F00521

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey: **Chart and ENC Validation**

Registry Number: **F00521**

LOCALITY

State: Connecticut

General Locality: New London

Sub-locality: New London Harbor

2006

CHIEF OF PARTY
LT Jasper D. Schaer, NOAA

LIBRARY & ARCHIVES

DATE

NOAA FORM 77-28 (11-72)	U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION	REGISTRY NUMBER:
HYDROGRAPHIC TITLE SHEET		**F00521**

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:	**Connecticut**		
General Locality:	**New London**		
Sub-Locality:	**New London Harbor**		
Scale:	**1:5000**	Date of Survey:	**05/31/06 to 06/30/06**
Instructions Dated:	**06/05/06**	Project Number:	**OPR-B470-NRT5-06**
Vessel:	**NOAA Survey Boat S-3002**		
Chief of Party:	**LT Jasper D. Schaer, NOAA**		
Surveyed by:	**NOAA Navigation Response Team 5 Personnel**		
Soundings by:	**Inner Space 455i single beam echo sounder**		
	Kongsberg Simrad EM3000 Multi beam echo sounder		
Graphic record scaled by:	**N/A**		
Graphic record checked by:	**N/A**		
Protracted by:	**N/A**	Automated Plot:	**N/A**
Verification by:	**Atlantic Hydrographic Branch Personnel**		
Soundings in:	**Meters at MLLW**		

Remarks:

1) All Times are UTC.
2) This is a Navigable Area Hydrographic Survey.
3) Projection is UTM Zone 18 North.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

APPENDICES

DESCRIPTIVE REPORT

to accompany
HYDROGRAPHIC SURVEY OPR-B470-NRT5-06
FE00521
Scale of Survey: 1:5000
Year of Survey: 2006
NOAA Navigation Response Team 5
LT Jasper D. Schaer, Team Leader

A. AREA SURVEYED

This hydrographic survey was conducted in accordance with Hydrographic Survey Letter Instructions for Field Examination OPR-B470-NRT5-06, New London, CT. The original instructions are dated June 05, 2006.

New London, CT is a priority in the Marine Chart Division (MCD) for ENC update, and the Office of Coast Survey's National Survey Plan has identified the approaches to New London, CT as critical survey areas. The U.S. Navy Fast Attack Submarine Fleet is also based in New London and Groton. Submarine builder and contractor, Electric Boat, Inc is also located across from New London along the East bank of the Thames River.

An amendment was added to this project. NOAA Ship *Thomas Jefferson*'s survey OPR-B370-TJ-05, H11441 (not yet submitted to AHB) identified eight contacts from the 2005 field season. These contacts were added to our survey for Multi-Beam development.

For complete survey limits, see the chartlet on the following page.

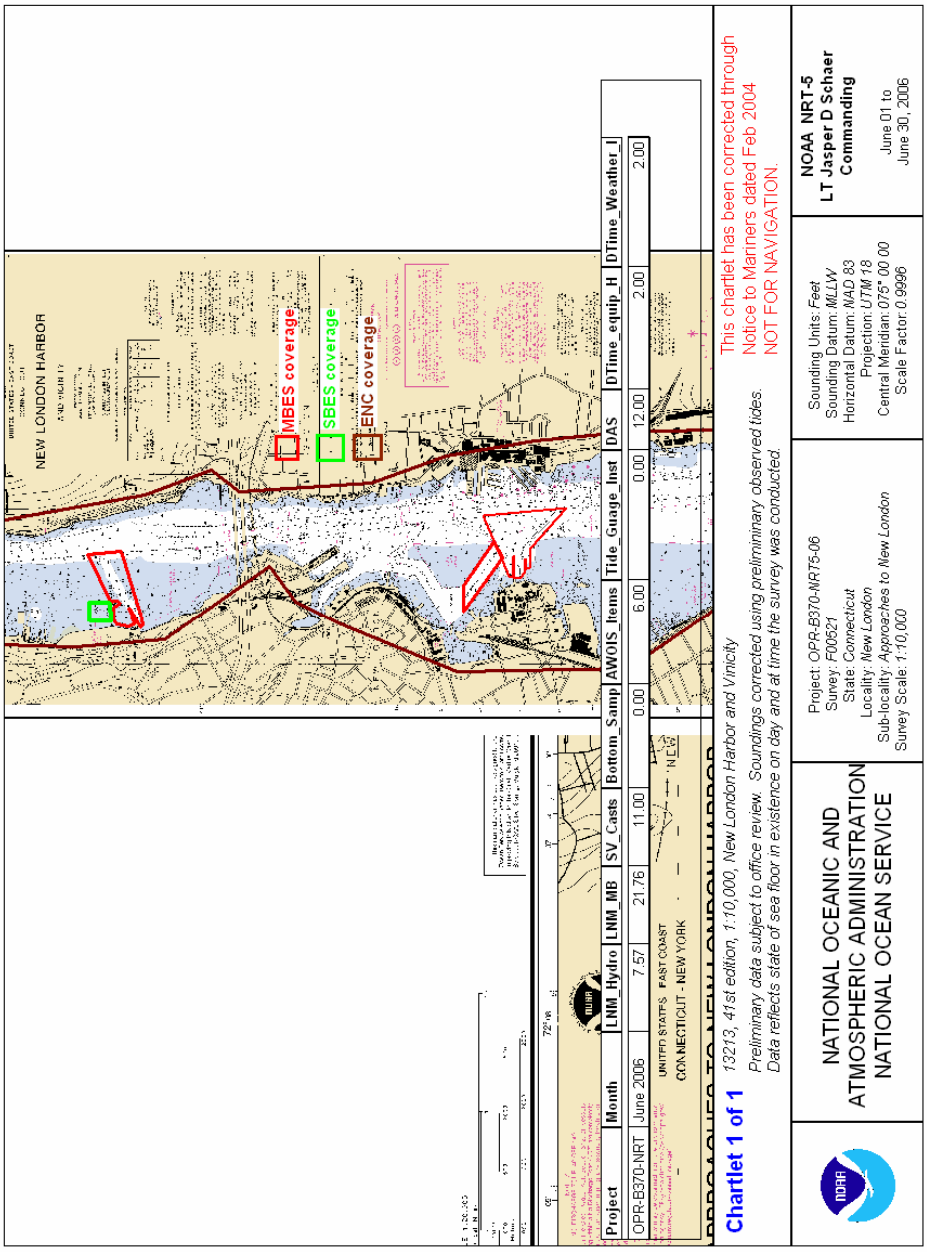


Figure 1: Complete Survey Limits & Data Coverage

B. DATA ACQUISITION AND PROCESSING

EQUIPMENT

Data were acquired by NOAA Survey boat S3002, which is a 10-meter hydrographic survey vessel with an average transducer draft of 1.3 meters

NOAA Survey boat S3002 acquired data with a Multi Beam Echo Sounder (MBES)-Kongsberg Simrad EM3000, a Single Beam Echo Sounder (SBES)-INNERSPACE 455i, and with Side Scan Sonar (SSS) data with a towed KLEIN 3000.

