F00536

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey **Field Examination / SSS & SWMB**

Registry No. **F00536**

LOCALITY

State **North Carolina**

General Locality **Onslow Bay**

Sub-locality **7 NM WSW of Beaufort Inlet**

2007

CHIEF OF PARTY
LCDR Lawrence T. Krepp, NOAA
NOAA Ship *RUDE S590*

LIBRARY & ARCHIVES
DATE

NOAA FORM 77-28
(11-72)

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

REGISTRY No.

HYDROGRAPHIC TITLE SHEET

F00536

FIELD No.

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

State North Carolina

General Locality Onslow Bay

Sub-Locality 7 NM WSW of Beaufort Inlet

Scale 1:10000 **Date of Survey** 22 MAR 2007

Instructions dated 21 MAR 2007 **Project No.** S-F913-RU-07

Vessel NOAA Ship RUDE s590

Chief of Party LCDR Lawrence T. Krepp , NOAA

Surveyed by NOAA Ship *RUDE* Personnel

Soundings by echo sounder, hand lead, pole ODOM Echotrac DF3200 MKII VBES, Reson 8125 MB

Graphic record scaled by *RUDE* Personnel

Graphic record checked by *RUDE* Personnel **Automated Plot** N/A

Verification by Atlantic Hydrographic Branch

Soundings in fathoms feet at MLW MLLW FEET at MLLW

REMARKS: All times in UTC

All soundings corrected with verified tides

Map Projection is UTM zone 18

DESCRIPTIVE REPORT

To accompany

FIELD EXAMINATION F00536

Scale of Survey: 1:10,000
Year of Survey: 2007
NOAA Ship RUDE
LCDR Lawrence T. Krepp, Commanding Officer

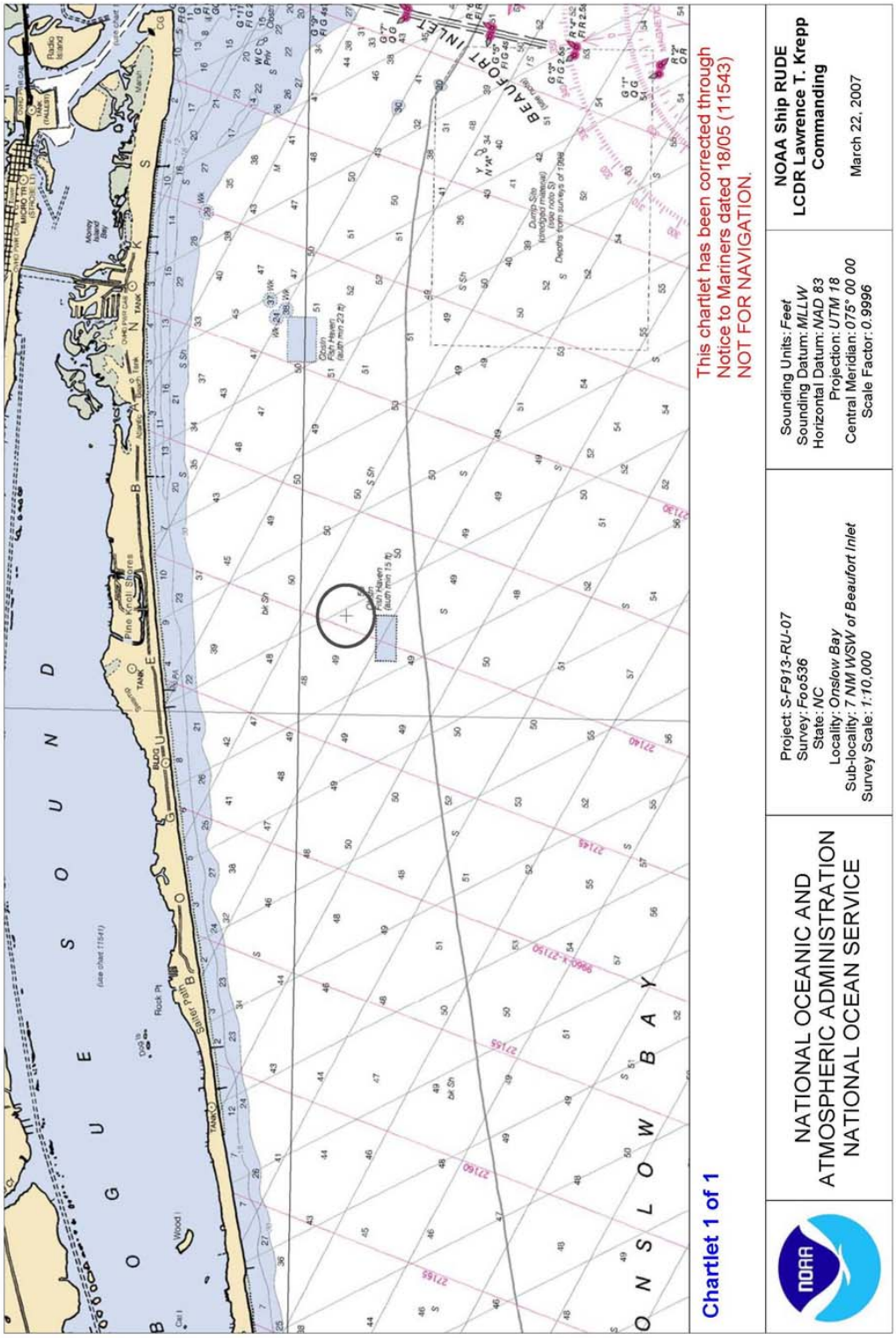
A. AREA SURVEYED

This Field Examination was conducted in accordance with Hydrographic Survey Letter of Instructions for project S-F913-RU-07 dated March 21, 2007.

This project was conducted to provide side scan sonar and/or multibeam data in support of National Ocean Service (NOS) nautical charts in response by the United States Coast Guard to investigate an item that holed the hull of a dredge on Thursday evening, February 22, 2007. Survey F00536 was performed in accordance with NOS requirements for side scan sonar and multibeam data acquisition and processing.

Full bottom coverage consisting of 200% side scan sonar in a 600 – meter radius around the potential obstruction at 34° 39’ 28.14” N, 076° 48’ 40.74”W along with VBES was achieved. Multibeam developments were run on item investigations to provide least depth.

For complete survey limits, please see the chartlet on the following page. Note: Statistics may be found in Appendix III of this report.


Chartlet 1 of 1
This chartlet has been corrected through Notice to Mariners dated 18/05 (11543)
NOT FOR NAVIGATION.
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE
Project: S-F913-RU-07
Survey: Foo536
State: NC
Locality: Onslow Bay
Sub-locality: 7 NM WSW of Beaufort Inlet
Survey Scale: 1:10,000
Sounding Units: Feet
Sounding Datum: MLLW
Horizontal Datum: NAD 83
Projection: UTM 18
Central Meridian: 075° 00 00
Scale Factor: 0.9996
NOAA Ship RUDE
LCDR Lawrence T. Krepp
Commanding
March 22, 2007
BEAUFORT INLET
ONSLOW BAY
Pine Knot Shores
Rock Pt
Wood I

B

. DATA ACQUISITION and PROCESSING

B1. EQUIPMENT

NOAA Ship RUDE (s-590) was the only platform used for this survey. The RUDE is 90 feet in length with a 22-foot beam and 7-foot draft.

Vertical-beam echo sounding data were acquired on RUDE with an Odom Echotrac dual-beam echo sounder (24 and 200 kHz). RUDE vertical-beam data was used in conjunction with Side Scan Sonar to ensonify objects on the bottom not apparent at side scan nadir and also for crossline checks with the mainscheme lines while running multibeam developments. All data is included in the final data set.

RUDE acquired all side scan sonar data using a Klein 5500 towfish set to the 100-meter range scale. Side scan sonar data was recorded digitally on RUDE using Triton ISIS software and archived in Extended Triton Format (xtf).

For developments, single frequency (455 kHz) multi-beam data was acquired with a Reson SeaBat 8125 shallow water sonar system. Positioning and attitude for RUDE were determined with an APPLANIX POS/MV and utilizing a Trimble DSM-212L DGPS receiver.

Sound velocity data was acquired using a Sea-Bird SBE 19 SEACAT Conductivity, Temperature and Depth (CTD) Profiler.

No unusual vessel configurations or problems were encountered during this survey. Please refer to the 2007 DAPR for detailed equipment and vessel configuration.

B2. QUALITY CONTROL

Side Scan Sonar Quality Control

Confidence checks were made by observing the outer ranges of the side scan sonar images. A good check consisted of distinguishing contacts, i.e. the bridge rubble present across the entire range of the side scan trace.

Shallow Water Multibeam Quality Control

There were no major faults with the shallow water multibeam system that affected data integrity in this survey. Please refer to the project's DAPR for detailed discussion of SWMB system calibrations, patch test, data acquisition, and data processing.

Crosslines

The total distance of crosslines is 8.0 linear nautical miles, which is equal to 69.7% of total mainscheme lines. Crossline to mainscheme line comparison was conducted using MapInfo 8.5 and visually inspecting the resulting sounding plot printout. Comparison is adequate, with the majority of differences being one foot or less.

Multibeam lines were run perpendicular to mainscheme VBES lines and were used for the crossline comparison.

Junctions

No comparison was performed. ***(No junctions were available.)***

B3. CORRECTIONS TO ECHO SOUNDINGS

All methods or instruments were implemented as described in the Correction to Echo Sounding section of the DAPR for this project. A table detailing all sound velocity profiles is located in Separate II. ***The 2007 DAPR is on file at AHB.***

C. VERTICAL AND HORIZONTAL CONTROL

VERTICAL CONTROL

The tidal datum for this project is Mean Lower Low Water (MLLW). All soundings are referenced to MLLW. The operating National Water Level Observation Network (NWLON) station was Beaufort, NC (865-6483). This station served as datum control for the survey area. All soundings were reduced to Mean Lower Low Water with preliminary tides. ***Verified (approved) tides were applied by AHB.***

A Request for Smooth Tides letter was sent to N/OPS1 on March 26, 2007 (Appendix IV). Preliminary tides from the N/OPS1 CO-OPS website were downloaded and applied to all soundings for this sheet. Tide corrections were applied to the soundings using CARIS HIPS and SIPS v6.0.

Zoning was provided on the project CD. No Changes to zoning, time correctors, or range ratios were made by field personnel. ***Preliminary zoning was accepted as final zoning by CO-OPS***

HORIZONTAL CONTROL

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

Sounding positional control was determined using the Global Positioning System (GPS) corrected by

U.S. Coast Guard differential GPS (DGPS) beacon stations. The primary DGPS beacon used for this survey was New Bern, NC. No horizontal control stations were established for this survey.

Horizontal dilution of precision (HDOP) was monitored. Data was to be re-acquired if the HDOP value exceeded 2.5. The APPLANIX POS/MV positioning system was also used to monitor the accuracy of the ship's position and orientation. Data was to be re-acquired if POS M/V's estimated position accuracy exceeded 4 m. Neither of the cases above occurred. Refer to the 2007 DAPR for more details regarding RUDE's POS M/V settings and operation.

D. RESULTS AND RECOMMENDATIONS

D1. CHART COMPARISON

Charts Affected: All or part of the following NOAA nautical charts are contained within the limits of S-F913:

Chart Edition Date NM LNM Scale
11543 23rd Jun 2005 18/05 14/05 1:80,000

Current survey soundings and features were compared to charted depths and features on NOAA charts 11543. Current soundings and features do not agree with the current charted depths and features. The Hydrographer recommends that the current soundings supercede all previous chart editions. ***Concur with clarification. Surrounding depths of obstructions do agree but due to the number of obstructions, many soundings are shoaler on these points.***

ENC's Affected: The following electronic navigation charts contain items with in the surveyed sounding limits of S-F913:

ENC US4NC15M

The ENC was compared with current soundings using CARIS 6.0 field sheet editor. Comparison was excellent, however only two sounding were located in the survey area. The Hydrographer recommends that the current soundings supercede all previous chart editions. ***Concur.***

D2. ADDITIONAL RESULTS

Item Investigation

There was one AWOIS item to investigate. Items were detected by 200% SSS in the 600 meter radius of the AWOIS item. The hydrographer recommends that current soundings in this area supercede any previously charted soundings. ***AWOIS 13883.***

One item was deemed a Danger To Navigation (DTON) and submitted on March 23, 2007. No charted features and eleven uncharted items, including the DTON, are addressed in this Descriptive Report. Please refer to Appendices I and II for all the investigated items to be submitted. ***Concur with clarification: Upon review at the Branch, 16 uncharted items are addressed and may be found in Appendix II. Please see Evaluation Report for in depth discussion of the numerous obstructions.***

Bottom Samples

No bottom samples were taken. ***(Not required in Letter of Instructions.)***

General Description of Surveyed Area and Sounding Comparison

S-F913 covers approximately 0.33 square nautical miles. The area is located approximately 7 NM WSW of Beaufort Inlet. The bottom is generally flat composed primarily of shell and bridge rubble. According to the North Carolina Division of Marine Fisheries website (http://www.ncfisheries.net/reefs/ar320a.htm), parts of the Atlantic Beach Bridge was dumped in this area. This survey concludes that the coordinates are correct. ***Concur. Please see Evaluation Report for further discussion.***

Prior Survey Comparison

No prior survey comparison was conducted.

E. APPROVAL SHEET

LETTER OF APPROVAL

REGISTRY NO. F00536

Data acquisition, processing, and analysis contributing to the accomplishments of this navigable area survey were conducted under my direct supervision with frequent personal checks of progress and adequacy. All data, field sheets, this Descriptive Report, and accompanying records were reviewed in their entirety and are approved.

This survey is adequate to supersede all prior surveys in common areas and is considered complete and adequate for nautical charting.

