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**1.2) Profile/Beam - 2/1 from h11761 / nrt2\_1210\_dpnonechosounder /  
20 Defer to mcd for charting decision.07-344 / dps dn344 2007**

**DANGER TO NAVIGATION**

**Survey Summary**

**Survey Position:** 34° 01' 28.242" N, 077° 56' 30.898" W  
**Least Depth:** -4.26 m  
**Timestamp:** 2007-344.17:59:39.000 (12/10/2007)  
**DP Dataset:** h11761 / nrt2\_1210\_dpnonechosounder / 2007-344 / dps dn344 2007  
**Profile/Beam:** 2/1  
**Charts Affected:** 11534\_1, 11537\_2, 11539\_1, 11520\_1, 11009\_1

**Remarks:**

DANGER RESTRICTED AREA SIGN WHITE AND ORANGE. ON 24 INCH DIAMETER PIPE.

**Feature Correlation**

Address	Feature	Range	Azimuth	Status
h11761/nrt2_1210_dpnonechosounder/2007-344/dps dn344 2007	2/1	0.00	000.0	Primary

**Hydrographer Recommendations**

Chart Danger Beacon " Restricted Area"

**Cartographically-Rounded Depth (Affected Charts):**

-14ft (11534\_1, 11537\_2, 11539\_1)

-2 ¼fm (11520\_1, 11009\_1)

**S-57 Data**

**Geo object 1:** Light (LIGHTS)  
**Attributes:** CATLIT - 17:emergency  
COLOUR - 1:white  
HEIGHT - 4.26 m  
INFORM - North DANGER BEACON WHITE LT  
VERDAT - 12:Mean lower low water



*Figure 1.2.2*

### 1.3) Profile/Beam - 3/1 from h11761 / nrt2\_1210\_dpnonechosounder / 2007-344 / dps dn344 2007

## DANGER TO NAVIGATION

### Survey Summary

**Survey Position:** 33° 58' 53.049" N, 077° 57' 02.518" W  
**Least Depth:** -4.12 m  
**Timestamp:** 2007-344.18:11:27.000 (12/10/2007)  
**DP Dataset:** h11761 / nrt2\_1210\_dpnonechosounder / 2007-344 / dps dn344 2007  
**Profile/Beam:** 3/1  
**Charts Affected:** 11534\_1, 11537\_1, 11536\_1, 11539\_1, 11520\_1, 11009\_1

#### Remarks:

DANGER RESTRICTED AREA SIGN WHITE AND ORANGE. ON 24 INCH DIAMETER PIPE.

### Feature Correlation

Address	Feature	Range	Azimuth	Status
h11761/nrt2_1210_dpnonechosounder/2007-344/dps dn344 2007	3/1	0.00	000.0	Primary

### Hydrographer Recommendations

Chart Danger Beacon " Restricted Area"

#### Cartographically-Rounded Depth (Affected Charts):

-14ft (11534\_1, 11537\_1, 11536\_1, 11539\_1)

-2 ¼fm (11520\_1, 11009\_1)

### S-57 Data

**Geo object 1:** Light (LIGHTS)  
**Attributes:** CATLIT - 17:emergency  
 COLOUR - 1:white  
 HEIGHT - 4.12 m  
 INFORM - South DANGER BEACON WHITE LT  
 VERDAT - 12:Mean lower low water



Feature Images

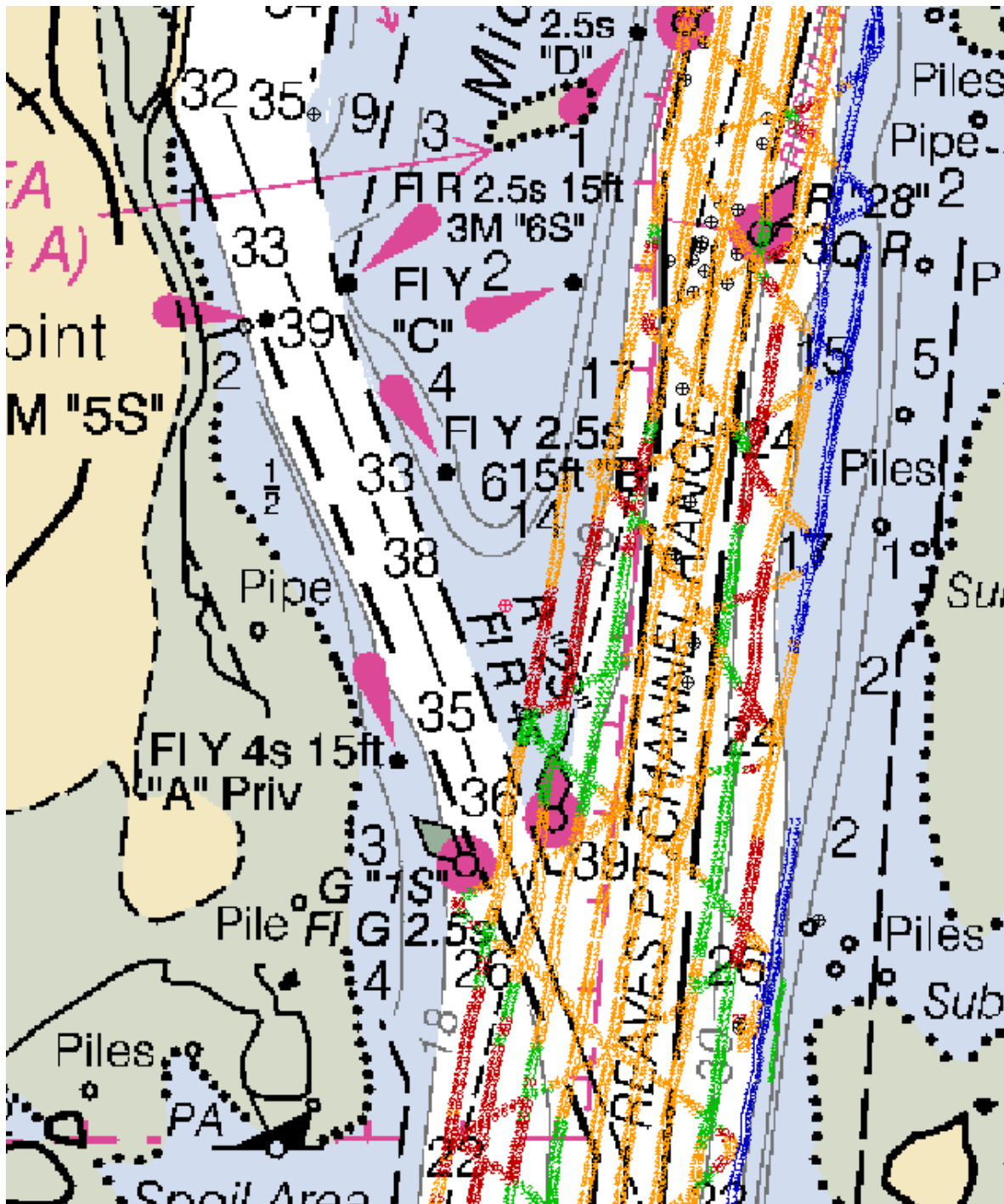


Figure 1.3.1



*Figure 1.3.2*



**1.4) Profile/Beam - 1449/1 from h11761 / nrt2\_1210\_sb / 2007-345 / 010\_1748****DANGER TO NAVIGATION****Survey Summary**

**Survey Position:** 33° 57' 55.056" N, 077° 57' 15.960" W  
**Least Depth:** 4.50 m  
**Timestamp:** 2007-345.17:50:26.234 (12/11/2007)  
**Survey Line:** h11761 / nrt2\_1210\_sb / 2007-345 / 010\_1748  
**Profile/Beam:** 1449/1  
**Charts Affected:** 11534\_1, 11537\_1, 11536\_1, 11539\_1, 11520\_1, 11009\_1

**Remarks:**

Large hard obstrn, with along bottom extension to 90m north.