NOAA Survey boat S3002 positioning and attitude data were determined with a TSS POS/MV 3.20 Version 4, a DGPS/GPS-aided inertial navigation system.

Refer to the Data Acquisition and Processing Report (DAPR-FY06) for detailed equipment and vessel configuration information.

QUALITY CONTROL

Side Scan Sonar Quality Control

Daily confidence checks were made by observing the outer ranges of the side scan sonar images. No unusual problems were encountered.

200% SSS bottom coverage was collected for this survey project at 75 m range scale.

Shallow Water Multibeam Quality Control

There were no faults with the SWMB system which affected data integrity. Refer to this project's DAPR for detailed discussion of SWMB system calibrations, data acquisition, and data processing.

<u>BASE Surfaces</u>

CARIS HIPS BASE (*B*athymetry *A*ssociated with *S*tatistical *E*rror) surfaces, which incorporate each sounding's total propagated error (TPE), were created according to depth intervals. Each finalized BASE surface contains seven layers: depth, uncertainty (using the "greater of the two" option), density, mean, standard deviation, shoal, and deep.

Depths of 0-15 meters are contained in a series of seven finalized 0.75-meter resolution BASE surfaces (contained within fieldsheets of the same name):

F00521_p75_Final

Added Investigations from TJ:

eastern_p75_final
nflower_p75_Final
ndumpling_p75_Final
fisher_p75_Final
silvercove_p75_Final
longrock_p75_Final
saraledge_p75_Final

One BASE surfaces were "combined" into a single 0.75-meter BASE surface (contained within the fieldsheet name *B470_NRT5_06_F00521*) that is the source of the soundings in this survey's PSS weighted grid bathy layer, which was excessed using the character over-plot method with an over-plot removal character size of 3.0 and an over-plot removal scale of 1:5,000.

Refer to this project's DAPR for detailed discussion of MBES system calibrations, data acquisition, and data processing.

Single Beam Quality Control

There were no unusual events associated with the collection of the Single Beam data for this project.

Refer to this project's DAPR for detailed discussion of SBES system calibrations, data acquisition, and data processing.

Crosslines

NOAA Survey boat S3002 collected 0.53 nautical miles (nm) of SBES crosslines (about 5 % of the 7.57 nm of mainscheme SBES data). MBES check-lines totaled 2.17 nm, roughly 9.9% of the 21.76 nm of mainscheme MBES data. Overall, the crosslines have excellent agreement within their respective data sets.

Junctions

There are no junctions for this survey.

Prior Surveys

Registry Number	Scale	Year Surveyed
H11441*	10,000	2005
H08935	5000	1967
H08936	10,000	1967

* Survey H11441 is not complete.

CORRECTIONS TO ECHO SOUNDING

All methods or instruments used are described in the project DAPR. The positions of sound velocity casts are loaded into the survey's PSS as individual "generic position" features (GP's), with the depth versus sound velocity information contained in the remarks.

C. VERTICAL AND HORIZONTAL CONTROL

VERTICAL CONTROL

The tidal datum for this project is Mean Lower Low Water (MLLW). The operating National Water Level Observation Network (NWLON) station at New London, CT (846-1490) served as datum control for the survey.

The preliminary zones and correctors used for this survey are as follows:

Table 1: Preliminary Tide Zones & Correctors

ZONE NAME	CORRECTOR (min)	RATIO	REFERENCE
LIS104	-12	X0.96	846-1490
LIS105	-6	X0.98	846-1490
LIS106	0	X1.00	846-1490
LIS106A	6	X1.02	846-1490
LIS107	-12	X0.92	846-1490
LIS108	-24	X0.92	846-1490
LIS10	-42	X0.96	846-1490

A Request for Approved Tides letter was sent to N/OPS1 on 31 June, 2006. (Appendix IV). Verified water levels from the N/OPS1 CO-OPS website were downloaded periodically throughout the survey, and applied to all sounding data. Refer to the DAPR for a summary of the methods used to determine, evaluate, and apply tide corrections to sounding data.

HORIZONTAL CONTROL

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

Horizontal position was determined using the Global Positioning System (GPS) corrected by U.S. Coast Guard differential GPS (DGPS) beacon stations. Beacons are selected by automatic range mode by the Trimble DSM212L DGPS system. No horizontal control stations were established for this survey.

Horizontal dilution of precision (HDOP) was monitored daily. The observed HDOP values did not exceed 4.00.

For shoreline data, the GP's are post processed after acquisition using National Geodetic Survey CORR sites (See DAPR for exact details).

D. RESULTS AND RECOMMENDATIONS

CHART COMPARISON

There are three charts affected by this survey:

Table 2: Affected Chart

Chart Number	Edition	Edition Date	Next Planned Edition*
13212	37th	11/1/05	9/2007
13213	41st	3/1/04	8/2007
13205	37th	9/1/04	12/2008

ENC Cell	Last Updated	Corresponding Chart	Version	Edition
US4CN21M	1/25/06	13205	4	2

General Agreement with Charted Soundings

The overall survey soundings agreed with the charted depths. Any variations are attributed to changes in substrate and/or the advance of Echo Sounding technology over previous collection methods.

A preliminary survey outline was given to NRT5 in the interim while waiting for the project instructions. Preliminary survey was completed prior to receiving project instructions from NRB. The preliminary survey outline that NRB provided was different than what was proposed in the instructions. Instead of rejecting the preliminary survey area data, it was amended into this project scheme.

NRT5 was assigned to survey a foul area just 200 yards north of the I-95 bridge (about 41 21 50N, 074 05 34W) and on the west side of the Thames River. Due to safety of navigation and on-going construction work of the Amtrak train bridge, NRT5 could not safely survey the area.

Dangers to Navigation (DtoN's)

There are no DToN's for this survey.

AWOIS Items

There are six AWOIS items assigned identified as critical to surface navigation and assigned to this project for full investigation contain in Appendix II-a.

Significant Uncharted Features

The item investigation reports describing three significant uncharted features are contained in Appendix II-b.

Non-AWOIS Charted Features & Notes

The item investigation reports describing five non-AWOIS charted features are contained in Appendix II-c.

ADDITIONAL RESULTS

Prior Surveys

Prior surveys of this area are as follows:

Table 3: Prior Surveys

Registry Number	Scale	Year Surveyed
H11441*	10,000	2005
H08935	5,000	1967
H08936	10,000	1967

* Survey H11441 is not complete.

The prior surveys and DR's were reviewed, however the data NRT5 acquired did not overlap any of the previous data set. Some shoreline features have since changed, and have been addressed in the shoreline section of this report.

Aids to Navigation and Other Detached Positions

All identified floating aids to navigation within the survey area are consistent with the chart and serve their intended purpose. The positions of the lighted floating aids to navigation are consistent with the positions published in the *Light List*.

Bridges and Overhead Cables

There are two bridges in the survey area. The I-95 and the Amtrak Bridge over the Thames River. Work is currently being done on the Amtrak Bridge, which may or may not affect the current chart.

Ferry Routes

There are several ferry routes in the survey area, however there are no recommendations for charting.