Respectfully Submitted:

Caryn M. Arnold
Ensign, NOAA
NOAA Ship RUDE

Reviewed by FOO:

Shawn Maddock
Lieutenant, NOAA
Field Operations Officer
NOAA Ship RUDE

Approved:

Lawrence T. Krepp
I am approving this document
2007.04.09 20:33:21 -04'00'

Lawrence T. Krepp
Lieutenant Commander, NOAA
Commanding Officer
NOAA Ship RUDE

APPENDIX I
Danger to Navigation Reports

F00536 DtoN

Registry Number: F00536

State: NC

Locality: Onslow Bay

Sub-locality: 7 NM WSW of Beaufort Inlet

Project Number: S-F913-RU-07

Survey Date: 03/22/2007

Charts Affected

Number	Edition	Date	Scale (RNC)	RNC Correction(s)*
11543	23rd	06/01/2005	1:80,000 (11543_1)	USCG LNM: 02/12/2008 (01/06/2009) NGA NTM: 07/20/2002 (01/10/2009)
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.	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	Obstruction	6.33 m	34° 39' 28.9" N	076° 48' 26.0" W	---

1 - DR_DToN

1.1) Profile/Beam - 1406/234 from f00536 / ru_mb / 2007-081 / 805_2042

DANGER TO NAVIGATION

Survey Summary

Survey Position: 34° 39' 28.9" N, 076° 48' 26.0" W

Least Depth: 6.33 m (= 20.78 ft = 3.463 fm = 3 fm 2.78 ft)

TPU (±1.96σ): **THU (TPEh)** ±7.852 m ; **TVU (TPEv)** ±0.254 m

Timestamp: 2007-081.20:44:39.051 (03/22/2007)

Survey Line: f00536 / ru_mb / 2007-081 / 805_2042

Profile/Beam: 1406/234

Charts Affected: 11543_1, 11520_1, 11009_1

Remarks:

This previously uncharted item is the shoalest of three items in very close proximity. It was initially located with 200% SSS. Reson 8125 Multibeam bathymetry development data determined it to have a least depth of 20 ft with surrounding depths of 44 feet, corrected to preliminary tides. Item appears to be a Bridge Trussel.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00536/ru_mb/2007-081/805_2042	1406/234	0.00	000.0	Primary
f00536/ru_ss/2007-081/203_1425	0001	6.87	087.5	Secondary
f00536/ru_ss/2007-081/104_1444	0003	17.40	022.5	Secondary

Hydrographer Recommendations

Chart dangerous Obstn, least depth 20.78 ft, based on approved tides at surveyed position.

Cartographically-Rounded Depth (Affected Charts):

21ft (11543_1)

3 ½fm (11520_1, 11009_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: NATCON - 2,7:concreted,metal

QUASOU - 6:least depth known

RECDAT - 20070323

SORDAT - 20070322

TECSOU - 3:found by multi-beam

VALSOU - 6.333 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Concur. Original field submission was 20 ft with preliminary tides applied.

Feature Images

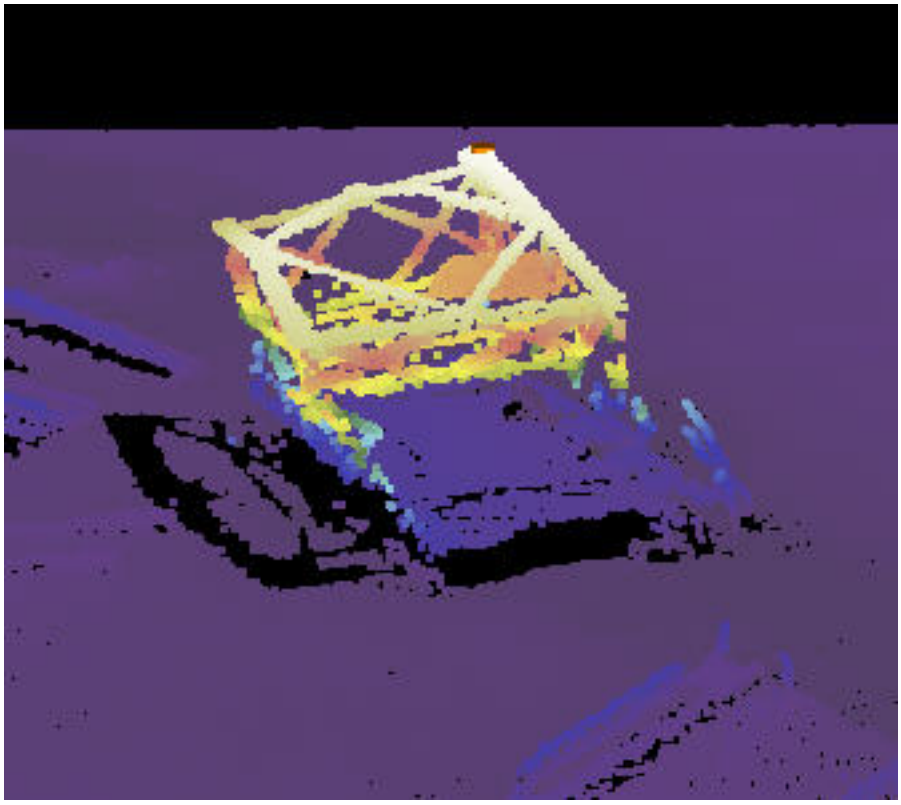


Figure 1.1.1

APPENDIX II
Survey Features Report

F00536 Uncharted Items

Registry Number: F00536

State: NC

Locality: Onslow Bay

Sub-locality: 7 NM WSW of Beaufort Inlet

Project Number: S-F913-RU-07

Survey Date: 03/22/2007

Charts Affected

Number	Edition	Date	Scale (RNC)	RNC Correction(s)*
11543	23rd	06/01/2005	1:80,000 (11543_1)	USCG LNM: 02/12/2008 (01/06/2009) NGA NTM: 07/20/2002 (01/10/2009)
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.	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	Obstruction	10.52 m	34° 39' 25.9" N	076° 48' 26.1" W	---
1.2	Obstruction	13.98 m	34° 39' 20.2" N	076° 48' 25.4" W	---
1.3	Obstruction	8.48 m	34° 39' 29.5" N	076° 48' 30.6" W	---
1.4	Obstruction	14.13 m	34° 39' 32.3" N	076° 48' 34.1" W	---
1.5	Obstruction	11.74 m	34° 39' 28.3" N	076° 48' 33.3" W	---
1.6	Obstruction	13.14 m	34° 39' 27.2" N	076° 48' 23.1" W	---
1.7	Obstruction	13.29 m	34° 39' 24.4" N	076° 48' 36.0" W	---
1.8	Obstruction	7.64 m	34° 39' 30.4" N	076° 48' 28.3" W	---
1.9	Obstruction	12.45 m	34° 39' 24.4" N	076° 48' 27.1" W	---
1.10	Obstruction	13.21 m	34° 39' 36.2" N	076° 48' 19.8" W	---
1.11	Obstruction	14.19 m	34° 39' 33.7" N	076° 48' 29.0" W	---
1.12	Obstruction	13.40 m	34° 39' 31.8" N	076° 48' 29.5" W	---
1.13	Obstruction	14.20 m	34° 39' 21.1" N	076° 48' 29.5" W	---
1.14	Obstruction	11.77 m	34° 39' 29.9" N	076° 48' 35.3" W	---

1.15	Obstruction	13.96 m	34° 39' 44.6" N	076° 48' 36.4" W	---
1.16	Obstruction	13.93 m	34° 39' 24.2" N	076° 48' 32.0" W	---

1 - DR_UnCharted

1.1) Profile/Beam - 1033/106 from f00536 / ru_mb / 2007-081 / 805_2042

Survey Summary

Survey Position: 34° 39' 25.9" N, 076° 48' 26.1" W

Least Depth: 10.52 m (= 34.51 ft = 5.752 fm = 5 fm 4.51 ft)

TPU (±1.96σ): **THU (TPEh)** ±7.860 m ; **TVU (TPEv)** ±0.254 m

Timestamp: 2007-081.20:44:01.857 (03/22/2007)

Survey Line: f00536 / ru_mb / 2007-081 / 805_2042

Profile/Beam: 1033/106

Charts Affected: 11543_1, 11520_1, 11009_1

Remarks:

Based on the NC fisheries website (www.ncfisheries.net/reefs/ar320a.htm), coordinates were given for Atlantic Beach bridge rubble steel trusses and concrete waffel crete pre-fab. This information appears to be correct which places bridge rubble at the survey postion.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00536/ru_mb/2007-081/805_2042	1033/106	0.00	000.0	Primary
f00536/ru_ss/2007-081/104_1444	0004	11.28	146.9	Secondary
f00536/ru_ss/2007-081/204_1415	0001	14.17	235.8	Secondary

Hydrographer Recommendations

Chart dangerous Obstn, least depth 34.51 ft, based on approved tides at surveyed position.

Cartographically-Rounded Depth (Affected Charts):

34ft (11543_1)

5 ¾fm (11520_1, 11009_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: NATCON - 2,4,7:concreted,hard surfaced,metal

QUASOU - 6:least depth known

RECDAT - 20070324

SORDAT - 20070322

TECSOU - 3:found by multi-beam

VALSOU - 10.519 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Concur.

Feature Images

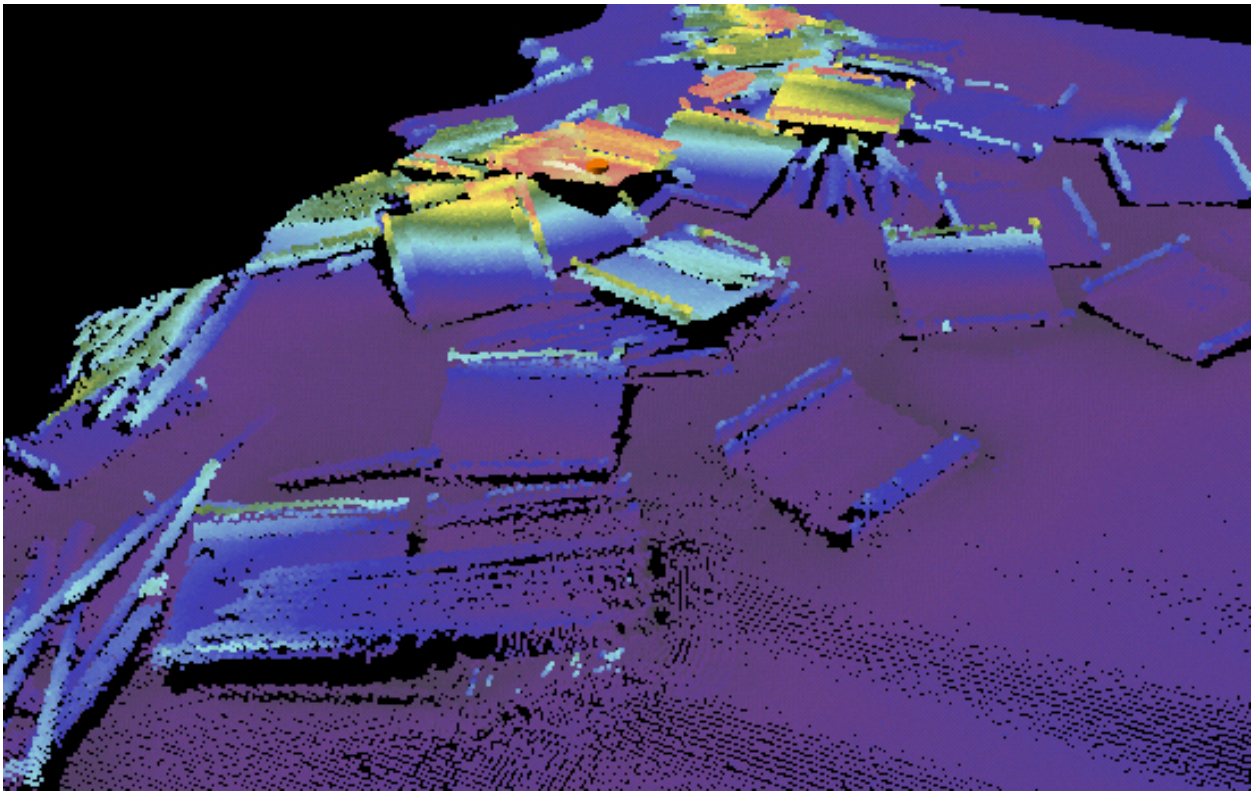


Figure 1.1.1

1.2) Profile/Beam - 359/227 from f00536 / ru_mb / 2007-081 / 805_2042

Survey Summary

Survey Position: 34° 39' 20.2" N, 076° 48' 25.4" W

Least Depth: 13.98 m (= 45.87 ft = 7.645 fm = 7 fm 3.87 ft)

TPU (±1.96σ): **THU (TPEh)** ±7.859 m ; **TVU (TPEv)** ±0.255 m

Timestamp: 2007-081.20:42:54.644 (03/22/2007)

Survey Line: f00536 / ru_mb / 2007-081 / 805_2042

Profile/Beam: 359/227

Charts Affected: 11543_1, 11520_1, 11009_1

Remarks:

Based on the NC fisheries website (www.ncfisheries.net/reefs/ar320a.htm), coordinates were given for Atlantic Beach bridge rubble steel trusses and concrete waffel crete pre-fab. This information appears to be correct which places an Atlantic Beach bridge steel truss at the survey postion.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00536/ru_mb/2007-081/805_2042	359/227	0.00	000.0	Primary
f00536/ru_ss/2007-081/205_1406	0002	49.11	354.2	Secondary
f00536/ru_ss/2007-081/106_1548	0001	52.54	346.1	Secondary (grouped)
f00536/ru_mb/2007-081/804_1940	3471/110	61.54	343.4	Secondary (grouped)

Hydrographer Recommendations

Chart dangerous Obstn, least depth 45.87 ft, based on approved tides at surveyed position.

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: QUASOU - 6:least depth known

TECSOU - 3:found by multi-beam

VALSOU - 13.981 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Concur.