**Feature Correlation**

Address	Feature	Range	Azimuth	Status
h11761/nrt2_1210_sb/2007-345/010_1748	1449/1	0.00	000.0	Primary
h11761/nrt2_1210_klein3000hf_200sss/2007-319/sss071115151800	0002	2.89	182.0	Secondary

**Hydrographer Recommendations**

Chart Subm Obstrn

**Cartographically-Rounded Depth (Affected Charts):**

15ft (11534\_1, 11537\_1, 11536\_1, 11539\_1)

2 ½fm (11520\_1, 11009\_1)

**S-57 Data**

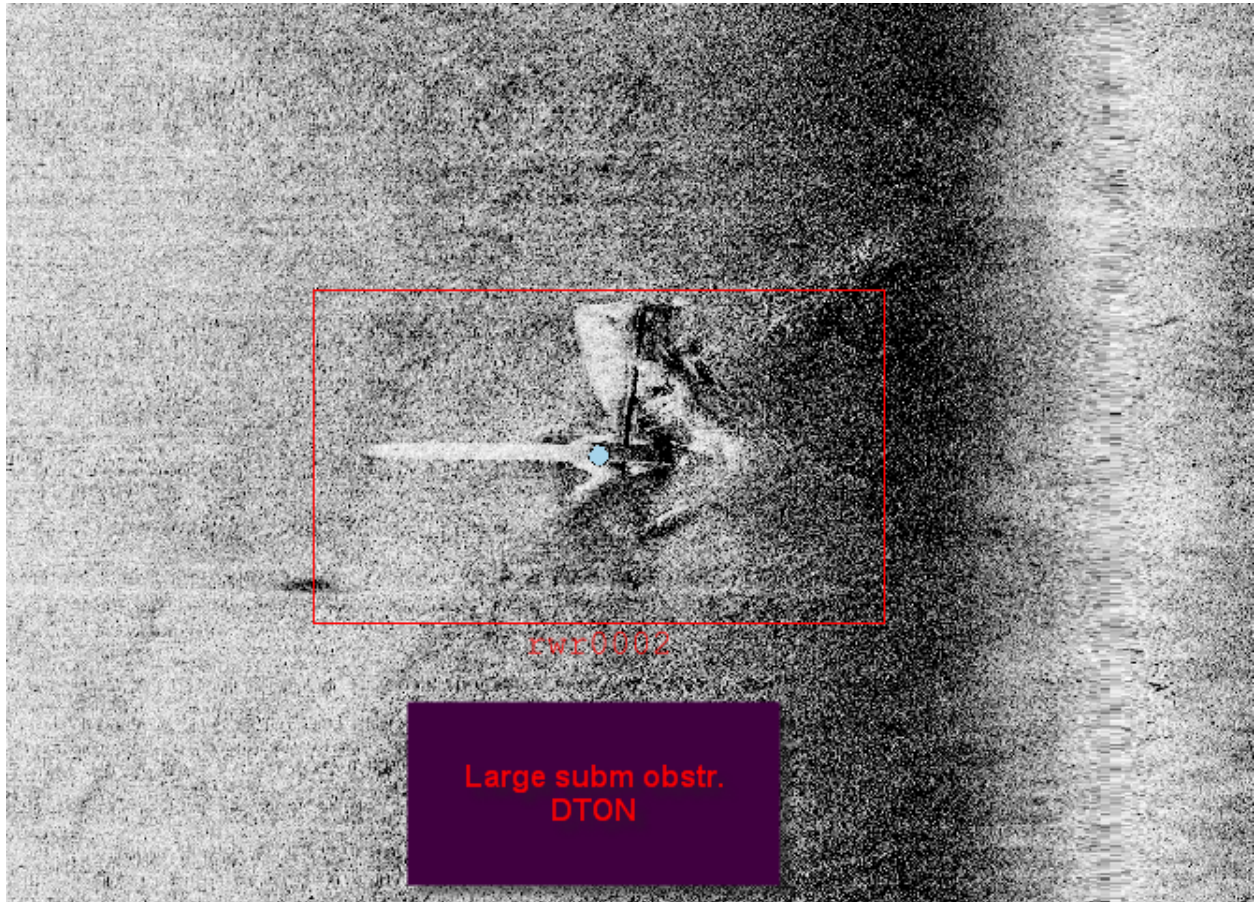
**Geo object 1:** Obstruction (OBSTRN)  
**Attributes:** CATOBS - 1:snag / stump  
 NATCON - 2:concreted  
 QUASOU - 1:depth known  
 TECSOU - 1,2:found by echo-sounder,found by side scan sonar  
 VALSOU - 4.500 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