Submarine Cables and Pipelines

There is one charted pipeline or submarine cable within the survey limits. No obvious discrepancies were observed in the location of this feature.

Shoreline

Shoreline data "GPs" collected by the Trimble backpack were submitted to Steve Soherr of the Customer Services Branch. If there are any more questions related to the submitted shoreline, please contact Steve Soherr and ask to review the "work in progress" raster.

The US Navy is reconstructing a few of their piers this year. They have requested an update to the chart with the new additions when the construction is completed.

E. APPROVAL SHEET

OPR-B470-NRT5-06
New London Harbor, Connecticut
New London, Connecticut
Survey Registry No. F00521

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

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

Also submitted in association with this descriptive report has been a series of reports and data:

- SEPARATES TO ACCOMPANY PROJECT OPR-B470-NRT5-06, F00521
- OPR-B470-NRT5-06, HORIZONTAL AND VERTICAL CONTROL REPORT (*to be submitted 12/30/06)*
- JAN-DEC 06 DATA ACQUISITION AND PROCESSING REPORT (*to be submitted 12/30/06)*

Respectfully Submitted:

Vitad Pradith
Physical Technician

Bert S Ho
Physical Technician

Approved and Forwarded:

Jasper D. Schaer, LT/NOAA
Team Leader

APPENDIX I: DTON REPORTS

There are no Dangers to Navigation (DToN's) to report for this survey.

Appendix I: **DANGERS TO NAVIGATION**

F00521 has no DToN's.

APPENDIX II: SURVEY FEATURES REPORTS

Following are item investigation reports detailing three groups of features:

a) AWOIS Items
b) Significant Uncharted Features
c) Non-AWOIS Charted Features & Notes

Appendix II-a: **AWOIS ITEMS**

F00521 has six full-investigation AWOIS items.

F00521_AWOIS Feature Report

Registry Number: F00521

State: Connecticut

Locality: New London Harbor

Sub-locality: Thames River

Project Number: OPR-B470-NRT5-06

Survey Dates: 06/22/2006 - 10/02/2006

Charts Affected

Number	Version	Date	Scale
13213	41st Ed.	03/01/2004	1:10000
13212	37th Ed.	11/01/2005	1:20000
12372	33rd Ed.	08/01/2004	1:40000
12354	41st Ed.	04/01/2004	1:80000
13205	37th Ed.	09/01/2004	1:80000
12300	45th Ed.	03/01/2005	1:400000
13006	32nd Ed.	02/01/2005	1:675000
5161	13th Ed.	10/01/2003	1:1058400
13003	48th Ed.	10/01/2004	1:1200000

Features

No.	Name	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	OBSTRUCTION	AWOIS	[no data]	[no data]	[no data]	---
1.2	OBSTRUCTION	AWOIS	[no data]	[no data]	[no data]	---
1.3	OBSTRUCTION	AWOIS	[no data]	[no data]	[no data]	---
1.4	OBSTRUCTION	AWOIS	[no data]	[no data]	[no data]	---
1.5	OBSTRUCTIONS	AWOIS	[no data]	[no data]	[no data]	---
1.6	OBSTRUCTION	AWOIS	[no data]	[no data]	[no data]	---
1.7	hog back imagery	SSS	[None]	41.33599250° N	072.09277350° W	---
1.8	melton ledge imagery	SSS	[None]	41.33994760° N	072.09082220° W	---
1.9	dol contact imagery	SSS	[None]	41.36376190° N	072.08997210° W	---
1.10	sub pile imagery	SSS	[None]	41.37421800° N	072.09473930° W	---

Generated by Pydro v6.2.9 on Wed Oct 11 16:01:26 2006 [UTC]

1 - AWOIS

1.1) AWOIS #11842 - OBSTRUCTION

No Primary Survey Feature for this AWOIS Item

Search Position: 41.36409444° N, 072.09001944° W

Historical Depth: [None]

Search Radius: 30

Search Technique: VS,S2,MB,DI,SD

Technique Notes: ALSO SEARCH 30 M ABOUT THE NORTHERN GROUP OF PILINGS AROUND POSITION: 41°21'52.97" N 072°05'24.4" W

History Notes:

H08935/67--(742-5-1-67); NOS, THE ROW OF PILINGS CHARTED AT LAT. 41 21 27W, LONG. 72 05 29.4N (NAD 27) FROM AIR PHOTOGRAPHS AND VERIFIED BY A 1966 FIELD EDIT (BP-69460) WERE NEITHER PROVED NOR DISPROVED BY THE PRESENT SURVEY AND SHOULD BE RETAINED ON THE CHART. BP69460/66--THE ROW OF PILING ON THE BP GRAPHIC IS DENOTED WITH A LETTER (A) AND IS REFERENCED TO CHART LETTER 518/66 CL518/66--CHART LETTER 518 IS A PAGE FROM THE CHART HISTORY. THE CHART HISTORY DISCRIBES THE "SHORELINE REVISED AND LANDMARKS AIDS VERIFIED ON THE FOLLOWING BASE MATERIALS" ONE OF THE MATERIALS BEING BP69460. A 1:5000 SCALE PAPER COPY OF CHART 293. ENTERED RFE 04/03 H11441--OPR-B370-TJ-05; TJ WAS UNABLE TO INVESTIGATE THE AWOIS ITEM. F00521-OPR-B470-TJ-05, NRT5 investigated with side scan. Dols and portions of submerged dols material identified. Remain as charted.

Survey Summary

Charts Affected: 13213_1, 12372_4, 12354_1, 13205_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

AWOIS 11842 was covered with 200% SSS. Several dolphin were visible in area in question. These dols were next to the foot of the bridge.

It should be noted too shallow for SSS to operate.-js

Feature Correlation

Address	Feature	Range	Azimuth	Status
AWOIS	AWOIS # 11842	0.00	000.0	Primary
new_london_2006/3002sss500k/2006-156/sonar_data060605181500	0001	37.23	353.9	Secondary

Hydrographer Recommendations

Hydrographer recommends to retain as charted and update AWOIS database.

S-57 Data

[None]

Office Notes

SSS line 2006-156-sonardata060605181500

Feature Images

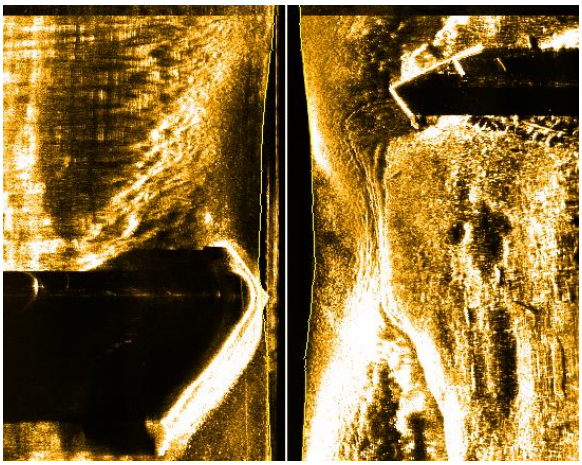


Figure 1.1.1

1.2) AWOIS #11881 - OBSTRUCTION

No Primary Survey Feature for this AWOIS Item

Search Position: 41.33600278° N, 072.09270278° W

Historical Depth: [None]

Search Radius: 50

Search Technique: S2,MB,DI

Technique Notes: [None]

History Notes:

H08935/67-- "HOG BACK" ROCK AWASH NOW CHARTED IN POSITION: 41°20'09.61" N 072°05'33.73" W (NAD 83) [UPDATED 2/28/2005 JCM] H11441-- OPR-B370-TJ-05; TJ WAS UNABLE TO INVESTIGATE THE AWOIS ITEM. F00521-OPR-B470-NRT5-06; NRT5 investigated with side scan. Rock awash stilll there. Marked by a buoy.