Feature Images

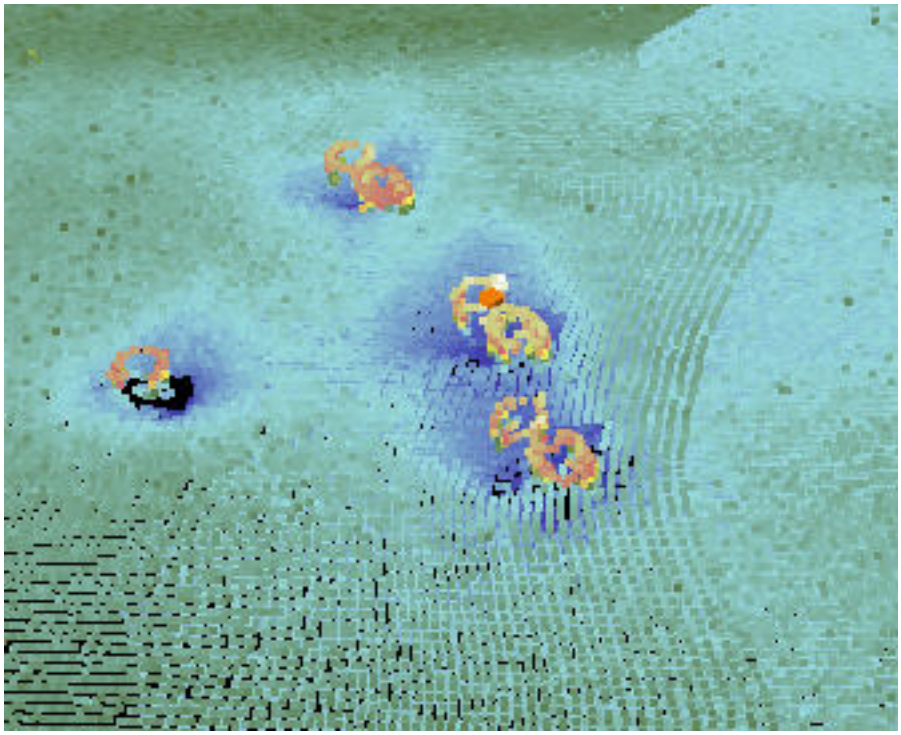


Figure 1.2.1

1.3) Profile/Beam - 1562/167 from f00536 / ru_mb / 2007-081 / 808_1923

Survey Summary

Survey Position: 34° 39' 29.5" N, 076° 48' 30.6" W

Least Depth: 8.48 m (= 27.82 ft = 4.636 fm = 4 fm 3.82 ft)

TPU (±1.96σ): **THU (TPEh)** ±7.855 m ; **TVU (TPEv)** ±0.254 m

Timestamp: 2007-081.19:26:13.378 (03/22/2007)

Survey Line: f00536 / ru_mb / 2007-081 / 808_1923

Profile/Beam: 1562/167

Charts Affected: 11543_1, 11520_1, 11009_1

Remarks:

Based on the NC fisheries website (www.ncfisheries.net/reefs/ar320a.htm), coordinates were given for Atlantic Beach bridge rubble steel trusses and concrete waffel crete pre-fab. This information appears to be correct which places an Atlantic Beach bridge steel truss at the survey postion.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00536/ru_mb/2007-081/808_1923	1562/167	0.00	000.0	Primary
f00536/ru_ss/2007-081/203_1425	0005	11.35	149.8	Secondary
f00536/ru_ss/2007-081/104_1444	0006	18.77	125.2	Secondary

Hydrographer Recommendations

Chart dangerous Obstn, least depth 27.82 ft, based on approved tides at surveyed position.

Cartographically-Rounded Depth (Affected Charts):

28ft (11543_1)

4 ½fm (11520_1, 11009_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: NATCON - 2,4,7:concreted,hard surfaced,metal

QUASOU - 6:least depth known

RECDAT - 20070324

SORDAT - 20070322

TECSOU - 3:found by multi-beam

VALSOU - 8.479 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Concur.

Feature Images

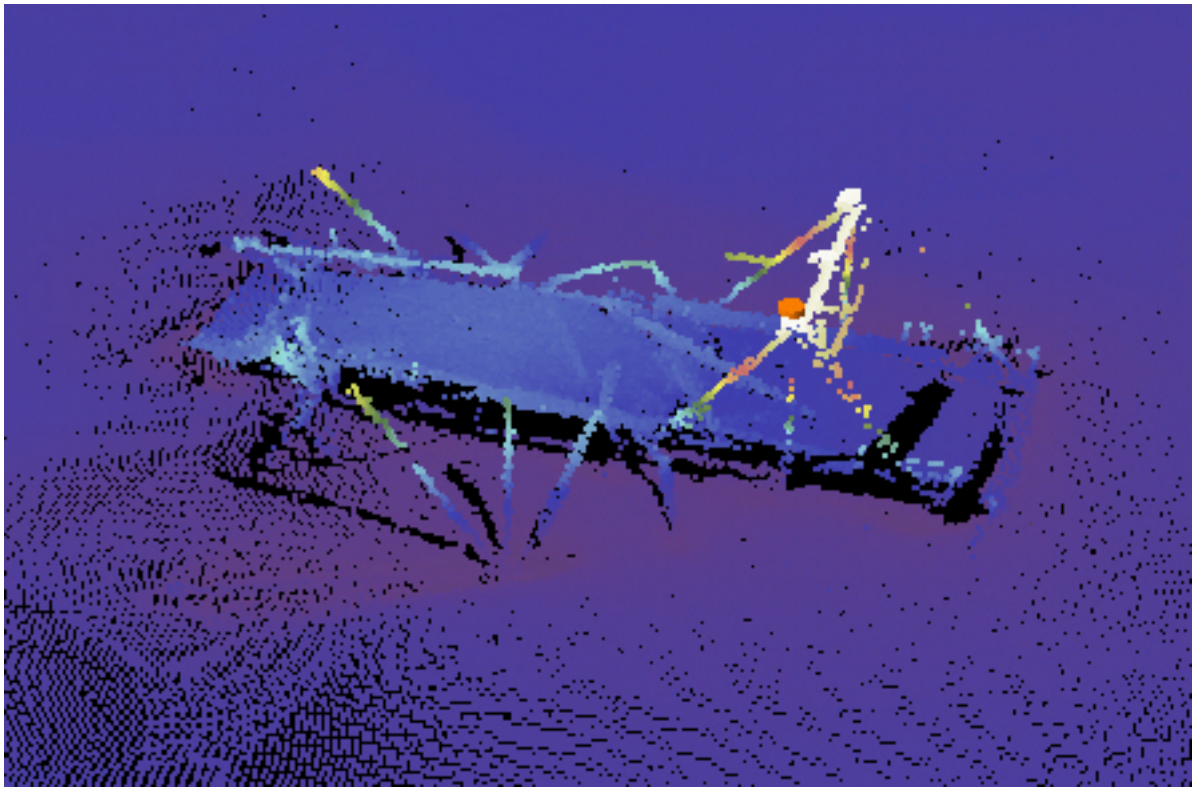


Figure 1.3.1

1.4) Profile/Beam - 1953/180 from f00536 / ru_mb / 2007-081 / 810_1852

Survey Summary

Survey Position: 34° 39' 32.3" N, 076° 48' 34.1" W

Least Depth: 14.13 m (= 46.34 ft = 7.724 fm = 7 fm 4.34 ft)

TPU (±1.96σ): **THU (TPEh)** ±7.853 m ; **TVU (TPEv)** ±0.254 m

Timestamp: 2007-081.18:56:07.045 (03/22/2007)

Survey Line: f00536 / ru_mb / 2007-081 / 810_1852

Profile/Beam: 1953/180

Charts Affected: 11543_1, 11520_1, 11009_1

Remarks:

Based on the NC fisheries website (www.ncfisheries.net/reefs/ar320a.htm), coordinates were given for Atlantic Beach bridge rubble steel trusses and concrete waffel crete pre-fab. This information appears to be correct which places bridge rubble at the survey postion.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00536/ru_mb/2007-081/810_1852	1953/180	0.00	000.0	Primary
f00536/ru_ss/2007-081/203_1425	0006	7.40	350.6	Secondary
f00536/ru_ss/2007-081/103_1454	0004	13.94	251.8	Secondary

Hydrographer Recommendations

Chart dangerous Obstn, least depth 46.34 ft, based on approved tides at surveyed position.

Cartographically-Rounded Depth (Affected Charts):

46ft (11543_1)

7 ¾fm (11520_1, 11009_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: NATCON - 2,4:concreted,hard surfaced

QUASOU - 6:least depth known

RECDAT - 20070324

SORDAT - 20070322

TECSOU - 3:found by multi-beam

VALSOU - 14.125 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Concur.

Feature Images

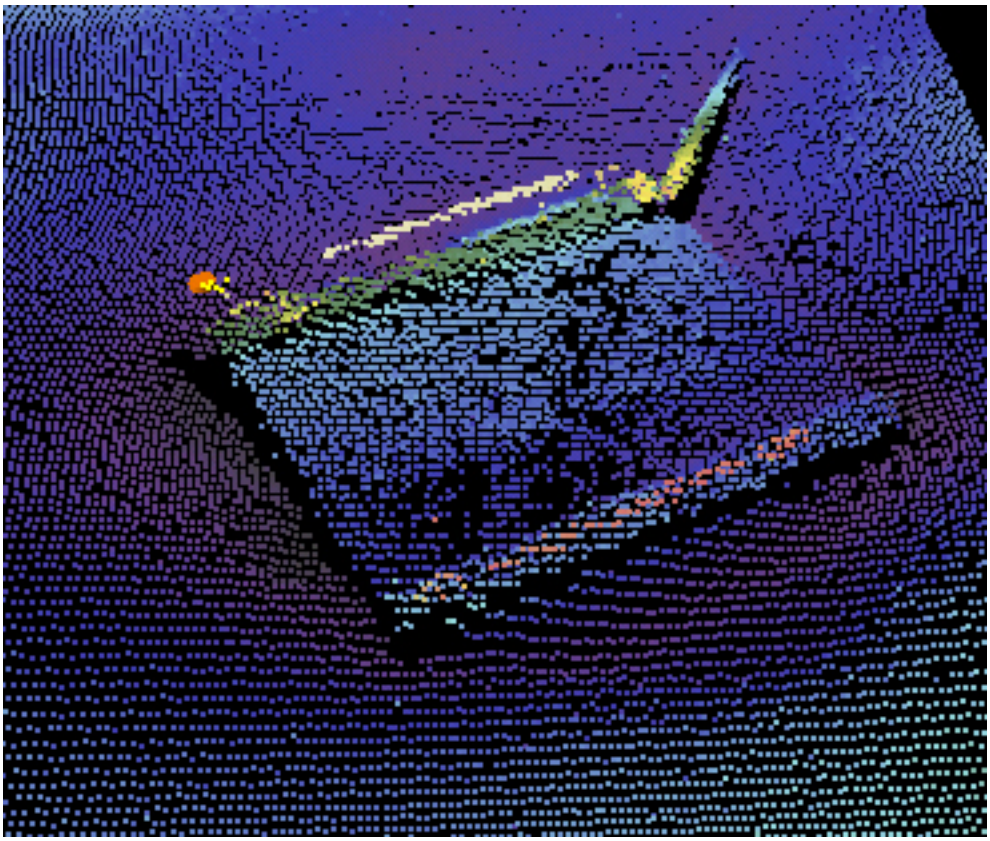


Figure 1.4.1

1.5) Profile/Beam - 2473/10 from f00536 / ru_mb / 2007-081 / 810_1852

Survey Summary

Survey Position: 34° 39' 28.3" N, 076° 48' 33.3" W

Least Depth: 11.74 m (= 38.52 ft = 6.421 fm = 6 fm 2.52 ft)

TPU (±1.96σ): **THU (TPEh)** ±7.852 m ; **TVU (TPEv)** ±0.255 m

Timestamp: 2007-081.18:56:58.925 (03/22/2007)

Survey Line: f00536 / ru_mb / 2007-081 / 810_1852

Profile/Beam: 2473/10

Charts Affected: 11543_1, 11520_1, 11009_1

Remarks:

Based on the NC fisheries website (www.ncfisheries.net/reefs/ar320a.htm), coordinates were given for Atlantic Beach bridge rubble steel trusses and concrete waffel crete pre-fab. This information appears to be correct which places an Atlantic Beach bridge steel truss at the survey postion.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00536/ru_mb/2007-081/810_1852	2473/10	0.00	000.0	Primary
f00536/ru_mb/2007-081/811_1841	1336/106	48.34	061.2	Secondary
f00536/ru_ss/2007-081/203_1425	0002	56.33	086.4	Secondary (grouped)
f00536/ru_ss/2007-081/204_1415	0003	62.59	037.9	Secondary (grouped)
f00536/ru_ss/2007-081/104_1444	0002	80.81	042.2	Secondary (grouped)
f00536/ru_mb/2007-081/812_1821	1210/225	83.99	056.2	Secondary (grouped)

Hydrographer Recommendations

Chart dangerous Obstn, least depth 38.52 ft, based on approved tides at surveyed position.

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: NATCON - 7:metal

QUASOU - 6:least depth known

TECSOU - 3:found by multi-beam

VALSOU - 11.742 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Concur.

Feature Images

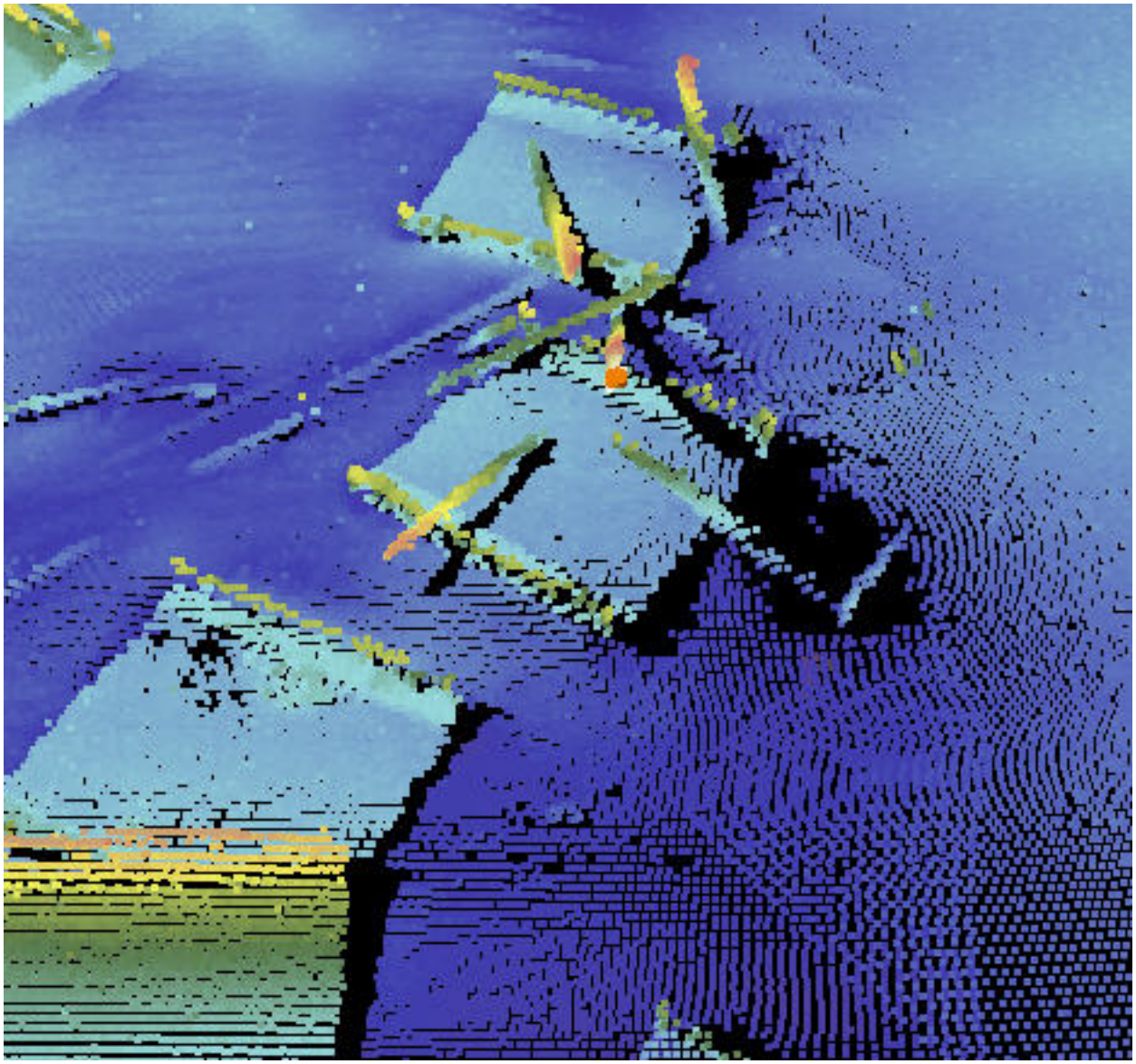


Figure 1.5.1

1.6) Profile/Beam - 1253/143 from f00536 / ru_mb / 2007-081 / 803_1956

Survey Summary

Survey Position: 34° 39' 27.2" N, 076° 48' 23.1" W

Least Depth: 13.14 m (= 43.11 ft = 7.186 fm = 7 fm 1.11 ft)