*Chart a 15 foot obstruction with a danger curve in the present survey area.*

## Feature Images



*Figure 1.4.1*

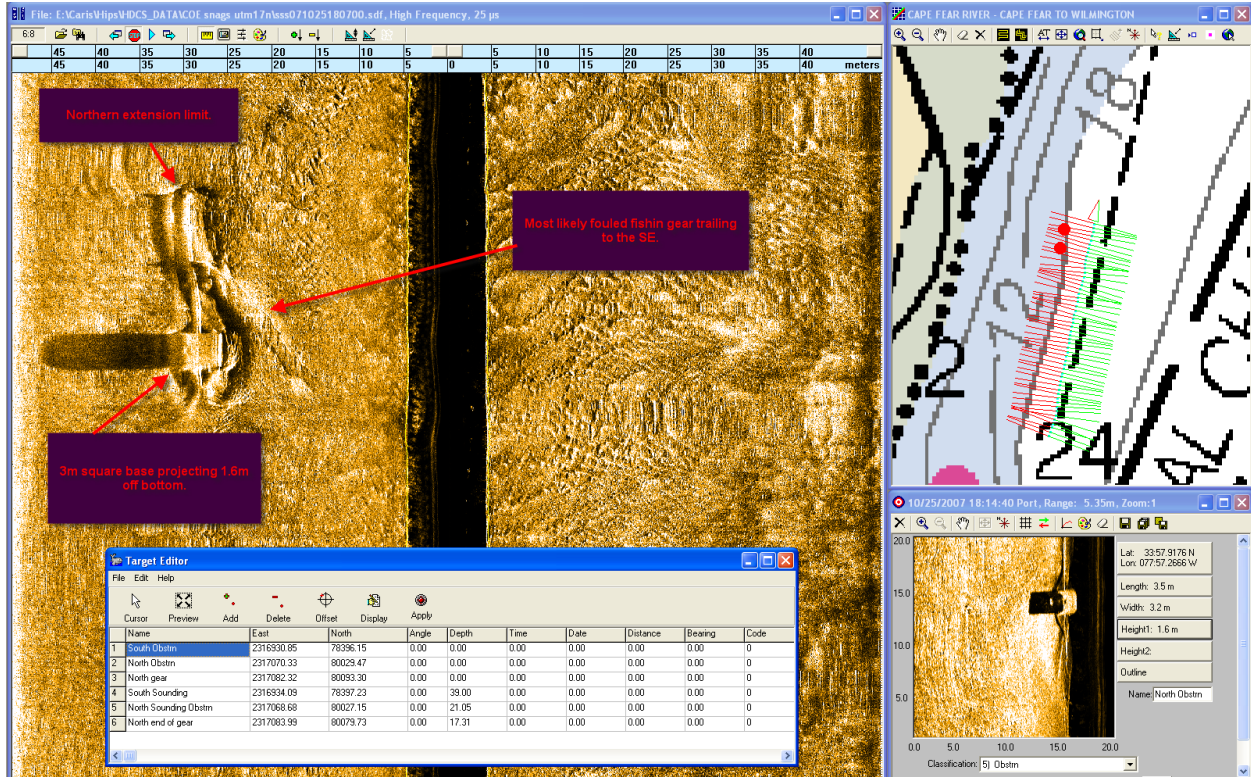


Figure 1.4.2

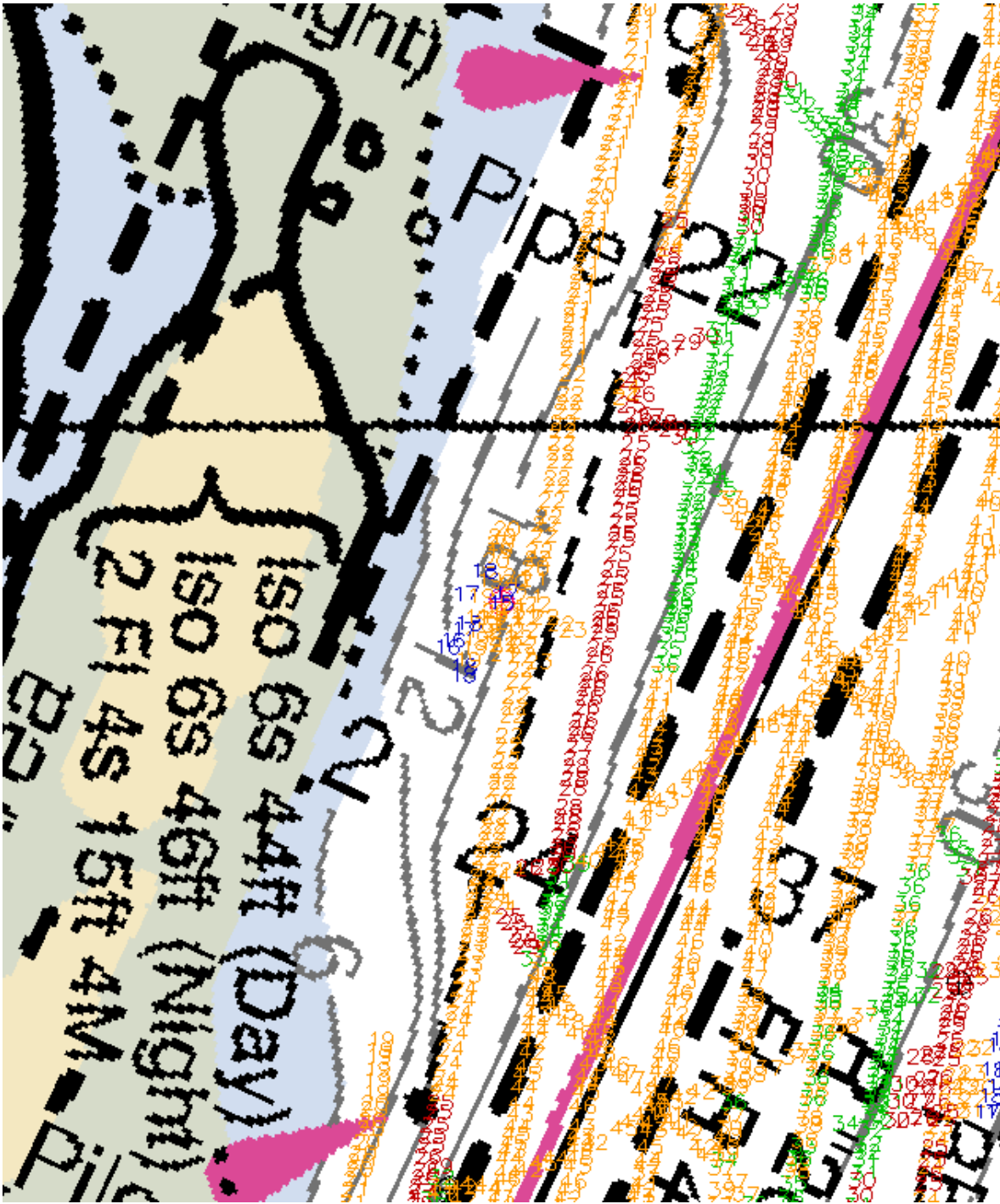


Figure 1.4.3

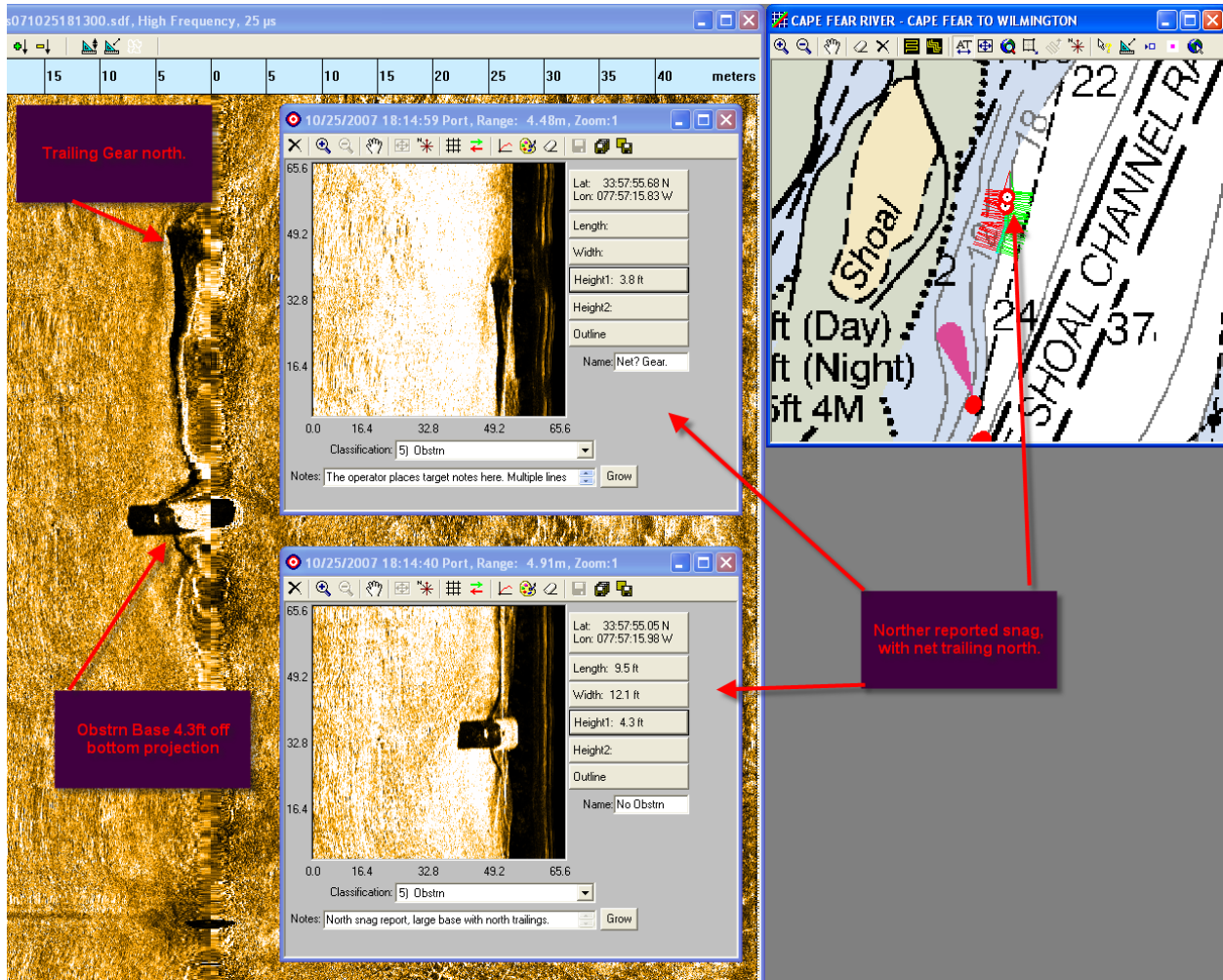


Figure 1.4.4

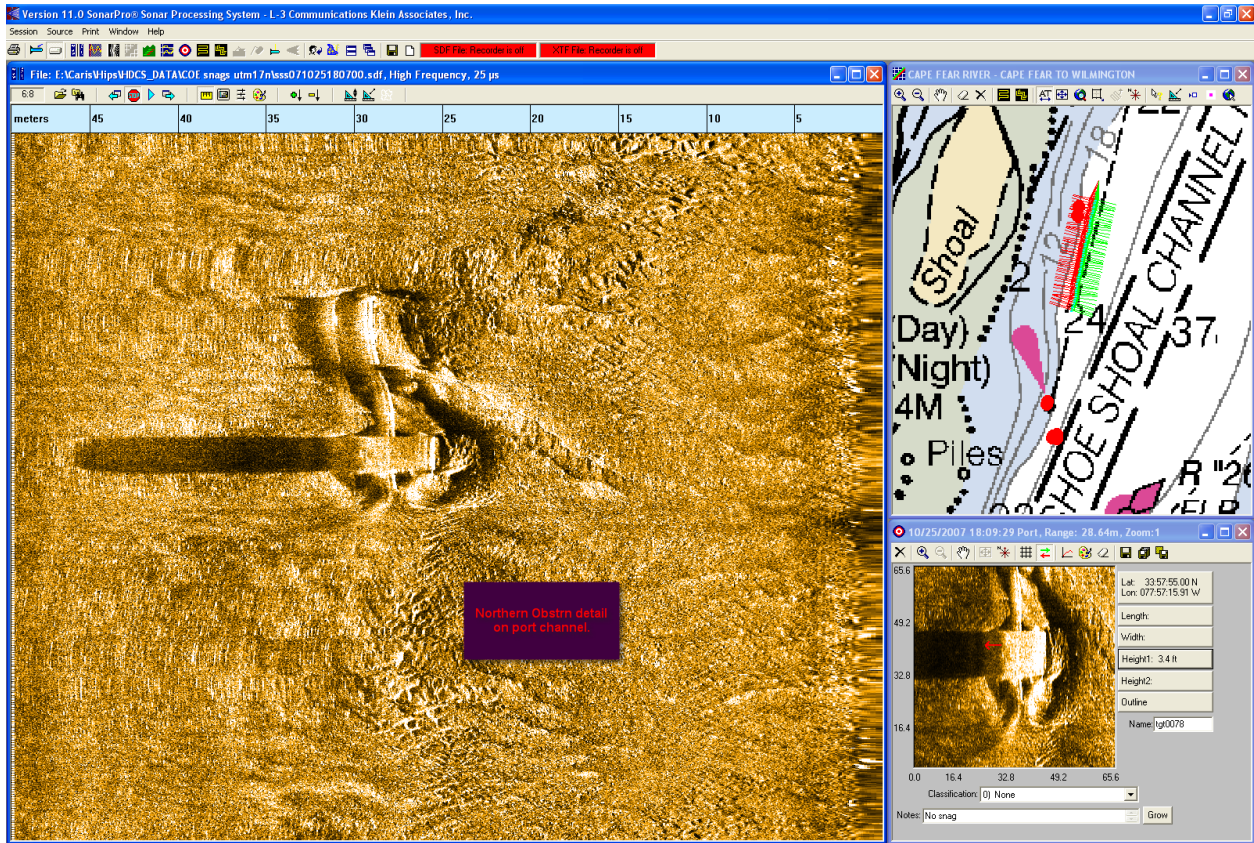


Figure 1.4.5

**1.5) Profile/Beam - 439/1 from h11761 / nrt2\_1210\_sb / 2007-345 / 015\_1740****DANGER TO NAVIGATION****Survey Summary**

**Survey Position:** 33° 57' 45.272" N, 077° 56' 58.706" W  
**Least Depth:** 5.13 m  
**Timestamp:** 2007-345.17:41:22.035 (12/11/2007)  
**Survey Line:** h11761 / nrt2\_1210\_sb / 2007-345 / 015\_1740  
**Profile/Beam:** 439/1  
**Charts Affected:** 11534\_1, 11537\_1, 11536\_1, 11539\_1, 11520\_1, 11009\_1

**Remarks:**

ruins of old FNT RNG LT platform. Piles cluster on bottom.