Survey Summary

Charts Affected: 13213_1, 12372_4, 13212_1, 12372_1, 12354_1, 13205_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Surveyed 200% SSS, rock still there. Unable to get a least depth, too shoal. Buoy markers the rock. -js

Feature Correlation

Address	Feature	Range	Azimuth	Status
AWOIS	AWOIS # 11881	0.00	000.0	Primary
f00521/3002sss500k/2006-156/sonar_data060605172900	0001	6.05	079.1	Secondary

Hydrographer Recommendations

Hydrographer recommends to retain as charted and update AWOIS database.

S-57 Data

[None]

Office Notes

data from sss line 2006-156-snoardata060605172900

Feature Images

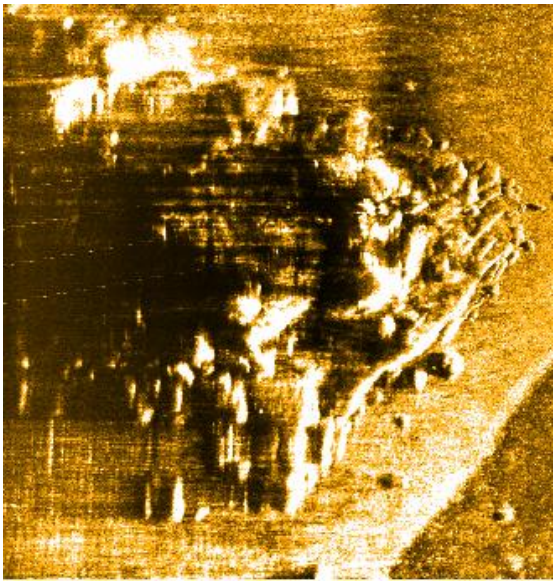


Figure 1.2.1

1.3) AWOIS #11882 - OBSTRUCTION

No Primary Survey Feature for this AWOIS Item

Search Position: 41.33997222° N, 072.09086111° W

Historical Depth: 0.30 m

Search Radius: 50

Search Technique: S2,MB,DI,SD

Technique Notes: [None]

History Notes:

H08935/67--ROCK AWASH NOW CHARTED IN POSITION LAT.41-20-23.9 N, LONG. 072-05-27.1 W (NAD 83) ARE COVERED 1 FT AT MLW. CARRIED FORWARD FROM PREVIOUS SURVEY (H01527/1882). [ENTERED JCM 1/21/05] H11441-- OPR-B370-TJ-05; TJ WAS UNABLE TO INVESTIGATE THE AWOIS ITEM. F00521-OPR-B470-NRT5-06; NRT5 investigated with side scan. Rock awash stilll there. Marked by a buoy.

Survey Summary

Charts Affected: 13213_1, 12372_4, 13212_1, 12372_1, 12354_1, 13205_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Surveyed 200% SSS, rock still there. Unabe to get a least depth, too shoal. Buoy marks the rock.

-js

Feature Correlation

Address	Feature	Range	Azimuth	Status
AWOIS	AWOIS # 11882	0.00	000.0	Primary
f00521/3002sss500k/2006-156/sonar_data060605174700	0001	4.27	310.0	Secondary

Hydrographer Recommendations

Hydrographer recommends to retain as charted and update AWOIS database.

S-57 Data

[None]

Office Notes

data from 2006-156 sonardata060605174700

Feature Images

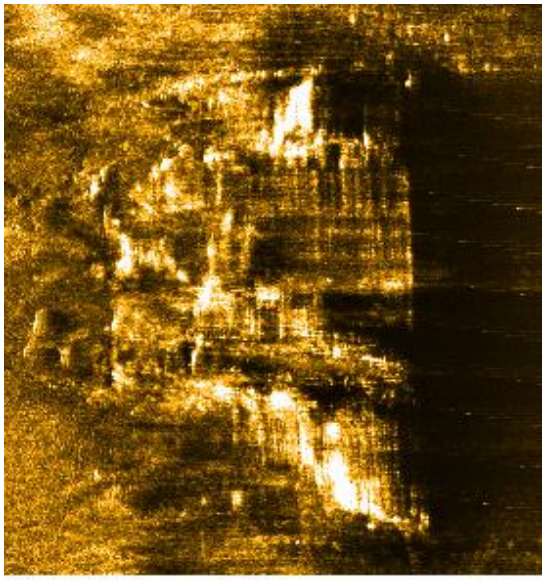


Figure 1.3.1

1.4) AWOIS #11884 - OBSTRUCTION

No Primary Survey Feature for this AWOIS Item

Search Position: 41.34152778° N, 072.08133333° W

Historical Depth: [None]

Search Radius: 50

Search Technique: S2, MB, DI, VS

Technique Notes: SEARCH 50 M AROUND THE CHARTED POSITIONS OF THE THREE CHARTED DEADMEN GIVEN IN HISTORY BELOW.

History Notes:

CL 1488/73--COE PERMIT, 6/30/72; THREE CONCRETE DEADMAN INSTALLED IN THE THAMES RIVER NEAR GROTON, CT. POSITIONS OF DEADMEN SCALED FROM GRAPHICS IN CL 1488/73. CHARTED POSITIONS OF THREE DEADMEN: (1) 41°20'29.1" N 072°04'57.55" W (2) 41°20'26.83" N 072°04'56.29" W (3) 41°20'27.97" N 072°04'53.92" W [ENTERED JCM 1/21/05] F00521-OPR-B370-NRT5-06, NRT5 investigated with side scan as close to the restricted area. We obtained permission, however, the boom was never removed to investigate further in the survey area. Unable to resolve AWOIS. H11441-- OPR-B370-TJ-05; TJ WAS UNABLE TO INVESTIGATE THE AWOIS ITEM. F00521, OPR-B470-NRT5-06; NRT5 was unsuccessfully to gain access to investigate this AWOIS item.

Survey Summary

Charts Affected: 13213_1, 12372_4, 13212_1, 12372_1, 12354_1, 13205_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Contacted Eletric Boat, Jon Swidrak (jswidrak@ebmail.gdeb.com), who gave us permission to survey. However, the area in question was boomed off. After two attempts to try to survey, we decided to survey with SSS as close to the boom to try to find the Obstn, we were unsuccessful.-js

Feature Correlation

Address	Feature	Range	Azimuth	Status
AWOIS	AWOIS # 11884	0.00	000.0	Primary

Hydrographer Recommendations

Hydrographer recommends to retain as charted and update AWOIS database.