TPU (±1.96σ): **THU (TPEh)** ±7.855 m ; **TVU (TPEv)** ±0.254 m

Timestamp: 2007-081.19:58:26.185 (03/22/2007)

Survey Line: f00536 / ru_mb / 2007-081 / 803_1956

Profile/Beam: 1253/143

Charts Affected: 11543_1, 11520_1, 11009_1

Remarks:

Based on the NC fisheries website (www.ncfisheries.net/reefs/ar320a.htm), coordinates were given for Atlantic Beach bridge rubble steel trusses and concrete waffel crete pre-fab. This information appears to be correct which places bridge rubble at the survey postion.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00536/ru_mb/2007-081/803_1956	1253/143	0.00	000.0	Primary
f00536/ru_ss/2007-081/104_1444	0005	5.27	103.8	Secondary
f00536/ru_mb/2007-081/804_1830	2587/232	42.88	128.2	Secondary

Hydrographer Recommendations

Chart dangerous Obstn, least depth 43.11 ft, based on approved tides at surveyed position.

Cartographically-Rounded Depth (Affected Charts):

43ft (11543_1)

7fm (11520_1, 11009_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: NATCON - 2,4:concreted,hard surfaced

QUASOU - 6:least depth known

RECDAT - 20070324

SORDAT - 20070322

TECSOU - 3:found by multi-beam

VALSOU - 13.141 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Concur.

Feature Images

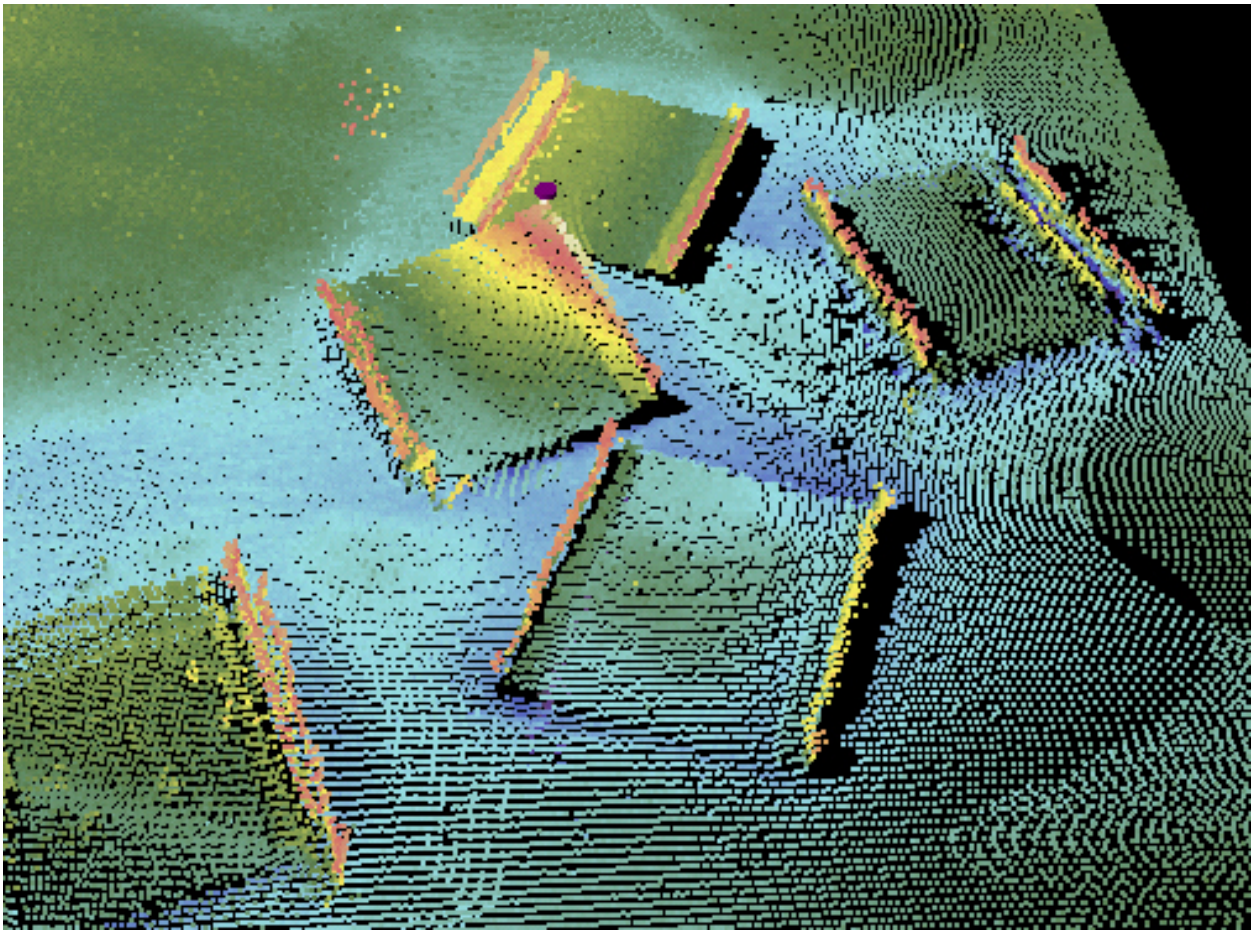


Figure 1.6.1

1.7) Profile/Beam - 914/203 from f00536 / ru_mb / 2007-081 / 812_1821

Survey Summary

Survey Position: 34° 39' 24.4" N, 076° 48' 36.0" W

Least Depth: 13.29 m (= 43.60 ft = 7.267 fm = 7 fm 1.60 ft)

TPU (±1.96σ): **THU (TPEh)** ±7.855 m ; **TVU (TPEv)** ±0.255 m

Timestamp: 2007-081.18:22:34.311 (03/22/2007)

Survey Line: f00536 / ru_mb / 2007-081 / 812_1821

Profile/Beam: 914/203

Charts Affected: 11543_1, 11520_1, 11009_1

Remarks:

Based on the NC fisheries website (www.ncfisheries.net/reefs/ar320a.htm), coordinates were given for Atlantic Beach bridge rubble steel trusses and concrete waffel crete pre-fab. This information appears to be correct which places an Atlantic Beach bridge steel truss at the survey postion.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00536/ru_mb/2007-081/812_1821	914/203	0.00	000.0	Primary
f00536/ru_ss/2007-081/204_1415	0004	7.09	346.0	Secondary
f00536/ru_mb/2007-081/812_1821	829/135	23.72	015.3	Secondary (grouped)
f00536/ru_ss/2007-081/105_1435	0002	45.07	328.6	Secondary

Hydrographer Recommendations

Chart dangerous Obstn, least depth 43.60 ft, based on approved tides at surveyed position.

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: QUASOU - 6:least depth known

TECSOU - 3:found by multi-beam

VALSOU - 13.290 m

VERDAT - 12:Mean lower low water

Office Notes

Concur.

Feature Images

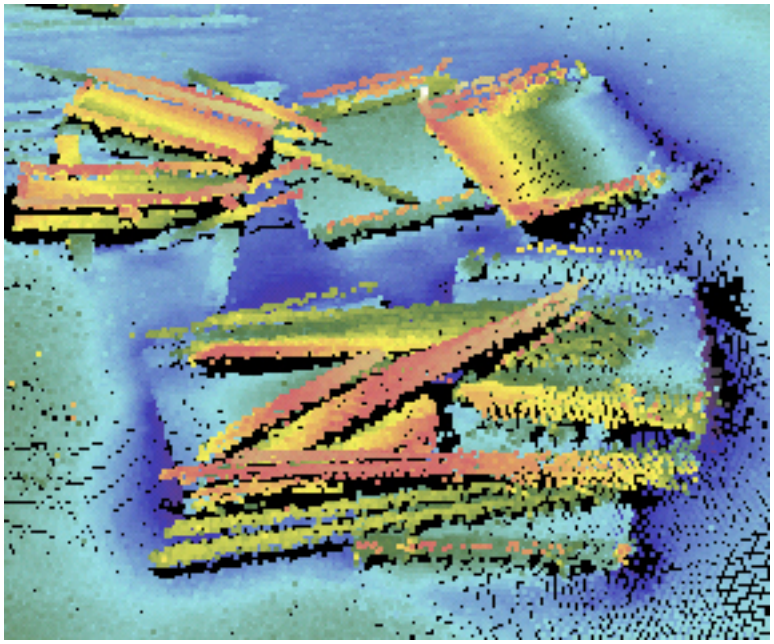


Figure 1.7.1

1.8) Profile/Beam - 652/240 from f00536 / ru_mb / 2007-081 / 806_2035

Survey Summary

Survey Position: 34° 39' 30.4" N, 076° 48' 28.3" W

Least Depth: 7.64 m (= 25.08 ft = 4.180 fm = 4 fm 1.08 ft)

TPU (±1.96σ): **THU (TPEh)** ±7.859 m ; **TVU (TPEv)** ±0.255 m

Timestamp: 2007-081.20:36:14.621 (03/22/2007)

Survey Line: f00536 / ru_mb / 2007-081 / 806_2035

Profile/Beam: 652/240

Charts Affected: 11543_1, 11520_1, 11009_1

Remarks:

Based on the NC fisheries website (www.ncfisheries.net/reefs/ar320a.htm), coordinates were given for Atlantic Beach bridge rubble steel trusses and concrete waffel crete pre-fab. This information appears to be correct which places an Atlantic Beach bridge steel truss at the survey postion.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00536/ru_mb/2007-081/806_2035	652/240	0.00	000.0	Primary
f00536/ru_ss/2007-081/203_1425	0004	10.09	033.8	Secondary
f00536/ru_ss/2007-081/103_1454	0001	11.12	176.0	Secondary

Hydrographer Recommendations

Chart dangerous Obstn, least depth 25.08 ft, based on approved tides at surveyed position.

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: QUASOU - 6:least depth known

TECSOU - 3:found by multi-beam

VALSOU - 7.645 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Concur.

Feature Images

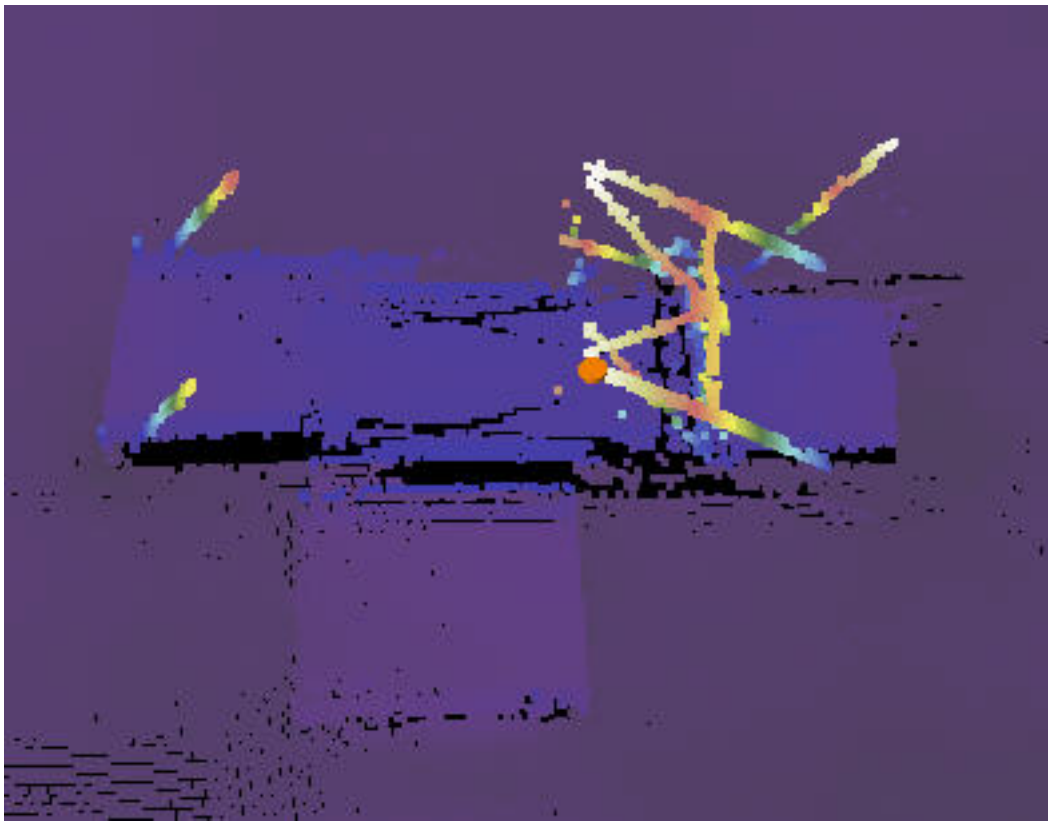


Figure 1.8.1

1.9) Profile/Beam - 1343/1 from f00536 / ru_mb / 2007-081 / 806_2035

Survey Summary

Survey Position: 34° 39' 24.4" N, 076° 48' 27.1" W

Least Depth: 12.45 m (= 40.85 ft = 6.808 fm = 6 fm 4.85 ft)

TPU (±1.96σ): **THU (TPEh)** ±7.860 m ; **TVU (TPEv)** ±0.256 m

Timestamp: 2007-081.20:37:23.524 (03/22/2007)

Survey Line: f00536 / ru_mb / 2007-081 / 806_2035

Profile/Beam: 1343/1

Charts Affected: 11543_1, 11520_1, 11009_1

Remarks:

Based on the NC fisheries website (www.ncfisheries.net/reefs/ar320a.htm), coordinates were given for Atlantic Beach bridge rubble steel trusses and concrete waffel crete pre-fab. This information appears to be correct which places an Atlantic Beach bridge steel truss at the survey postion.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00536/ru_mb/2007-081/806_2035	1343/1	0.00	000.0	Primary
f00536/ru_ss/2007-081/105_1435	0001	7.48	334.0	Secondary
f00536/ru_ss/2007-081/204_1415	0002	12.97	014.8	Secondary

Hydrographer Recommendations

Chart dangerous Obstn, least depth 40.85 ft, based on approved tides at surveyed position.