**Feature Correlation**

Address	Feature	Range	Azimuth	Status
h11761/nrt2_1210_sb/2007-345/015_1740	439/1	0.00	000.0	Primary
h11761/nrt2_1210_klein3000hf_200sss/2007-319/sss071115165600	0001	1.53	147.8	Secondary
h11761/nrt2_1210_klein3000hf_100sss/2007-317/sss071113183200	0002	4.81	044.4	Secondary

**Hydrographer Recommendations**

Chart subm obstrn.

**Cartographically-Rounded Depth (Affected Charts):**

17ft (11534\_1, 11537\_1, 11536\_1, 11539\_1)

2 ¾fm (11520\_1, 11009\_1)

**S-57 Data**

**Geo object 1:** Obstruction (OBSTRN)  
**Attributes:** CATOBS - 7:foul ground  
 CONDTN - 2:ruined  
 QUASOU - 1:depth known  
 TECSOU - 1,2:found by echo-sounder,found by side scan sonar



VALSOU - 5.135 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

***Concur. Chart 17' dangerous obstruction.***

### Feature Images

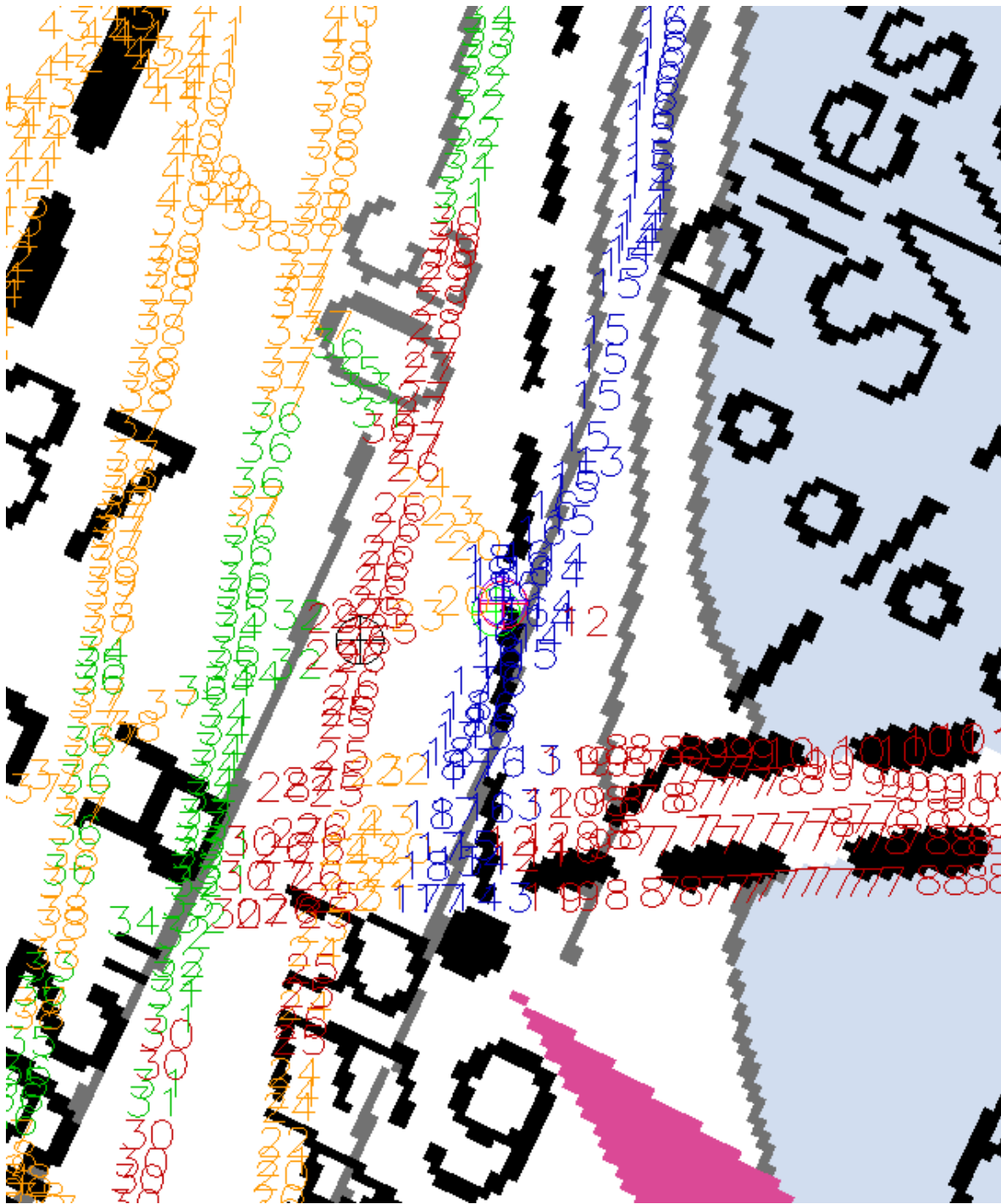
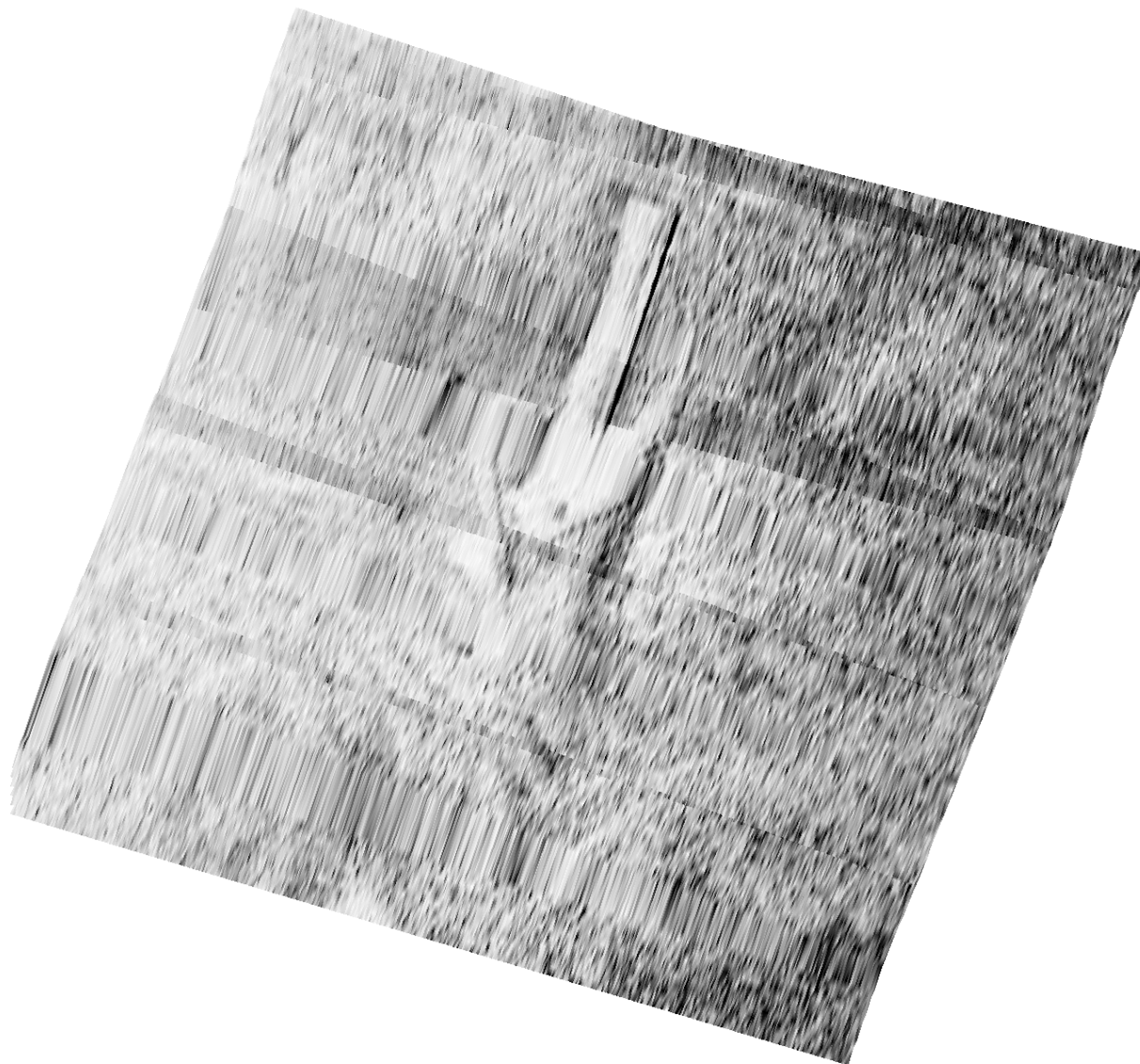