S-57 Data

[None]

Office Notes

[None]

1.5) AWOIS #13635 - OBSTRUCTIONS

No Primary Survey Feature for this AWOIS Item

Search Position: 41.37411389° N, 072.09473056° W

Historical Depth: [None]

Search Radius: 75

Search Technique: S2,ES,DI

Technique Notes: [None]

History Notes:

*****UNKNOWN SOURCE BEFORE 1969 ADDED SUBM PILES AT 41°22'26.8" - 72°05'41.81" AND 41°22'26.78" - 72°05'40.33". (ENTERED CEH 6/06) F00521, OPR-B470-NRT5-06, NRT5 investigated with side scan. Unable to resolve AWOIS item among the boat mooring sinkers in the anchorage. Believed AWOIS has deteriorated and/ or covered by sediment.

Survey Summary

Charts Affected: 13213_1, 12372_4, 13205_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

AWOIS 13635 was covered with SSS. Did not see piles in sss record. However, there are numerous mooring anchors in this USCG-Academy anchorage. This area is soft sediment and subm piles could be buried.

I did ask the chief of the boat front, Mr. Kurger, at 860-444-8575, about these piles. He could not give us a definite answer.

-js

Feature Correlation

Address	Feature	Range	Azimuth	Status
AWOIS	AWOIS # 13635	0.00	000.0	Primary
new_london_2006/3002sss500k/2006-172/sonar_data060621134100	0003	11.61	176.4	Secondary

Hydrographer Recommendations

Hydrographer recommends to retain as charted and update AWOIS database..

S-57 Data

[None]

Office Notes

2006-156sonardata060604183300

1.6) AWOIS #13636 - OBSTRUCTION

No Primary Survey Feature for this AWOIS Item

Search Position: 41.37075000° N, 072.09524722° W

Historical Depth: [None]

Search Radius: 75

Search Technique: S2,ES,DI

Technique Notes: [None]

History Notes:

*****UNKNOWN SOURCE BEFORE 1969 ADDED SUBM PILES AT 41°22'14.7" - 72°05'43.63" AND 41°22'14.6" - 72°05'42.18". (ENTERED CEH 6/06) F00521, OPR-B470-NRT5-06, NRT5 investigated with side scan. Unable to resolve AWOIS item too close to shore. Believed AWOIS has deteriorated and/ or covered by sediment.

Survey Summary

Charts Affected: 13213_1, 12372_4, 13205_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

AWOIS 13636 covered area with 200% SSS. Area is covered by soft sediment, subm piles could be buried.

I did ask the chief of the boat front, Mr. Kurger, at 860-444-8575, about these piles. He could not give us a definite answer.

-js

Feature Correlation

Address	Feature	Range	Azimuth	Status
AWOIS	AWOIS # 13636	0.00	000.0	Primary

Hydrographer Recommendations

Hydrographer recommends to retain as charted and update AWOIS database.

S-57 Data

[None]

Office Notes

2006-156sonordata060605182600

1.7) hog back imagery

Survey Summary

Survey Position: 41.33599250° N, 072.09277350° W

Least Depth: [None]

Timestamp: 2006-177.08:27:23 (06/26/2006)

Survey Line: f00521 / 3002sss500k / 2006-156 / sonar_data060605172900

Contact/Point: 0001/1

Charts Affected: 13213_1, 12372_4, 13212_1, 12372_1, 12354_1, 13205_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Feature Correlation

Address	Feature	Range	Azimuth	Status
AWOIS	AWOIS # 11881	0.00	000.0	Primary
f00521/3002sss500k/2006-156/sonar_data060605172900	0001	6.05	079.1	Secondary

Hydrographer Recommendations

[None]

S-57 Data

[None]

Office Notes

[None]

Feature Images

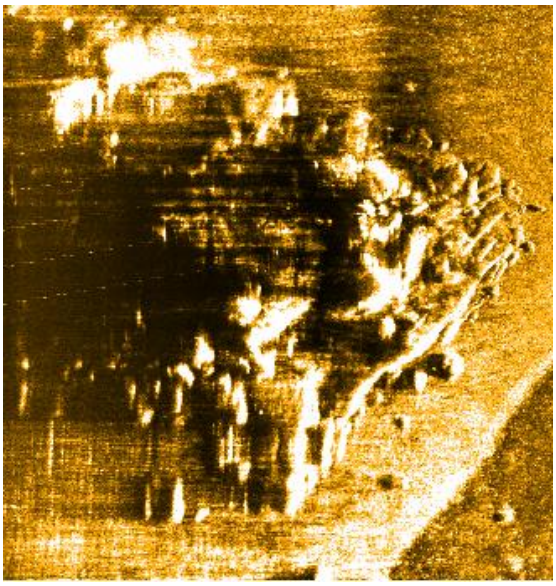


Figure 1.7.1

1.8) melton ledge imagery

Survey Summary

Survey Position: 41.33994760° N, 072.09082220° W

Least Depth: [None]

Timestamp: 2006-177.08:34:03 (06/26/2006)

Survey Line: f00521 / 3002sss500k / 2006-156 / sonar_data060605174700

Contact/Point: 0001/1

Charts Affected: 13213_1, 12372_4, 13212_1, 12372_1, 12354_1, 13205_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Melton Ledge Rock seen on SSS.

Feature Correlation

Address	Feature	Range	Azimuth	Status
AWOIS	AWOIS # 11882	0.00	000.0	Primary
f00521/3002sss500k/2006-156/sonar_data060605174700	0001	4.27	310.0	Secondary

Hydrographer Recommendations

[None]

S-57 Data

[None]

Office Notes

[None]

Feature Images

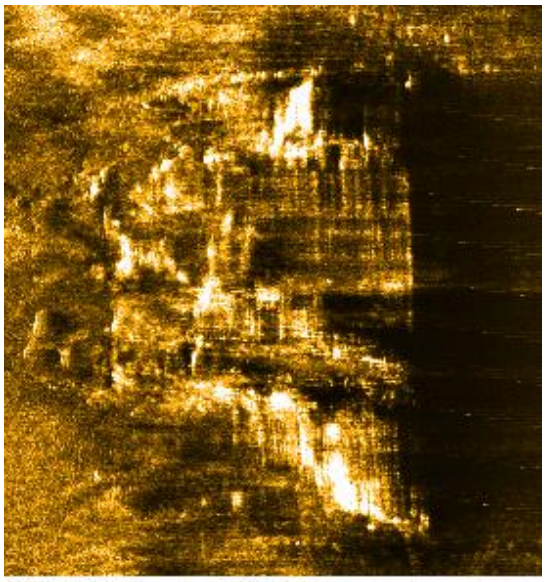


Figure 1.8.1

1.9) dol contact imagery

Survey Summary

Survey Position: 41.36376190° N, 072.08997210° W

Least Depth: [None]

Timestamp: 2006-275.04:08:28 (10/02/2006)