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: QUASOU - 6:least depth known

TECSOU - 3:found by multi-beam

VALSOU - 12.451 m

VERDAT - 14:Approximate mean low water

WATLEV - 3:always under water/submerged

Office Notes

Concur.

Feature Images

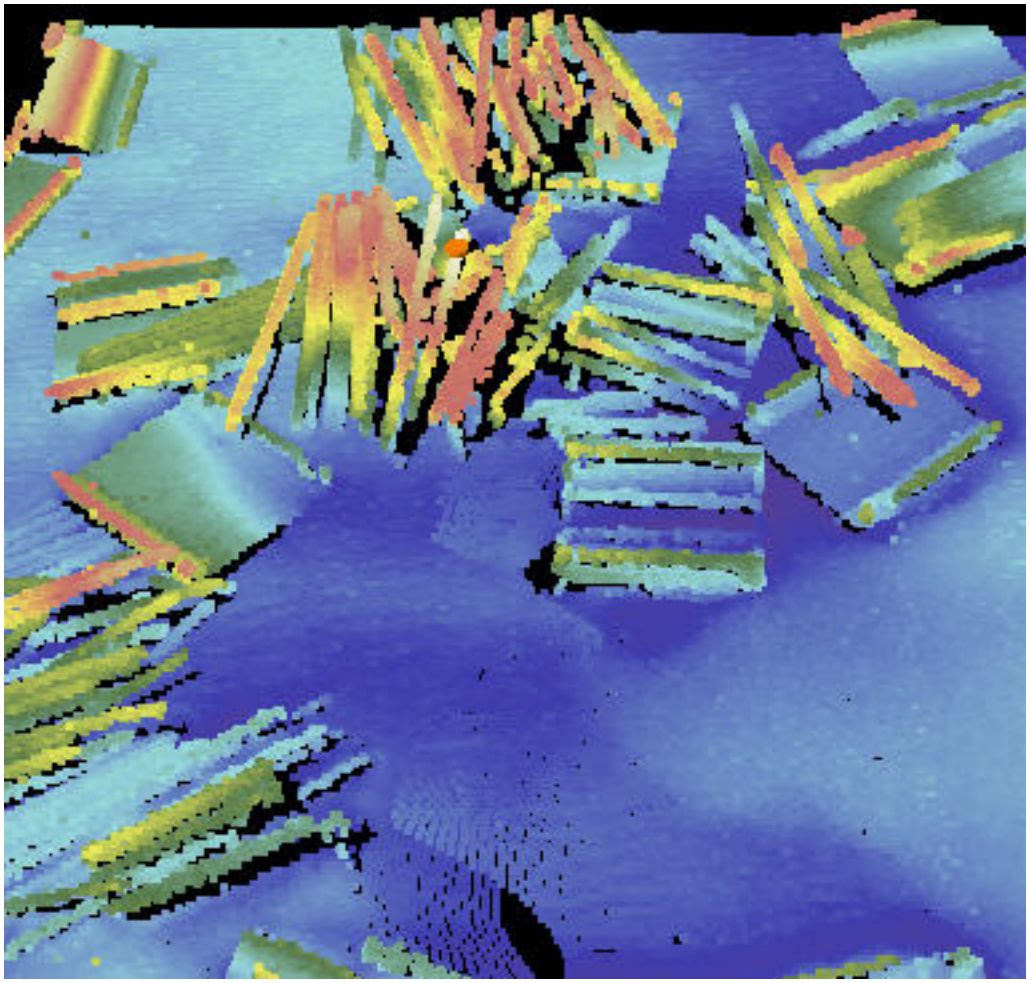


Figure 1.9.1

1.10) Profile/Beam - 1334/12 from f00536 / ru_mb / 2007-081 / 801_2006

Survey Summary

Survey Position: 34° 39' 36.2" N, 076° 48' 19.8" W

Least Depth: 13.21 m (= 43.33 ft = 7.221 fm = 7 fm 1.33 ft)

TPU (±1.96σ): **THU (TPEh)** ±7.857 m ; **TVU (TPEv)** ±0.255 m

Timestamp: 2007-081.20:08:42.338 (03/22/2007)

Survey Line: f00536 / ru_mb / 2007-081 / 801_2006

Profile/Beam: 1334/12

Charts Affected: 11543_1, 11520_1, 11009_1

Remarks:

[None]

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00536/ru_mb/2007-081/801_2006	1334/12	0.00	000.0	Primary
f00536/ru_ss/2007-081/202_1355	0001	2.15	012.2	Secondary
f00536/ru_ss/2007-081/102_1503	0001	9.76	064.4	Secondary

Hydrographer Recommendations

Chart obstn with least depth 43.33 ft at surveyed position.

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: QUASOU - 6:least depth known

TECSOU - 3:found by multi-beam

VALSOU - 13.206 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Concur.

Feature Images

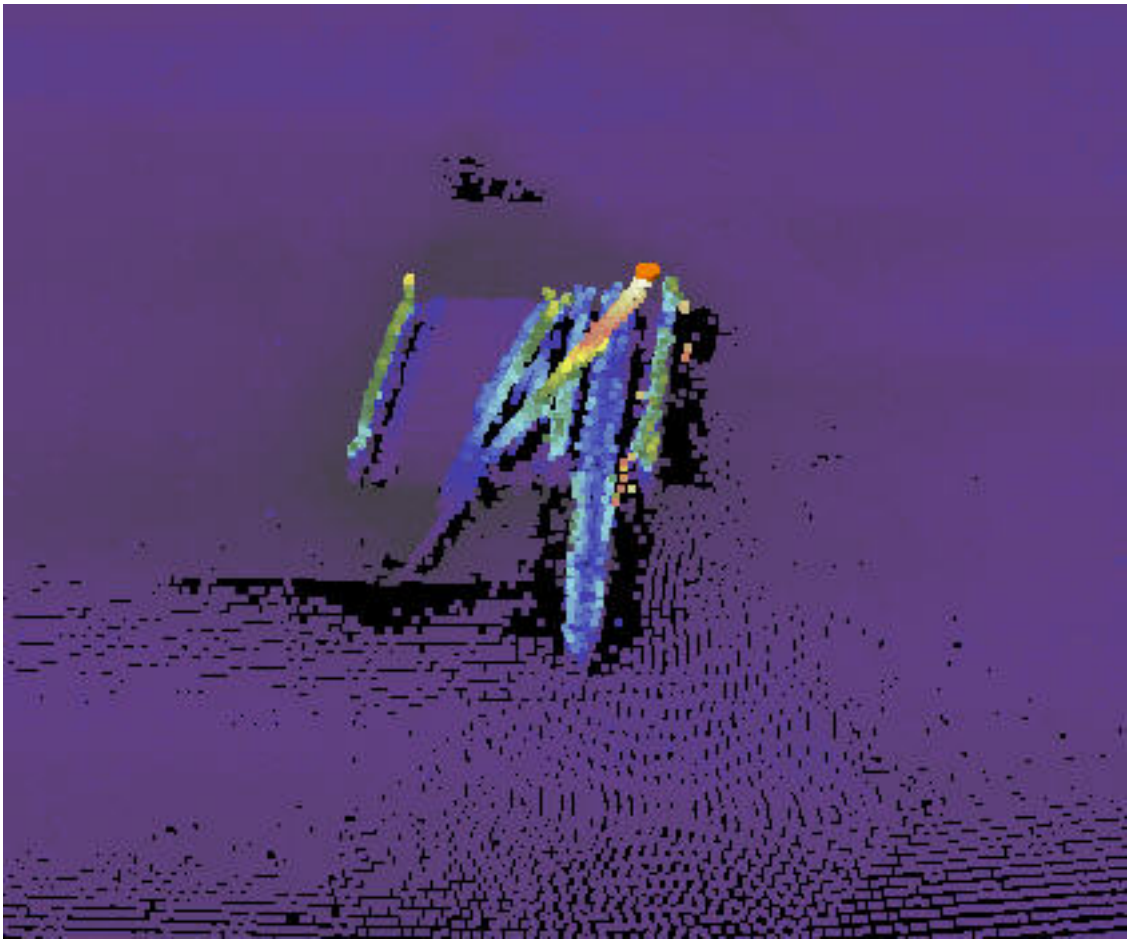


Figure 1.10.1

1.11) Profile/Beam - 1581/43 from f00536 / ru_mb / 2007-081 / 807_1752

Survey Summary

Survey Position: 34° 39' 33.7" N, 076° 48' 29.0" W

Least Depth: 14.19 m (= 46.54 ft = 7.756 fm = 7 fm 4.54 ft)

TPU (±1.96σ): **THU (TPEh)** ±7.857 m ; **TVU (TPEv)** ±0.255 m

Timestamp: 2007-081.17:55:28.735 (03/22/2007)

Survey Line: f00536 / ru_mb / 2007-081 / 807_1752

Profile/Beam: 1581/43

Charts Affected: 11543_1, 11520_1, 11009_1

Remarks:

Based on the NC fisheries website (www.ncfisheries.net/reefs/ar320a.htm), coordinates were given for Atlantic Beach bridge rubble steel trusses and concrete waffel crete pre-fab. This information appears to be correct which places an Atlantic Beach bridge steel truss at the survey postion.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00536/ru_mb/2007-081/807_1752	1581/43	0.00	000.0	Primary
f00536/ru_ss/2007-081/103_1454	0003	8.23	294.2	Secondary
f00536/ru_ss/2007-081/202_1355	0002	20.23	306.4	Secondary

Hydrographer Recommendations

Chart dangerous Obstn, least depth 46.54 ft, based on approved tides at surveyed position.

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: QUASOU - 6:least depth known

TECSOU - 3:found by multi-beam

VALSOU - 14.185 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Concur.

Feature Images

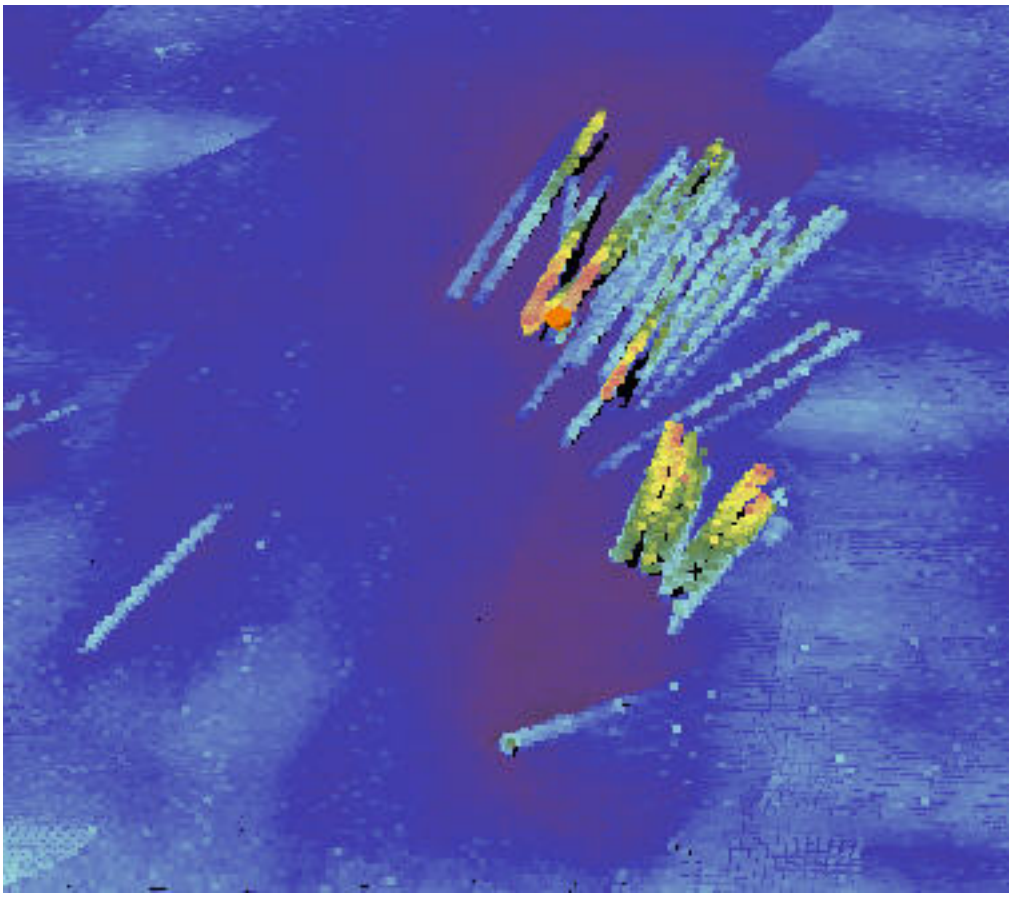


Figure 1.11.1

1.12) Profile/Beam - 1825/108 from f00536 / ru_mb / 2007-081 / 807_1752

Survey Summary

Survey Position: 34° 39' 31.8" N, 076° 48' 29.5" W

Least Depth: 13.40 m (= 43.95 ft = 7.325 fm = 7 fm 1.95 ft)

TPU (±1.96σ): **THU (TPEh)** ±7.855 m ; **TVU (TPEv)** ±0.254 m

Timestamp: 2007-081.17:55:53.063 (03/22/2007)

Survey Line: f00536 / ru_mb / 2007-081 / 807_1752

Profile/Beam: 1825/108

Charts Affected: 11543_1, 11520_1, 11009_1

Remarks:

Based on the NC fisheries website (www.ncfisheries.net/reefs/ar320a.htm), coordinates were given for Atlantic Beach bridge rubble steel trusses and concrete waffel crete pre-fab. This information appears to be correct which places an Atlantic Beach bridge steel truss at the survey postion.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00536/ru_mb/2007-081/807_1752	1825/108	0.00	000.0	Primary
f00536/ru_ss/2007-081/103_1454	0002	5.75	252.4	Secondary

Hydrographer Recommendations

Chart dangerous Obstn, least depth 43.95 ft, based on approved tides at surveyed position.