Figure 1.5.1



*Figure 1.5.2*

**APPENDIX II**  
**SURVEY FEATURES REPORT**

# H-11761 AWOIS Report

**Registry Number:** H11761  
**State:** North Carolina  
**Locality:** Wilmington  
**Sub-locality:** Midnight Shoal to Southport  
**Project Number:** OPR-G309-NRT2-07  
**Survey Date:** 12/11/2007

This report addresses Awois Item investigations within the survey limits.

## Charts Affected

Number	Version	Date	Scale
11534	34th Ed.	08/01/2006	1:40000
11537	37th Ed.	12/01/2006	1:40000
11536	18th Ed.	05/01/2005	1:80000
11539	18th Ed.	07/14/2001	1:80000
11520	42nd Ed.	09/01/2005	1:432720
11009	37th Ed.	07/01/2004	1:1200000

## Features

No.	Name	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	1231/1 LFoul Area LD= 7ft @ mllw Awois# 14059	AWOIS	2.09 m	33° 55' 18.077" N	077° 59' 46.556" W	14059
1.2	387/1 Wrk LD= 16ft @ mllw	AWOIS	4.87 m	33° 57' 26.485" N	077° 57' 07.656" W	14060

**1 - AWOIS**

**1.1) AWOIS #14059 - OBSTRUCTIONS**

**Primary Survey Feature is Profile/Beam - 1231/1 from h11761 / nrt2\_1210\_sb / 2007-345 / 051\_1620**

**Search Position:** 33° 55' 17.860" N, 077° 59' 48.000" W  
**Historical Depth:** [None]  
**Search Radius:** 150  
**Search Technique:** S2, DI, ES  
**Technique Notes:** [None]

**History Notes:**

\*\*\*\*UNKNOWN SOURCE-- A SUBMERGED OBSTRUCTION WAS CHARTED AT 33°54'40.78" - 078°00'53.72", BEFORE 1969. (ENTERED CEH 9/2007) OPR-G309-NRT2-07, H-11761, 2007: 200% sss located and confirmed large foul area exist, with a least depth obtained of 7ft @ mllw. Recommend adding "Foul AREA" to the charts. RWR

**Survey Summary**

**Survey Position:** 33° 55' 18.077" N, 077° 59' 46.556" W  
**Least Depth:** 2.09 m  
**Timestamp:** 2007-345.16:21:42.110 (12/11/2007)  
**Survey Line:** h11761 / nrt2\_1210\_sb / 2007-345 / 051\_1620  
**Profile/Beam:** 1231/1  
**Charts Affected:** 11534\_1, 11537\_1, 11536\_1, 11539\_1, 11520\_1, 11009\_1

**Remarks:**

Area showed large Foul Area. A contact line feature was created as well as the point contact to better define the area limits.

**Feature Correlation**

Address	Feature	Range	Azimuth	Status
h11761/nrt2_1210_sb/2007-345/051_1620	1231/1	0.00	000.0	Primary
h11761/nrt2_1210_klein3000hf_100sss/2007-305/sss071101163100	0001	6.49	075.9	Secondary
h11761/nrt2_1210_klein3000hf_100sss/2007-305/sss071101163100	0002	19.59	193.5	Secondary
AWOIS	AWOIS # 14059	37.61	079.7	Secondary

## Hydrographer Recommendations

Add "FOUL AREA" to the charts and the shoal sounding.

### Cartographically-Rounded Depth (Affected Charts):

7ft (11534\_1, 11537\_1, 11536\_1, 11539\_1)

1fm (11520\_1, 11009\_1)

### S-57 Data

**Geo object 1:** Obstruction (OBSTRN)  
**Attributes:** CATOBS - 6:foul area  
CONDTN - 2:ruined  
QUASOU - 1:depth known  
TECSOU - 1,2:found by echo-sounder,found by side scan sonar  
VALSOU - 2.090 m  
VERDAT - 12:Mean lower low water  
WATLEV - 3:always under water/submerged

***Revise ENC and charted feature limits to reflect the present survey findings***



## 1.2) AWOIS #14060 - UNKNOWN

### Primary Survey Feature is Profile/Beam - 387/1 from h11761 / nrt2\_1210\_sb / 2007-345 / 023\_1725

**Search Position:** 33° 57' 26.630" N, 077° 57' 07.660" W  
**Historical Depth:** 3.35 m  
**Search Radius:** 75  
**Search Technique:** S2, ES, DI, SD  
**Technique Notes:** [None]

#### History Notes:

H9501-- 1975; A 11 FOOT WRECK WAS ADDED AT 33/57/26.0- 77/57/08.7, NAD27, THROUGH NOS SURVEY 9501, FROM 1975. (ENTERED CEH 9/2007)

### Survey Summary

**Survey Position:** 33° 57' 26.485" N, 077° 57' 07.656" W  
**Least Depth:** 4.87 m  
**Timestamp:** 2007-345.17:26:26.495 (12/11/2007)  
**Survey Line:** h11761 / nrt2\_1210\_sb / 2007-345 / 023\_1725  
**Profile/Beam:** 387/1  
**Charts Affected:** 11534\_1, 11537\_1, 11536\_1, 11539\_1, 11520\_1, 11009\_1

#### Remarks:

This wreck was identified as being the historical wreck of the Vessel Raleigh.

### Feature Correlation

Address	Feature	Range	Azimuth	Status
h11761/nrt2_1210_sb/2007-345/023_1725	387/1	0.00	000.0	Primary
AWOIS	AWOIS # 14060	4.47	178.5	Secondary
h11761/nrt2_1210_klein3000hf_100sss/2007-317/sss071113174800	0001	9.72	272.5	Secondary
h11761/nrt2_1210_klein3000hf_200sss/2007-319/sss071115161600	0001	16.59	070.2	Secondary
h11761/nrt2_1210_klein3000hf_100sss/2007-317/sss071113174800	0002	23.80	114.2	Secondary
h11761/nrt2_1210_klein3000hf_200sss/2007-319/sss071115161600	0002	33.84	265.3	Secondary

## Hydrographer Recommendations

Revise LD to 16 ft @ mllw.