Survey Line: new_london_2006 / 3002sss500k / 2006-156 / sonar_data060605181500

Contact/Point: 0001/1

Charts Affected: 13213_1, 12372_4, 12354_1, 13205_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

dol like contact-js

Feature Correlation

Address	Feature	Range	Azimuth	Status
AWOIS	AWOIS # 11842	0.00	000.0	Primary
new_london_2006/3002sss500k/2006-156/sonar_data060605181500	0001	37.23	353.9	Secondary

Hydrographer Recommendations

[None]

S-57 Data

[None]

Office Notes

[None]

Feature Images

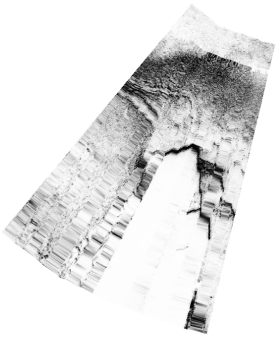


Figure 1.9.1

1.10) sub pile imagery

Survey Summary

Survey Position: 41.37421800° N, 072.09473930° W

Least Depth: [None]

Timestamp: 2006-173.07:04:36 (06/22/2006)

Survey Line: new_london_2006 / 3002sss500k / 2006-172 / sonar_data060621134100

Contact/Point: 0003/1

Charts Affected: 13213_1, 12372_4, 13205_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Feature Correlation

Address	Feature	Range	Azimuth	Status
AWOIS	AWOIS # 13635	0.00	000.0	Primary
new_london_2006/3002sss500k/2006-172/sonar_data060621134100	0003	11.61	176.4	Secondary

Hydrographer Recommendations

[None]

S-57 Data

[None]

Office Notes

[None]

Feature Images

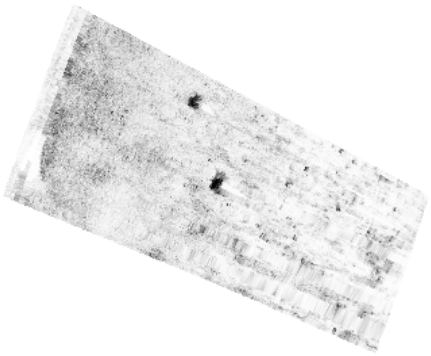


Figure 1.10.1

Appendix II-b: SIGNIFICANT UNCHARTED FEATURES

F00521 has three significant uncharted features.

F00521_NonAWOIS Feature Report

Registry Number: F00521

State: Connecticut

Locality: New London Harbor

Sub-locality: Thames River

Project Number: OPR-B470-NRT5-06

Survey Date: 06/05/2006

Charts Affected

Number	Version	Date	Scale
13213	41st Ed.	03/01/2004	1:10000
13212	37th Ed.	11/01/2005	1:20000
13214	27th Ed.	06/01/2002	1:20000
12372	33rd Ed.	08/01/2004	1:40000
12354	41st Ed.	04/01/2004	1:80000
13205	37th Ed.	09/01/2004	1:80000
12300	45th Ed.	03/01/2005	1:400000
13006	32nd Ed.	02/01/2005	1:675000
5161	13th Ed.	10/01/2003	1:1058400
13003	48th Ed.	10/01/2004	1:1200000

Features

No.	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	Sounding	5.91 m	41.31802015° N	072.07641496° W	---
1.2	Sounding	8.19 m	41.30520996° N	072.09017757° W	---
1.3	Sounding	9.27 m	41.29452773° N	072.04054407° W	---
1.4	Sounding	4.40 m	41.28699901° N	072.01794553° W	---
1.5	Sounding	10.21 m	41.26098988° N	072.03258242° W	---

1 - NonAWOIS chart

1.1) eastern

Survey Summary

Survey Position:	41.31802015° N, 072.07641496° W
Least Depth:	5.91 m
Timestamp:	2006-156.13:10:51.974 (06/05/2006)
Survey Line:	new_london_2006 / 3002_mbes / 2006-156 / 052_1309
Profile/Beam:	649/88
Charts Affected:	13213_1, 13212_1, 12372_1, 12354_1, 13205_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

The TJ asked NRT5 to investigate this contact from their H11441 survey with MBES and add to our F00521 survey.

Found a 19ft sounding with the MBES near a charted 20ft. This contact is a rock. Bottom type for the area is rocky.

TJ is suppose to have side scan sonar on this contact.

This is not considered a charting issue-js

Feature Correlation

Address	Feature	Range	Azimuth	Status
new_london_2006/3002_mbes/2006-156/052_1309	649/88	0.00	000.0	Primary

Hydrographer Recommendations

Hydrographer recommends no charting action to be taken.

S-57 Data

[None]

Office Notes

[None]

Feature Images

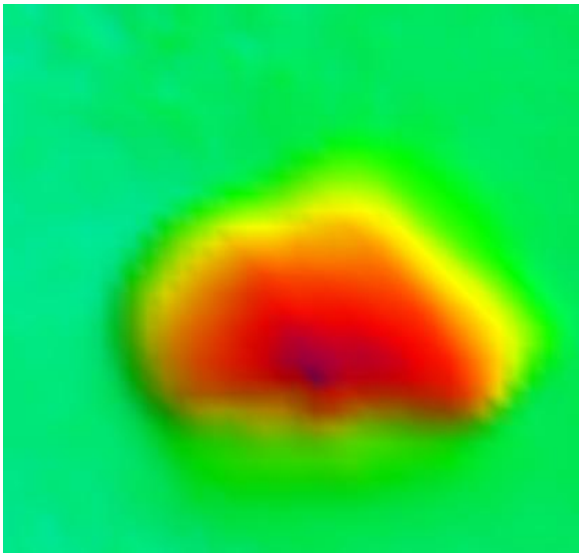


Figure 1.1.1

1.2) longrock

Survey Summary

Survey Position:	41.30520996° N, 072.09017757° W
Least Depth:	8.19 m
Timestamp:	2006-156.16:07:55.263 (06/05/2006)
Survey Line:	new_london_2006 / 3002_mbes / 2006-156 / 056_1606
Profile/Beam:	477/75
Charts Affected:	13213_1, 13212_1, 12372_1, 12354_1, 13205_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

The TJ asked NRT5 to investigate this contact from their H11441 survey with MBES and add to our F00521 survey.

Found a 27ft sounding with the MBES near a charted 26ft. This contact is a rock. Bottom type for the area is rocky.

Tj is "suppose" to have side scan on this contact.

This is not considered a charting issue-js

Feature Correlation

Address	Feature	Range	Azimuth	Status
new_london_2006/3002_mbes/2006-156/056_1606	477/75	0.00	000.0	Primary

Hydrographer Recommendations

Hydrographer recommends no charting action to be taken.