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: QUASOU - 6:least depth known

TECSOU - 3:found by multi-beam

VALSOU - 13.396 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Concur.

Feature Images

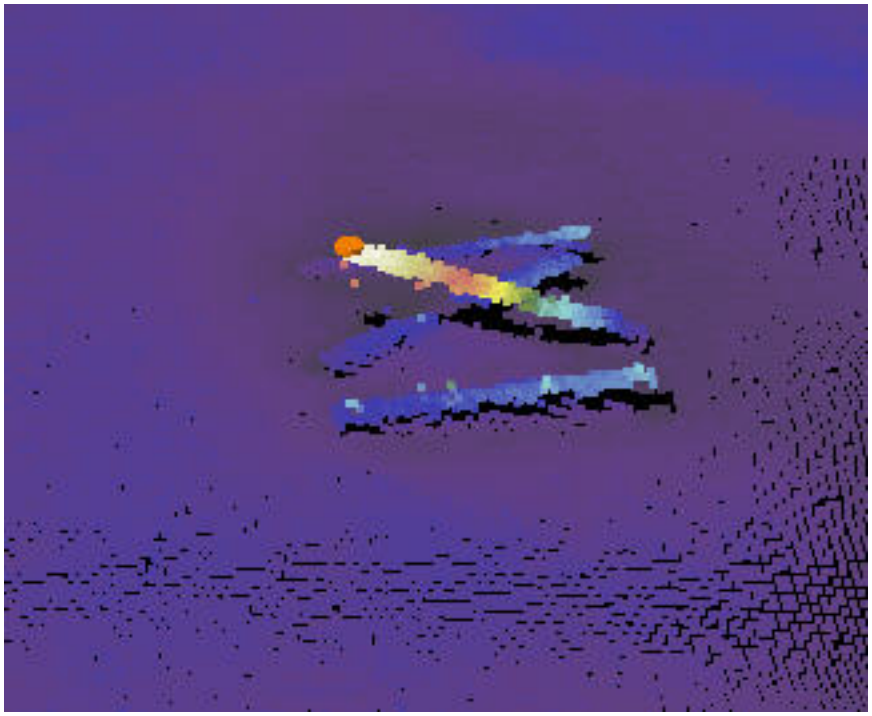


Figure 1.12.1

1.13) Profile/Beam - 3194/193 from f00536 / ru_mb / 2007-081 / 807_1752

Survey Summary

Survey Position: 34° 39' 21.1" N, 076° 48' 29.5" W

Least Depth: 14.20 m (= 46.57 ft = 7.762 fm = 7 fm 4.57 ft)

TPU (±1.96σ): **THU (TPEh)** ±7.856 m ; **TVU (TPEv)** ±0.255 m

Timestamp: 2007-081.17:58:09.603 (03/22/2007)

Survey Line: f00536 / ru_mb / 2007-081 / 807_1752

Profile/Beam: 3194/193

Charts Affected: 11543_1, 11520_1, 11009_1

Remarks:

Based on the NC fisheries website (www.ncfisheries.net/reefs/ar320a.htm), coordinates were given for Atlantic Beach bridge rubble steel trusses and concrete waffel crete pre-fab. This information appears to be correct which places an Atlantic Beach bridge steel truss at the survey postion.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00536/ru_mb/2007-081/807_1752	3194/193	0.00	000.0	Primary
f00536/ru_ss/2007-081/205_1406	0001	5.23	327.5	Secondary

Hydrographer Recommendations

Chart dangerous Obstn, least depth 46.57 ft, based on approved tides at surveyed position.

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: QUASOU - 6:least depth known

TECSOU - 3:found by multi-beam

VALSOU - 14.195 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Concur.

Feature Images

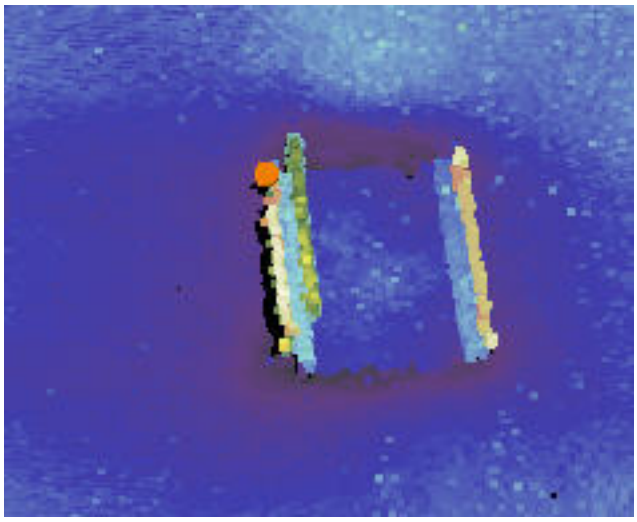


Figure 1.13.1

1.14) Profile/Beam - 1626/58 from f00536 / ru_mb / 2007-081 / 811_1841

Survey Summary

Survey Position: 34° 39' 29.9" N, 076° 48' 35.3" W

Least Depth: 11.77 m (= 38.63 ft = 6.438 fm = 6 fm 2.63 ft)

TPU (±1.96σ): **THU (TPEh)** ±7.862 m ; **TVU (TPEv)** ±0.254 m

Timestamp: 2007-081.18:43:59.407 (03/22/2007)

Survey Line: f00536 / ru_mb / 2007-081 / 811_1841

Profile/Beam: 1626/58

Charts Affected: 11543_1, 11520_1, 11009_1

Remarks:

Based on the NC fisheries website (www.ncfisheries.net/reefs/ar320a.htm), coordinates were given for Atlantic Beach bridge rubble steel trusses and concrete waffel crete pre-fab. This information appears to be correct which places an Atlantic Beach bridge steel truss at the survey postion.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00536/ru_mb/2007-081/811_1841	1626/58	0.00	000.0	Primary
f00536/ru_ss/2007-081/104_1444	0001	12.33	029.2	Secondary
f00536/ru_ss/2007-081/203_1425	0003	16.67	056.5	Secondary

Hydrographer Recommendations

Chart dangerous Obstn, least depth 38.63 ft, based on approved tides at surveyed position.

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: QUASOU - 6:least depth known

TECSOU - 3:found by multi-beam

VALSOU - 11.774 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Concur.

Feature Images

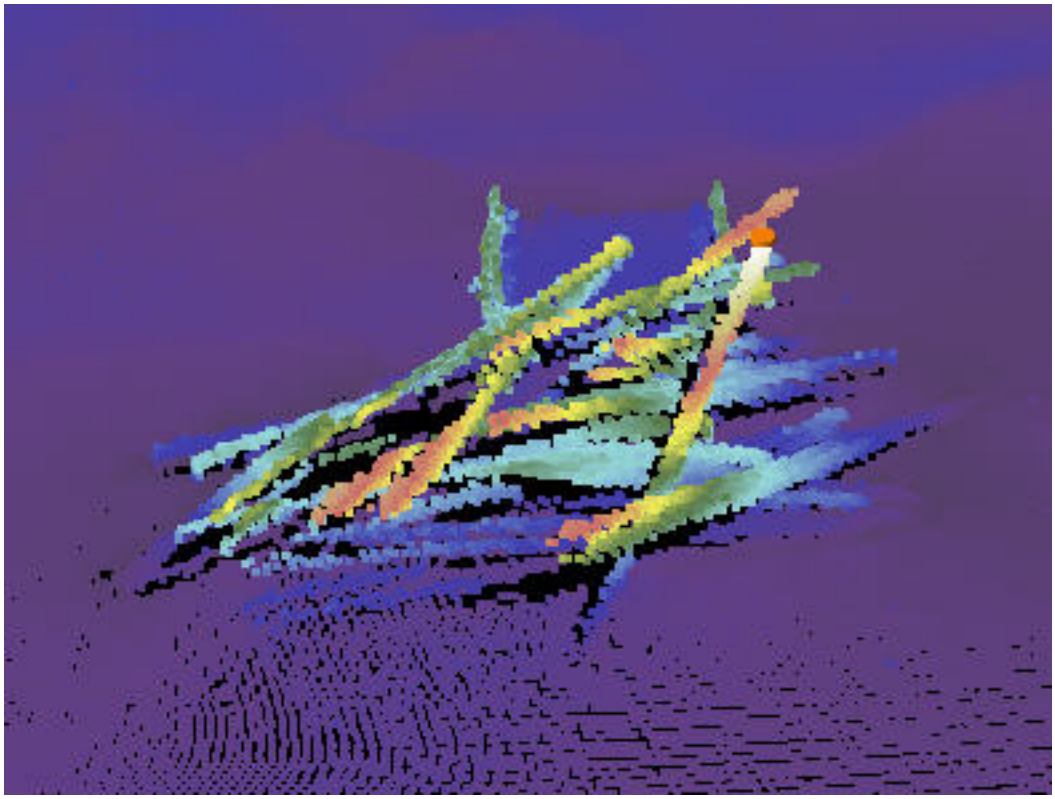


Figure 1.14.1

1.15) Profile/Beam - 3451/4 from f00536 / ru_mb / 2007-081 / 811_1841

Survey Summary

Survey Position: 34° 39' 44.6" N, 076° 48' 36.4" W

Least Depth: 13.96 m (= 45.81 ft = 7.635 fm = 7 fm 3.81 ft)

TPU (±1.96σ): **THU (TPEh)** ±7.858 m ; **TVU (TPEv)** ±0.256 m

Timestamp: 2007-081.18:47:01.459 (03/22/2007)

Survey Line: f00536 / ru_mb / 2007-081 / 811_1841

Profile/Beam: 3451/4

Charts Affected: 11543_1, 11520_1, 11009_1

Remarks:

Based on the NC fisheries website (www.ncfisheries.net/reefs/ar320a.htm), coordinates were given for Atlantic Beach bridge rubble steel trusses and concrete waffel crete pre-fab. This information appears to be correct which places an Atlantic Beach bridge steel truss at the survey postion.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00536/ru_mb/2007-081/811_1841	3451/4	0.00	000.0	Primary
f00536/ru_ss/2007-081/200_1530	0001	7.58	246.7	Secondary
f00536/ru_ss/2007-081/101_1513	0001	8.91	232.3	Secondary

Hydrographer Recommendations

Chart dangerous Obstn, least depth 45.81 ft, based on approved tides at surveyed position.

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: QUASOU - 6:least depth known

TECSOU - 3:found by multi-beam

VALSOU - 13.962 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Concur.

Feature Images

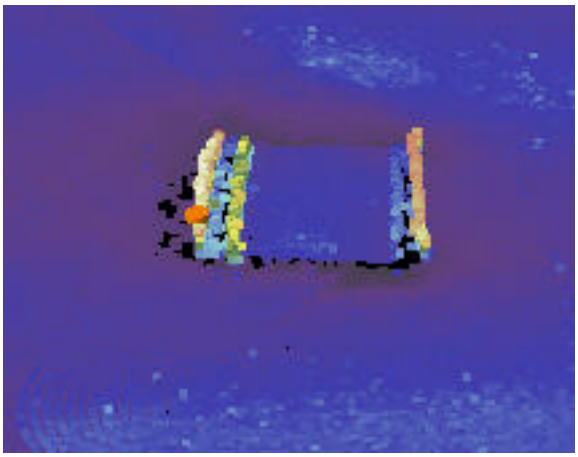


Figure 1.15.1

1.16) Profile/Beam - 880/126 from f00536 / ru_mb / 2007-081 / 809_1904

Survey Summary

Survey Position: 34° 39' 24.2" N, 076° 48' 32.0" W

Least Depth: 13.93 m (= 45.70 ft = 7.616 fm = 7 fm 3.70 ft)

TPU (±1.96σ): **THU (TPEh)** ±7.855 m ; **TVU (TPEv)** ±0.254 m

Timestamp: 2007-081.19:05:38.926 (03/22/2007)

Survey Line: f00536 / ru_mb / 2007-081 / 809_1904

Profile/Beam: 880/126

Charts Affected: 11543_1, 11520_1, 11009_1

Remarks:

Based on the NC fisheries website (www.ncfisheries.net/reefs/ar320a.htm), coordinates were given for Atlantic Beach bridge rubble steel trusses and concrete waffel crete pre-fab. This information appears to be correct which places an Atlantic Beach bridge steel truss at the survey postion.

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00536/ru_mb/2007-081/809_1904	880/126	0.00	000.0	Primary
f00536/ru_ss/2007-081/105_1435	0003	11.12	357.0	Secondary

Hydrographer Recommendations

Chart dangerous Obstn, least depth 45.70 ft, based on approved tides at surveyed position.

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: QUASOU - 6:least depth known

TECSOU - 3:found by multi-beam

VALSOU - 13.928 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Concur.