### Cartographically-Rounded Depth (Affected Charts):

16ft (11534\_1, 11537\_1, 11536\_1, 11539\_1)

2 ½fm (11520\_1, 11009\_1)

### S-57 Data

**Geo object 1:** Wreck (WRECKS)  
**Attributes:** CATWRK - 2:dangerous wreck  
CONVIS - 2:not visual conspicuous  
TECSOU - 1,2:found by echo-sounder,found by side scan sonar  
VALSOU - 4.867 m  
VERDAT - 12:Mean lower low water  
WATLEV - 3:always under water/submerged

***Revise 11 foot dangerous sunken wreck to a 16 foot dangerous sunken wreck in the present survey location.***

### Feature Images

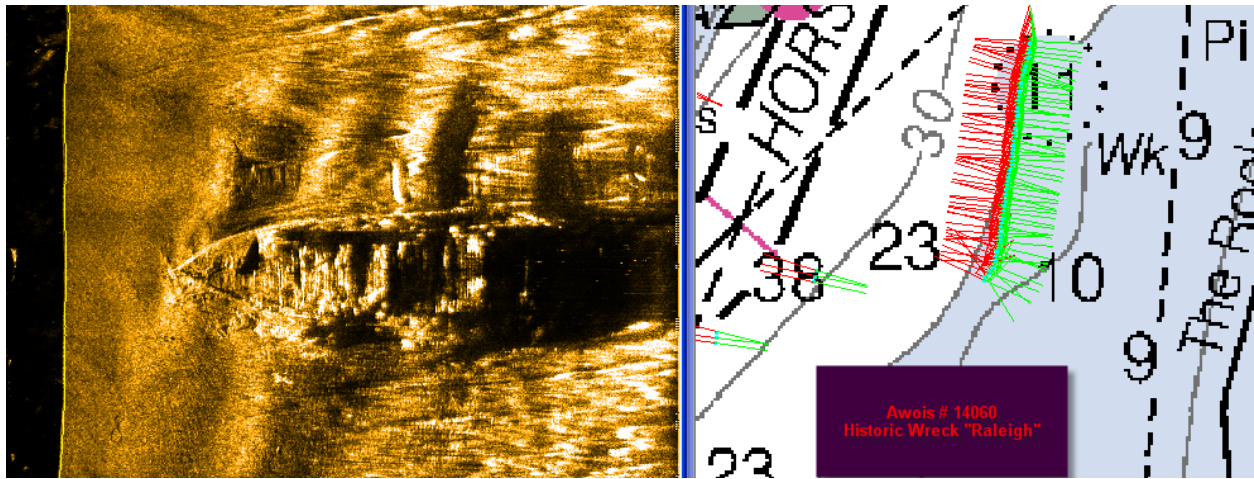


Figure 1.2.1

# H-11761 CHART EDIT Report

**Registry Number:** H11761  
**State:** North Carolina  
**Locality:** Wilmington  
**Sub-locality:** Midnight Shoal to Southport  
**Project Number:** OPR-G309-NRT2-07  
**Survey Dates:** 11/28/2007 - 12/11/2007

This report was generated by PYDRO 7.3.0{r2239} after final review of data sets obtained during this survey.

## Charts Affected

Number	Edition	Date	Scale (RNC)	RNC Correction(s)*
11537	37th	12/01/2006	1:40,000 (11537_1)	USCG LNM: 04/01/2008 (04/29/2008) NGA NTM: 06/21/1997 (05/03/2008)
11537	37th	12/01/2006	1:40,000 (11537_2)	USCG LNM: 04/01/2008 (04/29/2008) NGA NTM: 02/23/2002 (05/03/2008)
11534	34th	08/01/2006	1:40,000 (11534_1)	[L]NTM: ?
11539	18th	07/14/2001	1:80,000 (11539_1)	[L]NTM: ?
11536	18th	05/01/2005	1:80,000 (11536_1)	[L]NTM: ?
11520	42nd	09/01/2005	1:432,720 (11520_1)	[L]NTM: ?
11009	37th	07/01/2004	1:1,200,000 (11009_1)	[L]NTM: ?

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

## Features

No.	Name	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	remove western pile	SSS	[None]	33° 58' 13.8" N	077° 56' 48.0" W	---
1.2	439/1 subm obstr LD= 17ft @ mllw	Sounding	5.13 m	33° 57' 45.3" N	077° 56' 58.7" W	---
1.3	remove row of 5 piles	Sounding	4.47 m	33° 55' 40.6" N	077° 59' 42.0" W	---
1.4	remove row of 5 piles	Sounding	4.91 m	33° 57' 31.9" N	077° 57' 03.3" W	---


## **1 - New Features**

**1.1) Contact/Point - 0003/1 from h11761 / nrt2\_1210\_klein3000hf\_100sss / 2007-319 / sss071115172000**

**Survey Summary**

**Survey Position:** 33° 58' 13.8" N, 077° 56' 48.0" W  
**Least Depth:** [None]  
**TPU ( $\pm 1.96\sigma$ ):** THU (TPEh) [None] ; TVU (TPEv) [None]  
**Timestamp:** 2007-332.01:37:11 (11/28/2007)  
**Survey Line:** h11761 / nrt2\_1210\_klein3000hf\_100sss / 2007-319 / sss071115172000  
**Contact/Point:** 0003/1  
**Charts Affected:** 11534\_1, 11537\_1, 11536\_1, 11539\_1, 11520\_1, 11009\_1

**Remarks:**

Pile FOB Not significant.

**Feature Correlation**

Address	Feature	Range	Azimuth	Status
h11761/nrt2_1210_klein3000hf_100sss/2007-319/sss071115172000	0003	0.00	000.0	Primary

**Hydrographer Recommendations**

Remove

**S-57 Data**

[None]

**Office Notes**

Remove pile. Retain the eastern pile.

## 1.2) Profile/Beam - 439/1 from h11761 / nrt2\_1210\_sb / 2007-345 / 015\_1740

### Survey Summary

**Survey Position:** 33° 57' 45.3" N, 077° 56' 58.7" W  
**Least Depth:** 5.13 m (= 16.85 ft = 2.808 fm = 2 fm 4.85 ft)  
**TPU ( $\pm 1.96\sigma$ ):** THU (TPEh) [None] ; TVU (TPEv) [None]  
**Timestamp:** 2007-345.17:41:22.035 (12/11/2007)  
**Survey Line:** h11761 / nrt2\_1210\_sb / 2007-345 / 015\_1740  
**Profile/Beam:** 439/1  
**Charts Affected:** 11534\_1, 11537\_1, 11536\_1, 11539\_1, 11520\_1, 11009\_1

#### Remarks:

ruins of old FNT RNG LT platform. Piles cluster on bottom.

### Feature Correlation

Address	Feature	Range	Azimuth	Status
h11761/nrt2_1210_sb/2007-345/015_1740	439/1	0.00	000.0	Primary

### Hydrographer Recommendations

Chart subm obstrn.

### S-57 Data

**Geo object 1:** Obstruction (OBSTRN)  
**Attributes:** CATOBS - 7:foul ground  
 CONDTN - 2:ruined  
 QUASOU - 1:depth known  
 TECSOU - 1,2:found by echo-sounder,found by side scan sonar  
 VALSOU - 5.135 m  
 VERDAT - 12:Mean lower low water  
 WATLEV - 3:always under water/submerged



## Office Notes

Concur. Chart 17' dangerous obstn.