S-57 Data

[None]

Office Notes

[None]

Feature Images

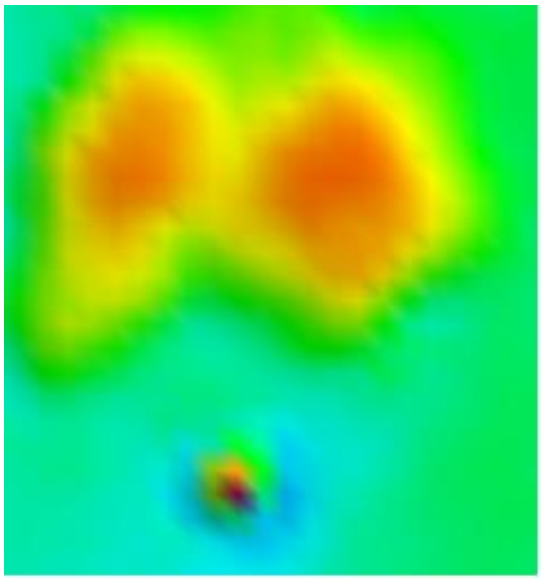


Figure 1.2.1

1.3) sflower

Survey Summary

Survey Position: 41.29452773° N, 072.04054407° W

Least Depth: 9.27 m

Timestamp: 2006-156.14:49:02.356 (06/05/2006)

Survey Line: new_london_2006 / 3002_mbes / 2006-156 / 061_1448

Profile/Beam: 470/58

Charts Affected: 13213_1, 13212_1, 13214_1, 12372_1, 13205_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

The TJ asked NRT5 to investigate this contact from their H11441 survey with MBES and add to our F00521 survey.

Found a 30ft sounding with the MBES near a charted 32ft. This contact is a rock. Bottom type for the area is rocky. It is charted as rocky.

TJ is "suppose" to have side scan over this contact.

This is not considered a charting issue-js

Feature Correlation

Address	Feature	Range	Azimuth	Status
new_london_2006/3002_mbes/2006-156/061_1448	470/58	0.00	000.0	Primary

Hydrographer Recommendations

Hydrographer recommends no charting action to be taken.

S-57 Data

[None]

Office Notes

[None]

Feature Images

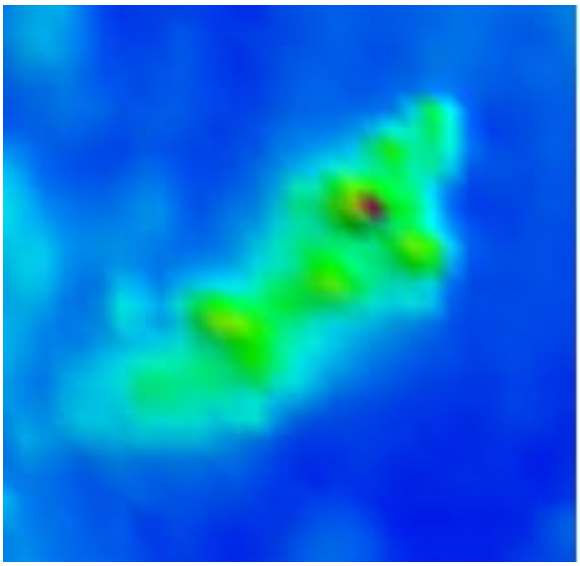


Figure 1.3.1

1.4) ndumpling

Survey Summary

Survey Position: 41.28699901° N, 072.01794553° W

Least Depth: 4.40 m

Timestamp: 2006-156.14:29:08.877 (06/05/2006)

Survey Line: new_london_2006 / 3002_mbes / 2006-156 / 064_1428

Profile/Beam: 589/28

Charts Affected: 13213_1, 13212_1, 13214_1, 12372_1, 13205_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

The TJ asked NRT5 to investigate this contact from their H11441 survey with MBES and add to our F00521 survey.

Found a 14ft sounding with the MBES in between the 12 and 18 ft contour. This contact is a rock. Bottom type for the area is rocky.

TJ is "suppose" to have side scan over this contact.

This is not considered a charting issue-js -js

Feature Correlation

Address	Feature	Range	Azimuth	Status
new_london_2006/3002_mbes/2006-156/064_1428	589/28	0.00	000.0	Primary

Hydrographer Recommendations

Hydrographer recommends no charting action to be taken.

S-57 Data

[None]

Office Notes

[None]

Feature Images

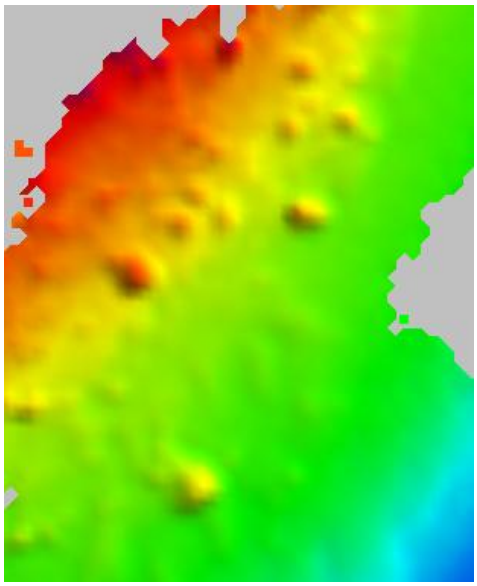


Figure 1.4.1

1.5) silvercove

Survey Summary

Survey Position:	41.26098988° N, 072.03258242° W
Least Depth:	10.21 m
Timestamp:	2006-156.14:03:46.471 (06/05/2006)
Survey Line:	new_london_2006 / 3002_mbes / 2006-156 / 067_1402
Profile/Beam:	428/54
Charts Affected:	13212_1, 13214_1, 12372_1, 13205_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

The TJ asked NRT5 to investigate this contact from their H11441 survey with MBES and add to our F00521 survey.

Found a 33ft sounding with the MBES near a 30ft contour. This contact is a rock. Bottom type for the area is rocky.

TJ is "suppose" to have side scan over this contact.

This is not considered a charting issue-js -js

Feature Correlation

Address	Feature	Range	Azimuth	Status
new_london_2006/3002_mbes/2006-156/067_1402	428/54	0.00	000.0	Primary

Hydrographer Recommendations

Hydrographer recommends no charting action to be taken.

S-57 Data

[None]

Office Notes

[None]

Feature Images

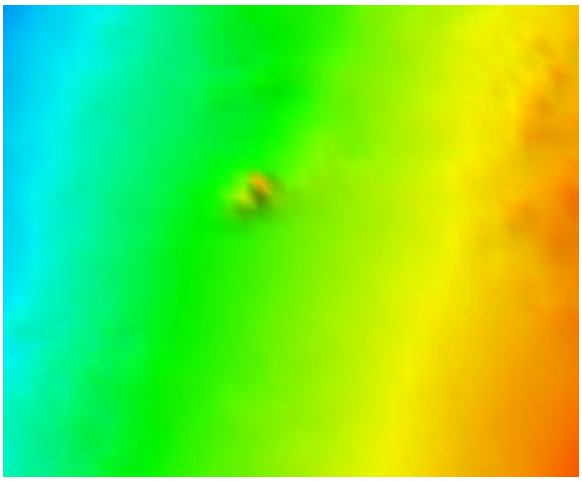


Figure 1.5.1

Appendix II-c: NON-AWOIS CHARTED FEATURES & NOTES

F00521 has five Non-AWOIS charted features.