Feature Images

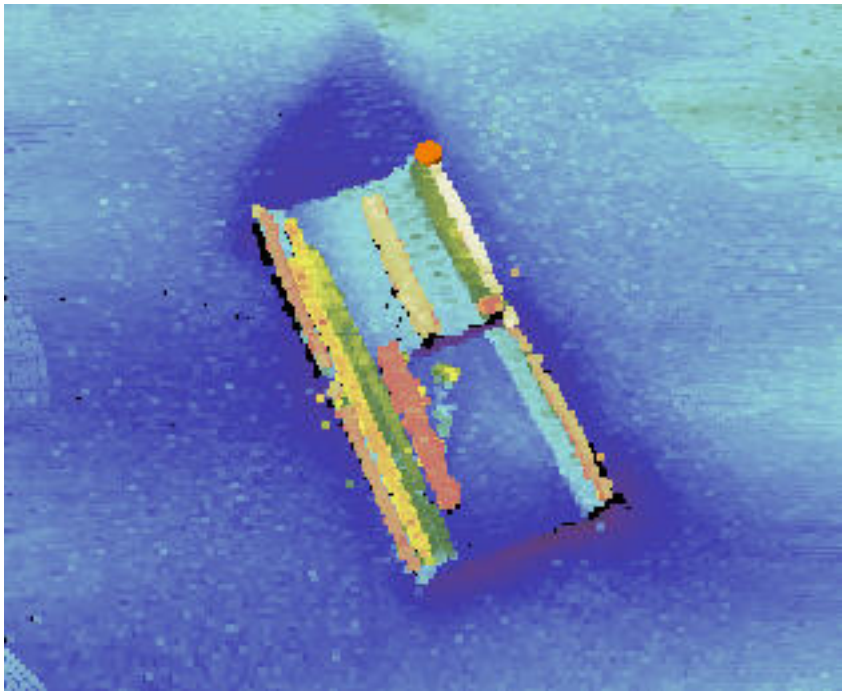
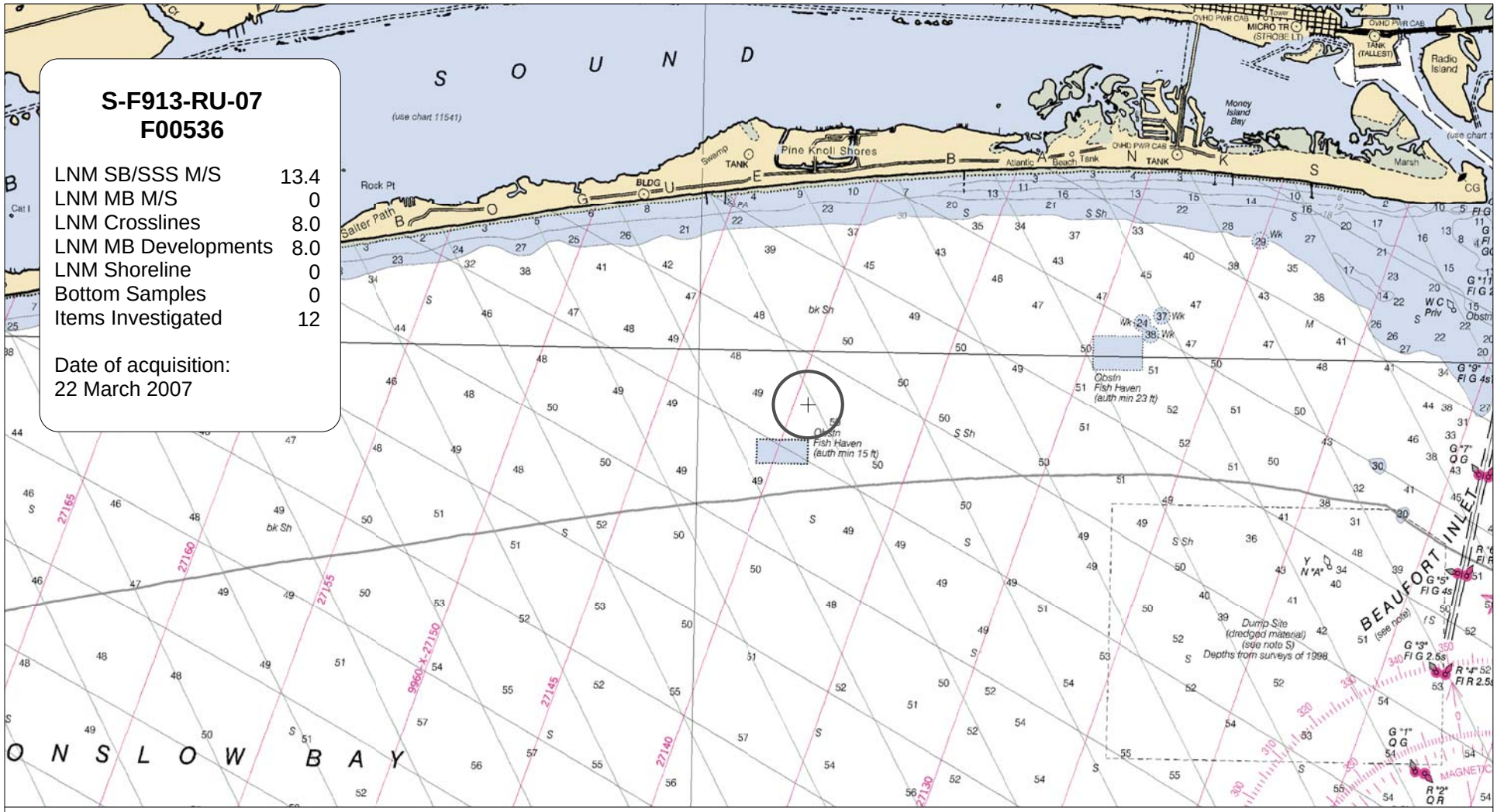


Figure 1.16.1

APPENDIX III
Final Progress Sketch and Survey Outline



Chartlet 1 of 1

This chartlet has been corrected through Notice to Mariners dated 18/05 (11543)
NOT FOR NAVIGATION.

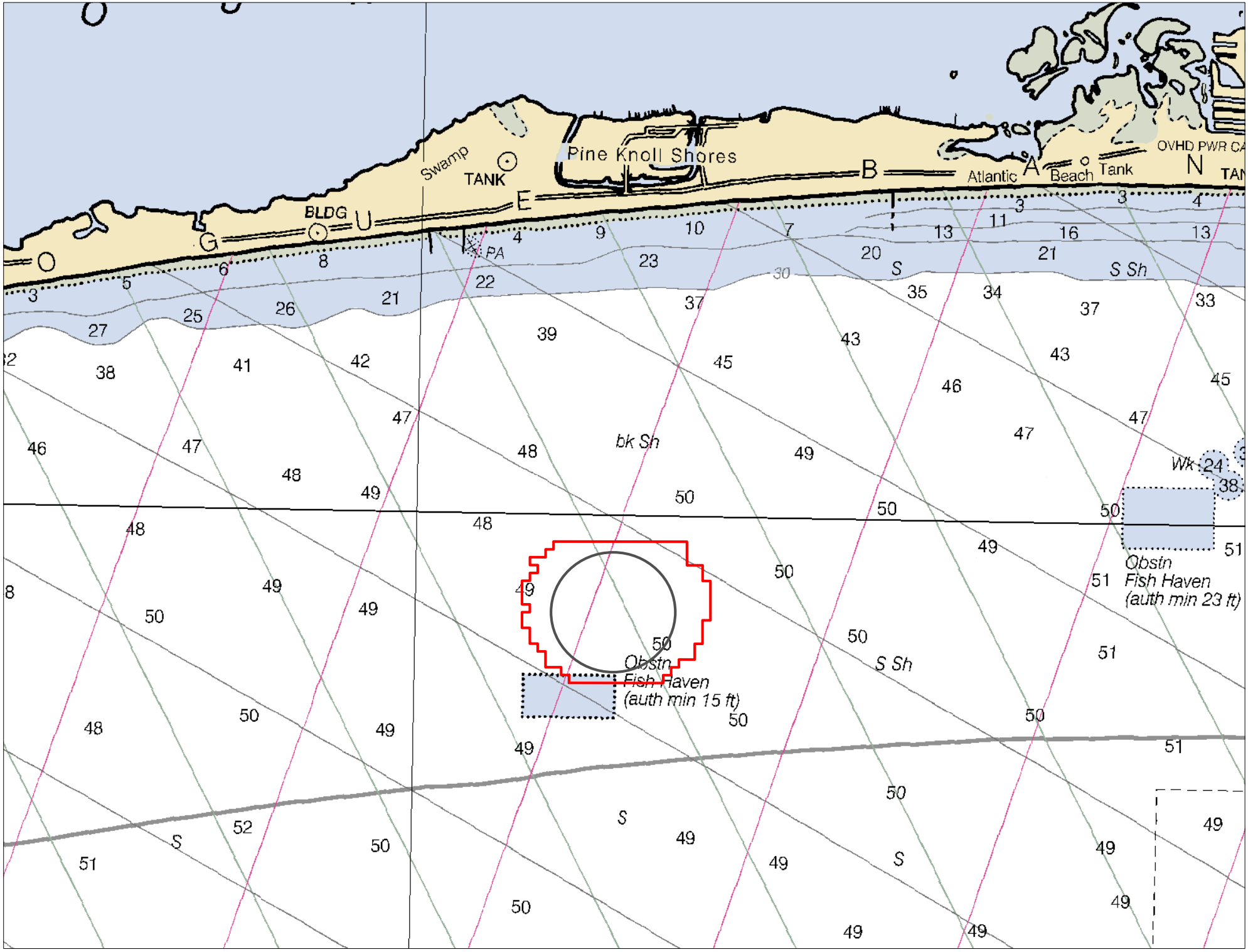
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE

Project: *S-F913-RU-07*
Survey: *F00536*
State: *NC*
Locality: *Onslow Bay*
Sub-locality: *7 NM WSW of Beaufort Inlet*
Survey Scale: *1:10,000*

Sounding Units: *Feet*
Sounding Datum: *MLLW*
Horizontal Datum: *NAD 83*
Projection: *UTM 18*
Central Meridian: *075° 00 00*
Scale Factor: *0.9996*

NOAA Ship RUDE
LCDR Lawrence T. Krepp
Commanding

March 22, 2007


Pine Knoll Shores
Swamp
TANK
BLDG
Atlantic
Beach
Tank
OVHD PWR CA
TAN
PA
bk Sh
S Sh
Wk
Obstn
Fish Haven
(auth min 23 ft)
Obstn
Fish Haven
(auth min 15 ft)

APPENDIX IV
Tides and Water Levels

March 26, 2007

MEMORANDUM FOR:	Chief, Requirements and Development Division, N/OPS1
FROM:	LCDR Lawrence T. Krepp, NOAA Ship RUDE
SUBJECT:	Request for Approved Tides/Water Levels

Please provide the following data:

1. Tide Note
2. Final zoning in MapInfo and .MIX format
3. Six Minute Water Level data (Co-ops web site)

Transmit data to the following:

NOAA/NOS/Atlantic Hydrographic Branch
N/CS33, Building #2
439 West York Street
Norfolk, VA 23510
ATTN: Chief AHB

These data are required for the processing of the following hydrographic survey:

Project No.:	S-F913-RU-07
Registry No.:	F00536
State:	NC
Locality:	Onslow Bay
Sublocality:	7 NM WSW of Beaufort Inlet

Attachments containing:
1) an Abstract of Times of Hydrography,
2) digital MID MIF files of the track lines from Pydro

cc: N/CS33

Year_DOY	Min Time	Max Time
2007_081	13:55:53	20:48:17

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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE : May 11, 2007

HYDROGRAPHIC BRANCH: Atlantic
HYDROGRAPHIC PROJECT: S-F913-RU-2007
HYDROGRAPHIC SHEET: F00536

LOCALITY: Onslow Bay, NC
TIME PERIOD: March 22, 2007

TIDE STATION USED: 865-6483 Beaufort, NC
Lat. 34° 43.2'N Long. 76° 40.2' W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 0.991 meters

REMARKS: RECOMMENDED ZONING

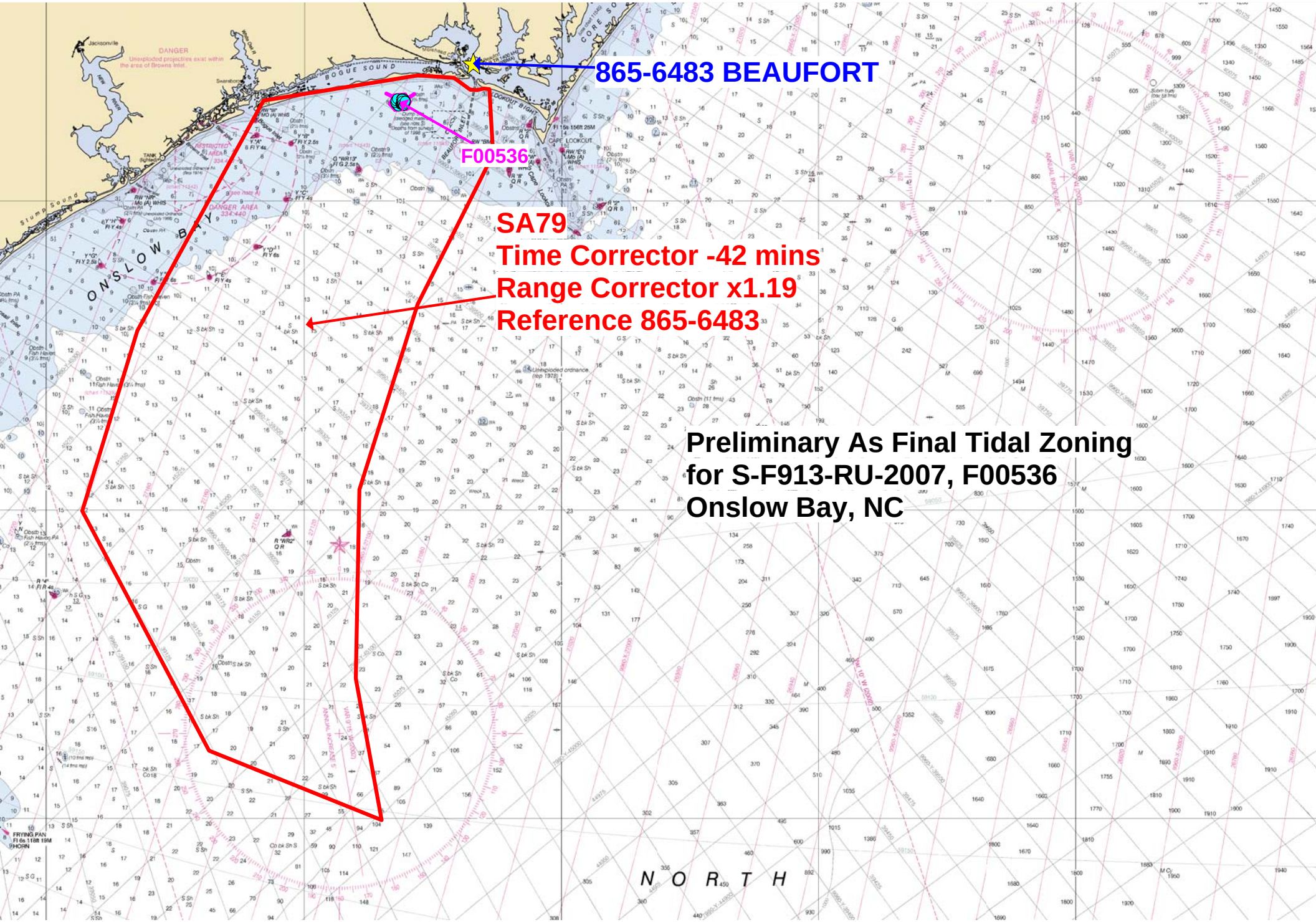
Preliminary zoning is accepted as the final zoning for project S-F913-RU-2007, F00536, during the time period of March 22, 2007.