### Feature Images

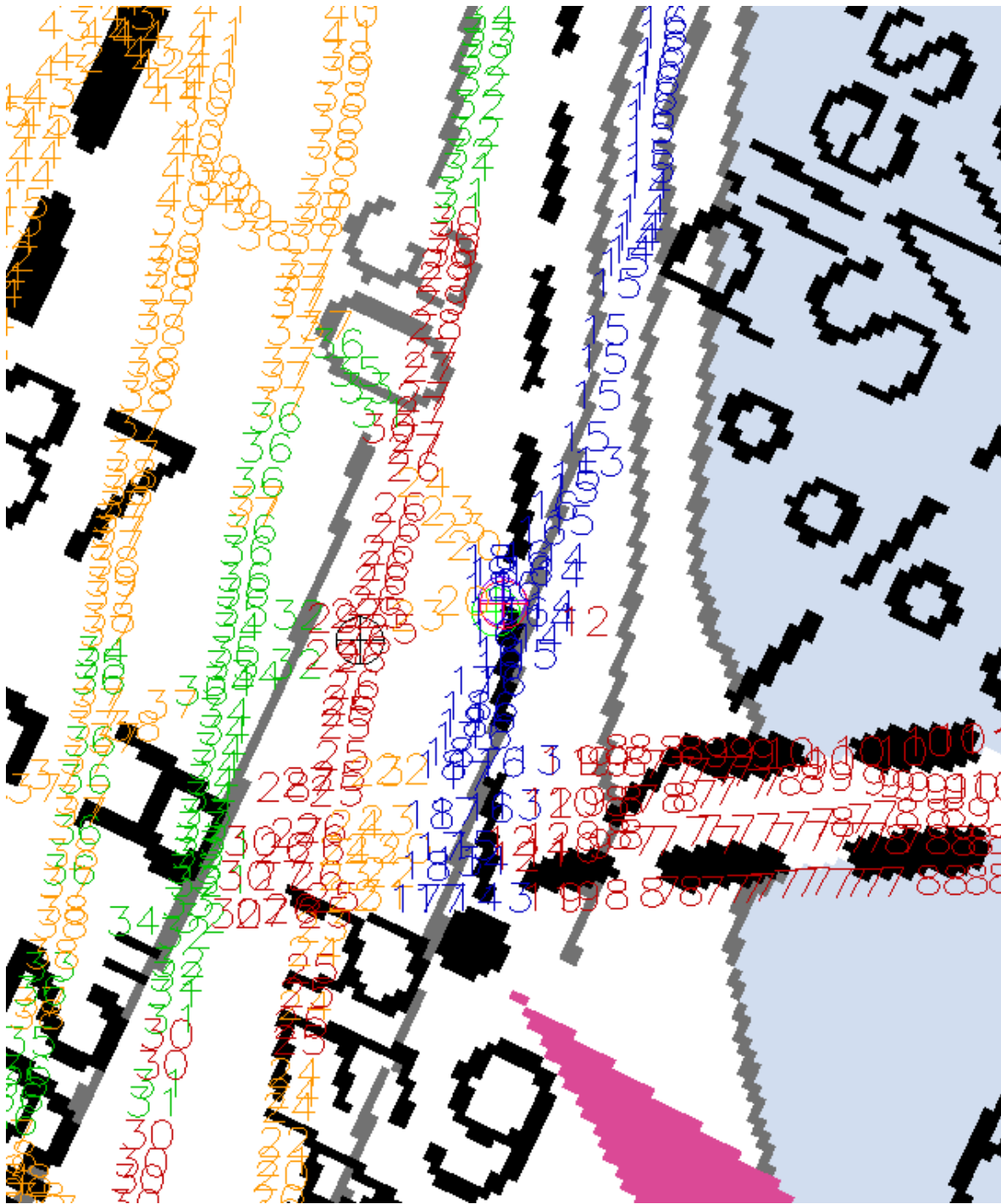


Figure 1.2.1

[Image file h:/compilation/h11761\_g309-nrt2/h11761/caris/hdcs\_data/photos/sss071110001\_m.tif does not exist.]

### 1.3) Profile/Beam - 544/1 from h11761 / nrt2\_1210\_sb / 2007-345 / 043\_1633

#### Survey Summary

**Survey Position:** 33° 55' 40.6" N, 077° 59' 42.0" W  
**Least Depth:** 4.47 m (= 14.68 ft = 2.446 fm = 2 fm 2.68 ft)  
**TPU ( $\pm 1.96\sigma$ ):** THU (TPEh) [None] ; TVU (TPEv) [None]  
**Timestamp:** 2007-345.16:34:10.609 (12/11/2007)  
**Survey Line:** h11761 / nrt2\_1210\_sb / 2007-345 / 043\_1633  
**Profile/Beam:** 544/1  
**Charts Affected:** 11534\_1, 11537\_1, 11536\_1, 11539\_1, 11520\_1, 11009\_1

#### Remarks:

Remnants of pile located flat on the bottom (FOB), is insignificant for charting. This is one of five charted Subm dols. They all are recommended for removal, as they pose no danger to navigation, or other commercial interest due to there proximity to shore and insignificant height off bottom.

#### Feature Correlation

Address	Feature	Range	Azimuth	Status
h11761/nrt2_1210_sb/2007-345/043_1633	544/1	0.00	000.0	Primary
h11761/nrt2_1210_klein3000hf_200sss/2007-305/sss071101165000	0002	2.33	281.7	Secondary

#### Hydrographer Recommendations

Remove

#### Cartographically-Rounded Depth (Affected Charts):

14ft (11534\_1, 11537\_1, 11536\_1, 11539\_1)

2 ½fm (11520\_1, 11009\_1)

#### S-57 Data

**Geo object 1:** Pile (PILPNT)  
**Attributes:** CATPLE - 3:post  
 CONDTN - 2:ruined  
 CONVIS - 2:not visual conspicuous  
 INFORM - Recommend Removal

## Office Notes

Remove row of 5 subm dolphins and subm dols note from chart.

## 1.4) Profile/Beam - 467/1 from h11761 / nrt2\_1210\_sb / 2007-345 / 021\_1729

### Survey Summary

**Survey Position:** 33° 57' 31.9" N, 077° 57' 03.3" W  
**Least Depth:** 4.91 m (= 16.10 ft = 2.683 fm = 2 fm 4.10 ft)  
**TPU ( $\pm 1.96\sigma$ ):** THU (TPEh) [None] ; TVU (TPEv) [None]  
**Timestamp:** 2007-345.17:29:47.996 (12/11/2007)  
**Survey Line:** h11761 / nrt2\_1210\_sb / 2007-345 / 021\_1729  
**Profile/Beam:** 467/1  
**Charts Affected:** 11534\_1, 11537\_1, 11536\_1, 11539\_1, 11520\_1, 11009\_1

#### Remarks:

Offshore end subm pile flat on bottom not significant.

### Feature Correlation

Address	Feature	Range	Azimuth	Status
h11761/nrt2_1210_sb/2007-345/021_1729	467/1	0.00	000.0	Primary
h11761/nrt2_1210_klein3000hf_100sss/2007-317/sss071113183200	0003	9.05	102.8	Secondary

### Hydrographer Recommendations

Removal

#### Cartographically-Rounded Depth (Affected Charts):

16ft (11534\_1, 11537\_1, 11536\_1, 11539\_1)

2 ½fm (11520\_1, 11009\_1)

### S-57 Data

**Geo object 1:** Pile (PILPNT)  
**Attributes:** CATPLE - 3:post  
 CONDTN - 2:ruined  
 CONVIS - 2:not visual conspicuous  
 INFORM - Recomend Removal

## Office Notes

Concur. Remove row of 5 piles and note.

**ATLANTIC HYDROGRAPHIC BRANCH  
EVALUATION REPORT to Accompany  
Survey H11761 (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 DATA PROCESSING**

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

HSTP PYDRO version 8.7 r2368-1  
CARIS HIPS/SIPS version 6.1 SP1 HF 1-6  
CARIS Bathy Manager version 2.1 SP 1 -7  
DKART INSPECTOR, version 5.0 Build 732 SP1  
CARIS S57 Composer version 2.0  
CARIS HOM version 3.3

**B.2. QUALITY CONTROL**

**B.2.1. H-Cell**

The AHB source depth grid for the survey's nautical chart update product entailed the use of the generated 2 meter grid made during the office processing ESAR review, combined at 2 meter resolution, then using them to create a product surface grid with a resolution of 4m. The survey scale selected soundings were extracted from the 4m product surface. The selected sounding set is approximately 10 times the number of charted depths. The chart scale selected soundings are a subset of the survey scale selected soundings. The surface model referenced when selecting the chart scale soundings, to ensure that the selected soundings portrayed the bathymetry within the common area.

Depth contours were not submitted with this survey.

The SAHOB files included Depth Areas (DEPARE), sounding selections (SOUNDG), features (WRECK, OBSTRNS, SLCONS), Meta objects (M\_COVR, M\_QUAL), ENC Private Aids, ENC charted soundings, and cartographic Blue Notes. The individual SAHOB files were inserted into one BASE Manager feature layer and exported to S57 format in order to create the H-Cell deliverable.

The pre-compilation products or components (Stand Alone HOB files (SAHOB)) are detailed in the Pre-Compile Process Log

The completed H-Cells were 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 (H-Cells US5H11761\_CS.000 and US5H11761\_SS.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 H11761 CARIS H-Cell final deliverables include the following products:

US5H11761_CS.000	1: <u>40</u> ,000 Scale	H11761 H-Cell with Chart Scale Selected Soundings
US5 H11761_SS.000	1: <u>10</u> ,000 Scale	H11761 Selected Soundings (Survey Scale)
US5H11761_BlueNotes.000	1: <u>40</u> ,000 Scale	H11761 Cartographic Notes

### **B.2.2. Junctions**

Survey H11761 (2007) junctions with survey H11762 (2007) to the south west. H11762 (2007) was not available for comparison at the present time. The junction will have to be done during the processing of H11762. Present survey depths are otherwise in harmony with the charted hydrography.

## **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 H11761. 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 17. Office ENC processing of this survey required translating the datum to meet S-57 ENC requirements.

## **D. RESULTS AND RECOMMENDATIONS**

### **D.1 CHART COMPARISON**

11537 (37 th Edition, DEC/06)  
Corrected through NM 12/09/2006  
Corrected through LNM 11/28/2006  
Scale 1:40,000

### **ENC Comparison**

US5NC12M  
Cape Fear River  
Edition 22  
Update Application Date 2008-07-03  
Issue Date 2008-07-03  
References: Chart 11537

#### **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 Appendices 1 and 2 of the Descriptive Report. The following exceptions are noted:

1. The following discrepancies exist between present survey depths and tabulated controlling depths in the channels listed below:



a. In the right outside quarter of the Lower Swash Channel a 39.79 foot depth in Latitude  $33^{\circ} 55' 19.98''\text{N}$ ,  $77^{\circ} 59' 55.42''\text{W}$  is in conflict with the controlling depth of 41.2 feet.

b. In the right outside quarter of the Horseshoe Shoal Channel a 39.54 foot depth in Latitude  $33^{\circ} 57' 34.99''\text{N}$ ,  $77^{\circ} 57' 14.75''\text{W}$  is in conflict with the controlling depth of 41.3 feet.

c. In the right outside quarter of the Horseshoe Shoal Channel two 40 foot depths in the vicinity of Latitude  $33^{\circ} 57' 44.23''\text{N}$ ,  $77^{\circ} 57' 10.21''\text{W}$  is in conflict with the controlling depth of 41.3 feet

d. In the left inside quarter of the Horseshoe Shoal Channel a 40.35 foot depth in Latitude  $33^{\circ} 57' 26.34''\text{N}$ ,  $77^{\circ} 57' 21.91''\text{W}$  is in conflict with the controlling depth of 40.7 feet.

e. In the left outside quarter of the Horseshoe Shoal Channel a 40.24 foot depth in Latitude  $33^{\circ} 57' 33.55''\text{N}$ ,  $77^{\circ} 57' 19.63''\text{W}$  is in conflict with the controlling depth of 40.5 feet.

2. One platform in Latitude  $33^{\circ} 55' 16.35''\text{N}$ ,  $77^{\circ} 59' 46.71''\text{W}$  was observed within the present survey limits as charted. No changes to charting are recommended.

3. The following soundings and features which were neither verified nor disproven by the present survey have been brought forward from the ENC to the final H-Cell file and are recommended to be retained as charted:

a. A 19 foot dangerous submerged obstruction charted in Latitude  $33^{\circ} 54' 57.57''\text{N}$ ,  $78^{\circ} 00' 29.06''\text{W}$ .

b. A 10 foot sounding charted in Latitude  $33^{\circ} 56' 35.88''\text{N}$ ,  $77^{\circ} 58' 03.19''\text{W}$ .

c. A 12 foot sounding charted in Latitude  $33^{\circ} 56' 40.44''\text{N}$ ,  $77^{\circ} 57' 52.77''\text{W}$ .

d. A 14 foot sounding charted in Latitude  $33^{\circ} 56' 59.61''\text{N}$ ,  $77^{\circ} 57' 26.29''\text{W}$ .

## **D.2. ADDITIONAL RESULTS.**

### **D.2.1. Aids to Navigation**

There are numerous aids to navigation within the limits of the present survey. Three aids positioned by the present survey are not shown on the latest edition of the chart. These aids are listed in the DTON Report appended to this report. It is recommended that the charting disposition of these navigational aids be deferred to Marine Chart Division, Nautical Data Branch for final decision. The remaining aids appear to be serving their intended purpose and have been brought forward from the ENC to the final H-Cell file.

### **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 File or the Blue Notes should be retained as charted. Refer to the Descriptive Report for further recommendations by the hydrographer.

This Document is for Office Process use only and is intended to supplement, not supersede or replace, information/recommendations in the Descriptive or Evaluation Reports

## AHB PRE-COMPILATION PROCESS

REGISTRY No.	<b>H11761</b>
PROJECT No.	<b>OPR-G309-NRT2-07</b>
FIELD UNIT	NRT 2
PRE-COMPILER	MARK OPDYKE
LARGEST SCALE CHART	11537, Edition 37, 20061201
CHART SCALE	1:40,000
SURVEY SCALE	1:10,000
DATE OF SURVEY	31 Oct., 2007 to 12 Dec., 2007
CONTENT REVIEW DATE	11 September, 2008

Components	File Names
<i>Product Surface</i>	PS_H11761_10k_100mrad_4mres.hns
<i>Shifted Surface</i>	NA
<i>Contour Layer</i>	NA
<i>Survey Scale Soundings</i>	H11761_SS_Soundings.hob
<i>Chart Scale Soundings</i>	H11761_CS_Soundings.hob
<i>ENC Retain Soundings</i>	H11761_CS_ENC.hob
<i>Feature Layer</i>	H11761_Features.hob
<i>Meta-Objects Layer</i>	H11761_MetaObjects.hob
<i>Blue Notes</i>	H11761_BlueNotes.hob
<i>ENC Private Aids</i>	H11761_ENC_PrivAid.hob

### SPECIFICATIONS:

- I. COMBINED SURFACE: NA
  - a. File name: NA\_
  - b. Resolution: NA m
  - c. Final Grid Location: H:\Compilation\H11761\_G309-NRT2\H11761\AHB\_H11761\E-SAR Final Products\GRIDS
- II. PRODUCT SURFACE (SOUNDINGS):
  - a. Scale: 1:10,000\_
  - b. Radius: 100 m
  - c. Resolution: 4 m
  - d. Depth
    - i. Minimum: -4.26 m
    - ii. Maximum: 16.58 m

PRODUCT SURFACE (CONTOURS):

  - a. Scale: 1:NA\_\_\_
  - b. Radius: NA m
  - c. Resolution: NA\_m
- III. SHIFTED SURFACE:
 

Single Shift Value: NA      [-0.229m (feet), ( $\leq 10$  fathoms)]  
    [-1.372m (fathoms), ( $> 10$  fathoms)]
- IV. CONTOUR LAYER: N/A

Version 1.0

This Document is for Office Process use only and is intended to supplement, not supersede or replace, information/recommendations in the Descriptive or Evaluation Reports

- a. Use a Depth List: XXXXXX\_NOAA\_depth\_curves\_list.txt

Depth List:

- 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: 83 distance on ground (ft)
  - iv. Filter: Generalized !=1

VI. FEATURES:

- a. Brought in from Survey

Total No. 4

- b. Brought in from ENC

ENC: # US5NC12M

Total No. 1

VII. META-OBJECTS:

- a. M\_COVR attributes

Acronym	Value
INFORM	H11761
SORDAT	20071212
CATCOV	Coverage Available
SORIND	US,US,survy,H11761

- b. M\_QUAL attributes

Acronym	Value
CATZOC	Not Assessed
INFORM	H11761, OPR-G309-NRT2-07 ,NRT2
POSACC	10m
SORDAT	20071212
SORIND	US,US,survy,H11761
SUREND	20071212
SURSTA	20071031
TECSOU	VB and SSS

- c. DEPARE attributes

Acronym	Value
DRVALV 1	-13.976ft
DRVALV2	54.396ft
SORDAT	20071212
SORIND	US,US,nsurf,H11761
INFORM	H11761

VIII. NOTES:

In order to bring the ENC private aids into their own feature layer a NOAA H-cell Extended hob file was created. As such, you will have to change the options setting

*Version 1.0*

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



**Final Tidal Zoning  
for OPR-G309-NRT2-2007, H11761  
Cape Fear River, NC**

AERO  
216

8658120 Wilmington

8659084 SOUTHPORT

CFR11  
Time Corrector +18 mins  
Range Corrector x 0.97  
Reference 8659084

CFR13  
Time Corrector +30 mins  
Range Corrector x 0.94  
Reference 8659084

CFR8  
Time Corrector +6 mins  
Range Corrector x 0.98  
Reference 8659084

CFR17  
Time Corrector -60 mins  
Range Corrector x 0.97  
Reference 8658120

CFR16  
Time Corrector +54 mins  
Range Corrector x 0.94  
Reference 8659084

CFR14  
Time Corrector +42 mins  
Range Corrector x 0.94  
Reference 8659084

11537

UNITED STATES - EAST COAST  
NORTH CAROLINA  
**CAPE FEAR RIVER**  
CAPE FEAR TO WILMINGTON



**APPROVAL SHEET**  
**H11761**

**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.

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**Mark Opdyke**  
Hydrographic Intern  
Atlantic Hydrographic Branch

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**Deborah A. Bland**  
Cartographer  
Atlantic Hydrographic Branch

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

Approved: \_\_\_\_\_  
**Shepard Smith**  
Lieutenant Commander, NOAA  
Chief, Atlantic Hydrographic Branch