Please use the zoning file "F913RU2007CORP" submitted with the project instructions for Beaufort, NC Obstruction Search. Zone SA79 is the applicable zones for F00536.

Refer to attachments for zoning information.

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

_____
CHIEF, PRODUCT AND SERVICES DIVISION


865-6483 BEAUFORT
F00536
SA79
Time Corrector -42 mins
Range Corrector x1.19
Reference 865-6483
Preliminary As Final Tidal Zoning
for S-F913-RU-2007, F00536
Onslow Bay, NC
BOGUE SOUND
ONSLOW BAY
NORTH

APPENDIX V
Supplemental Survey Records and Correspondence

CLIFTON MOSS REEF
AR-320
Average Depth: 50'
Buoy Location in GPS ddm: 34° 39.533' / 076° 48.417'
LORAN Coordinates: 27138.6 / 39637.3
General Location: 259° M, 7.3 nm from Beaufort Inlet at Fort Macon jetty

Material	Deployment Date	GPS (Decimal Minutes)
140' menhaden vessel 'NOVELTY'	9-Jul-86	34° 39.483' / 076° 48.433'
Atlantic Beach bridge rubble, 2 rows	26-May-87 to 31-Dec-87	34° 39.483' / 076° 48.450'
		34° 39.400' / 076° 48.450'
		34° 39.517' / 076° 48.433' to 34° 39.517' / 076° 48.467'
Atlantic Beach bridge steel truss span	1987	34° 39.483' / 076° 48.450' to 34° 39.517' / 076° 48.467'
Concrete Waffel Crete pre-fab	1990	34° 39.543' / 076° 48.452'

Reef Main Index | Estuarine Reefs | Reefs North of Hatteras | Reefs Cape Hatteras to Cape Lookout
Reefs Cape Lookout to Cape Fear | Reefs South of Cape Fear | **Download Reef Guide PDF**

From	<Wesley.Kitt@noaa.gov>
Sent	Wednesday, January 21, 2009 7:12 am
To	"caryn.arnold" <Caryn.Arnold@noaa.gov>
Cc	Lawrence T Krepp <Lawrence.T.Krepp@noaa.gov>
Subject	Re: F00536 Remembrance?

Hi Caryn,
That's the way I remember it too. I just checked the DR and there is no mention of the recon but that is easily remedied. And you are right, the Letter of Instructions stated "please conduct an UNofficial reconnaissance by acquiring three lines of side-scan sonar imagery..." which we did. Thanks for trying to get that data. Since it was "UNofficial" to begin with, a statement will be made in the evaluation report to that effect

--Wes

From	"caryn.arnold" <Caryn.Arnold@noaa.gov>
Sent	Tuesday, January 20, 2009 1:27 pm
To	Wesley.Kitt@noaa.gov
Cc	Lawrence T Krepp <Lawrence.T.Krepp@noaa.gov>
Subject	Re: F00536 Remembrance?

No, we didn't blow that off. We ran those three lines and there was absolutely nothing there. I have asked FA, but the Tera station has been taken off their network for some reason. I'll keep pushing them to put it back on or I'll take it and connect it to my computer.

If my memory is correct, didn't the Project Instructions say something about running 3 unofficial survey lines? I think that is what I am remembering and that was the reason we had some questions about if we were suppose to include them or not. I thought I had put something in the DR about recommend moving the Fish Haven but I can't remember for sure.

~Caryn

Wesley.Kitt@noaa.gov wrote:

I knew we wouldn't have blown off that section of the LI. (Unlike other platforms at the time) I don't know why I remember it so vividly. Three lines. We saw nothing there, correct? So we were going to suggest moving the haven with the State's concurrence of course. Thanks Caryn for checking it out to see if the data is still around. There was no mention in the DR but I can put something in there saying we ran a recon and saw nothing.

--Wes

----- Original Message -----
From: "caryn.arnold" <Caryn.Arnold@noaa.gov>
Date: Friday, January 16, 2009 3:34 pm
Subject: Re: F00536 Remembrance?

To: Wesley.Kitt@noaa.gov
Cc: Lawrence T Krepp <Lawrence.T.Krepp@noaa.gov>

I do remember that survey and yes we ran three SS lines in the charted Fish Haven. Although, my memory is a bit fuzzy and I sort of remember some thoughts on if we were supposed to include the SSS lines or not in the submission. I guess we never submitted them. When the Rude got decommissioned all the NetApp data was placed on a Tera Station. I believe the Tera Station ended up being sent to the Fairweather. I will run over there at some point today and see if the data is still on it. Unfortunately the NetApp was wiped and sent to the Rainier. I'll let you know what I find.

~Caryn

Wesley.Kitt@noaa.gov wrote:

Good morning! I have the distinct honor of being the compiler for F00536 of which I was a part. This was the obstruction search we did when we left Morehead City on our way to Canaveral in 2007. I have attached a jpeg to further peel away the cobwebs about this 2-yr old little project. Do you all recall if:

We ran some side scan sweeps across the charted Fish Haven? I could have sworn we did at least three lines across it but I don't seem to have the data to prove it. It was part of the Letter of Instructions and I know it couldn't have taken very long to do it. But I think we decided that there was nothing there and that the request should be made to move the said fish haven to cover the bridge remnants we did find.

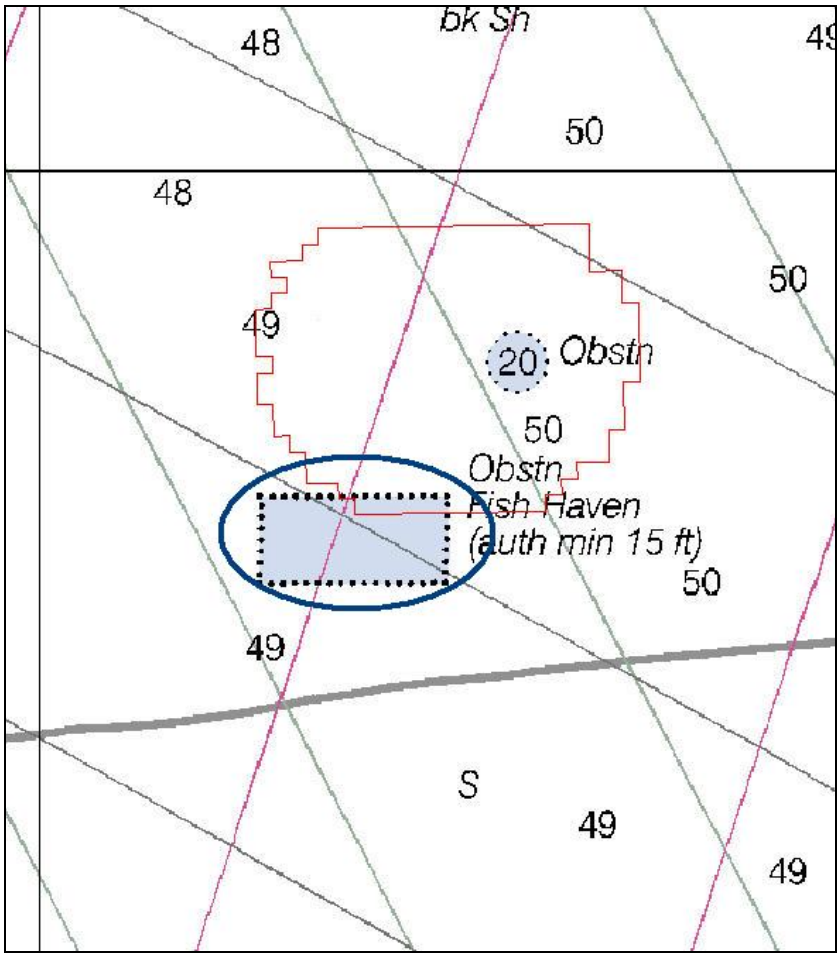
Respectfully,

Wes Kitt, PS, AHB

ATLANTIC HYDROGRAPHIC BRANCH
EVALUATION REPORT to ACCOMPANY
SURVEY F00536 (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.

A. AREA SURVEYED



Besides the area showing the survey outline in red, there was a recon performed on the charted "Obstn Fish Haven (auth min 15 ft)" as per Letter of Instructions. The recon consisted of three side scan sweeps and the data showed the haven to be free of contacts.

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 r2562
CARIS HIPS/SIPS version 6.1 SP2 HF 1-6
CARIS Bathy Manager version 2.1 SP1 HF 1-10
DKART INSPECTOR, version 5.0 Build 732 SP1
CARIS HOM version 3.3 SP3 HF 1-8
CARIS S57 Composer version 2.0 HF 1-2

B.2. QUALITY CONTROL

B.2.1. H-Cell

The AHB source depth grid for the survey's nautical chart update product entailed a 50cm Shallow Cubed Multibeam surface covering all the investigated items as well as a 3m Single Beam weighted grid. The two grids were combined to produce the source F00536_Combined_3m surface grid. The survey scale selected soundings were extracted from the 3m product surface. The selected sounding set is approximately 10 to 20 times the number of charted depths. The chart scale selected soundings are a subset of the survey scale selected soundings. The surface model was referenced when selecting the chart scale soundings, to ensure that the selected soundings portrayed the bathymetry within the common area.

The pre-compilation products or components (Stand Alone HOB files (SAHOB)) include sounding selections (SOUNDG), features (SBDARE), Meta objects (M_COVR, M_QUAL, DEPARE), 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 completed H-Cell was exported as a Base Cell File (F00536_CS_Meters.000) in S-57 format with all values in metric units. It was then converted to NOAA chart units (US400536_CS.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 F00536 CARIS H-Cell final deliverables include the following products:

US400536_CS.000	1:80,000 Scale	F00536 H-Cell with Chart Scale Selected Soundings
US400536_SS.000	1:10,000 Scale	F00536 Selected Soundings (Survey Scale)

C. VERTICAL AND HORIZONTAL CONTROL

Final vertical correction processing was completed by office personnel with no additional correction required by Atlantic Hydrographic Branch. The office personnel 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 F00536. 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.

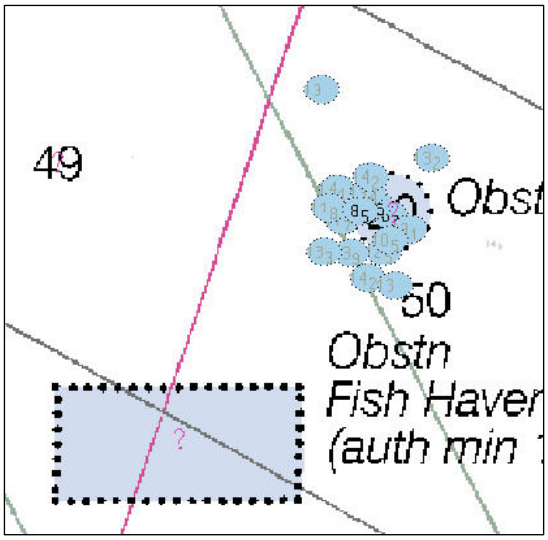
D. RESULTS AND RECOMMENDATIONS

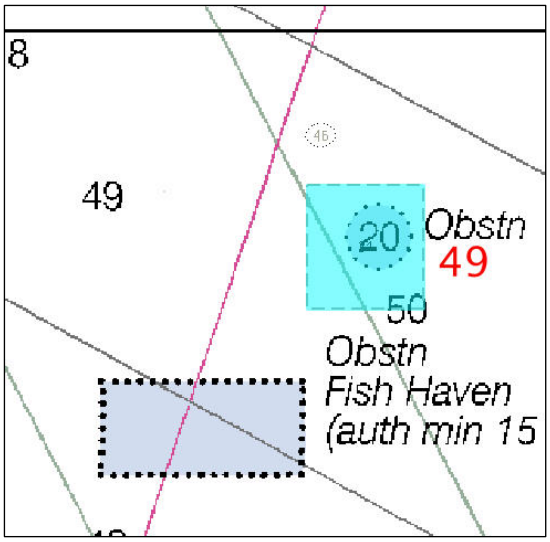
D.1 CHART COMPARISON	**11543 (23rd Edition, JUN/05)** Corrected through NM 06/18/2005 Corrected through LNM 06/14/2005 Scale 1:80,000
ENC Comparison	**US4NC15M** Cape Lookout to New River Edition 7 Application Date 2007-05-30 Issue Date 2007-05-30 Chart 11543

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 exception is noted:

The *Dangerous 20-ft Obstn* charted in Latitude 34° 39' 29.14" N, Longitude 076° 48' 26.35"W on NOS Chart 11543, 23rd edition was originally sent in as a Danger to Navigation (See F00536 Descriptive Report, Appendix I). After application of approved tides, the least depth value is 20.78 ft. Several major obstructions were found grouped together. It is recommended that an obstruction area be charted to encompass all the point obstructions with a least depth of 20.78 ft. The charted fish haven as seen in the following illustrations was swept with side scan, revealing no obstructions. The fish haven may have previously been mischarted and should be relocated to the H-Cell position.





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.

APPROVAL SHEET
F00536

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.

Wesley Kitt
2009.01.21
14:47:06 -05'00'

Wesley Kitt
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: Digitally signed by Shepard Smith
DN: cn=Shepard Smith, o=NOAA, ou=AHB, email=shep.smith@noaa.gov, c=US
Date: 2009.01.22 11:54:30 -05'00'

Shepard Smith
Commander, NOAA
Chief, Atlantic Hydrographic Branch

Jeremy McHugh
AWOIS/SURF Check Completed
2009.01.23 08:23:45 -05'00'