F00521 Significant Feature Report

Registry Number: F00521

State: Connecticut

Locality: New London Harbor

Sub-locality: Thames River

Project Number: OPR-B470-NRT5-06

Survey Date: 06/05/2006

Charts Affected

Number	Version	Date	Scale
13213	41st Ed.	03/01/2004	1:10000
13212	37th Ed.	11/01/2005	1:20000
13214	27th Ed.	06/01/2002	1:20000
12372	33rd Ed.	08/01/2004	1:40000
12354	41st Ed.	04/01/2004	1:80000
13205	37th Ed.	09/01/2004	1:80000
12300	45th Ed.	03/01/2005	1:400000
13006	32nd Ed.	02/01/2005	1:675000
5161	13th Ed.	10/01/2003	1:1058400
13003	48th Ed.	10/01/2004	1:1200000

Features

No.	Name	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	sarahledge	Sounding	6.99 m	41.29590764° N	072.09492946° W	---
1.2	fishers	Sounding	13.53 m	41.25884289° N	072.03594832° W	---
1.3	horseshoe	Sounding	8.39 m	41.30208843° N	072.02312043° W	---

1 - Significant chart

1.1) sarahledge

Survey Summary

Survey Position:	41.29590764° N, 072.09492946° W
Least Depth:	6.99 m
Timestamp:	2006-156.15:56:12.857 (06/05/2006)
Survey Line:	new_london_2006 / 3002_mbes / 2006-156 / 058_1555
Profile/Beam:	402/5
Charts Affected:	13213_1, 13212_1, 12372_1, 12354_1, 13205_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

The TJ asked NRT5 to investigate this contact from their H11441 survey with MBES and add to our F00521 survey.

Found a 23ft sounding with MBES near a charted 26ft. This contact is a rock. Bottom type for the area is rocky.

TJ is "suppose" to have side scan over this contact.

-js

Feature Correlation

Address	Feature	Range	Azimuth	Status
new_london_2006/3002_mbes/2006-156/058_1555	402/5	0.00	000.0	Primary

Hydrographer Recommendations

Hydrographer recommends charting a rock at 41°17'45.268"N , -072°05'41.746"W, with a least depth 23ft.

Cartographically-Rounded Depth (Affected Charts):

23ft (13213_1, 13212_1, 12372_1, 12354_1, 13205_1)

3 ¾fm (12300_1, 13006_1, 13003_1)

7.0m (5161_1)

S-57 Data

[None]

Office Notes

[None]

Feature Images

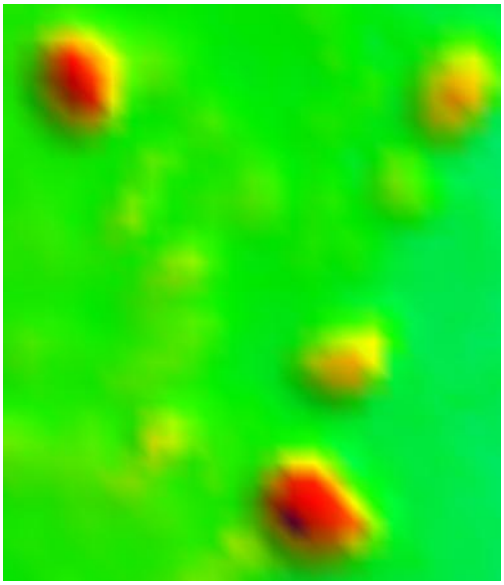


Figure 1.1.1

1.2) fishers

Survey Summary

Survey Position:	41.25884289° N, 072.03594832° W
Least Depth:	13.53 m
Timestamp:	2006-156.13:45:21.637 (06/05/2006)
Survey Line:	new_london_2006 / 3002_mbes / 2006-156 / 070_1344
Profile/Beam:	387/33
Charts Affected:	13212_1, 13214_1, 12372_1, 13205_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

The TJ asked NRT5 to investigate this contacts from their H11441 survey with MBES and add to our F00521 survey.

Found a 44ft sounding with MBES near a charted 48ft. This contact is a rock. Bottom type for the area is rocky.

TJ is "suppose" to have side scan over this contact.

-js

Feature Correlation

Address	Feature	Range	Azimuth	Status
new_london_2006/3002_mbes/2006-156/070_1344	387/33	0.00	000.0	Primary

Hydrographer Recommendations

Hydrographer recommends charting a rock at 41°15'31.834"N , -072°02'09.414"W with a 44 least depth.

Cartographically-Rounded Depth (Affected Charts):

44ft (13212_1, 13214_1, 12372_1, 13205_1)

7 ¼fm (12300_1, 13006_1, 13003_1)

13.5m (5161_1)

S-57 Data

[None]

Office Notes

[None]

Feature Images

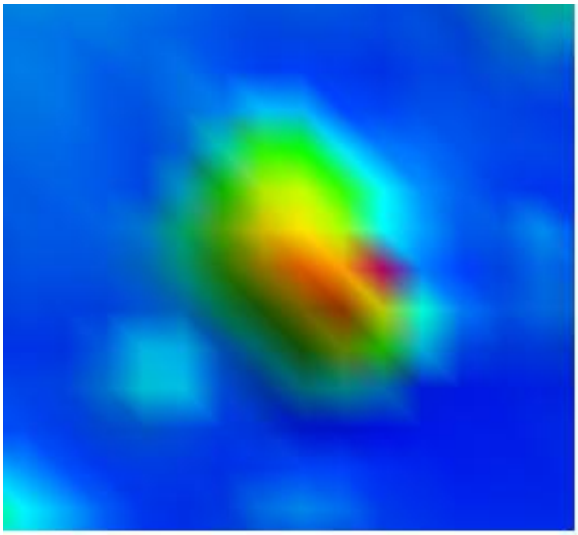


Figure 1.2.1

1.3) horseshoe

Survey Summary

Survey Position:	41.30208843° N, 072.02312043° W
Least Depth:	8.39 m
Timestamp:	2006-156.15:12:30.578 (06/05/2006)
Survey Line:	new_london_2006 / 3002_mbes / 2006-156 / 078_1511
Profile/Beam:	600/103
Charts Affected:	13213_1, 13212_1, 13214_1, 12372_1, 13205_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

The TJ asked NRT5 to investigate this contacts from their H11441 survey with MBES and add to our F00521 survey.

Found a 27ft sounding with MBES near a charted 31ft. This contact is a rock. Bottom type for the area is rocky.

TJ is "suppose" to have side scan over this contact.

-js

Feature Correlation

Address	Feature	Range	Azimuth	Status
new_london_2006/3002_mbes/2006-156/078_1511	600/103	0.00	000.0	Primary

Hydrographer Recommendations

Hydrographer recommends charting a rock at 41°18'07.518" , -072°01'23.234"W, with a least depth 27ft.

Cartographically-Rounded Depth (Affected Charts):

27ft (13213_1, 13212_1, 13214_1, 12372_1, 13205_1)

4 ½fm (12300_1, 13006_1, 13003_1)

8.4m (5161_1)

S-57 Data

[None]

Office Notes

[None]

Feature Images

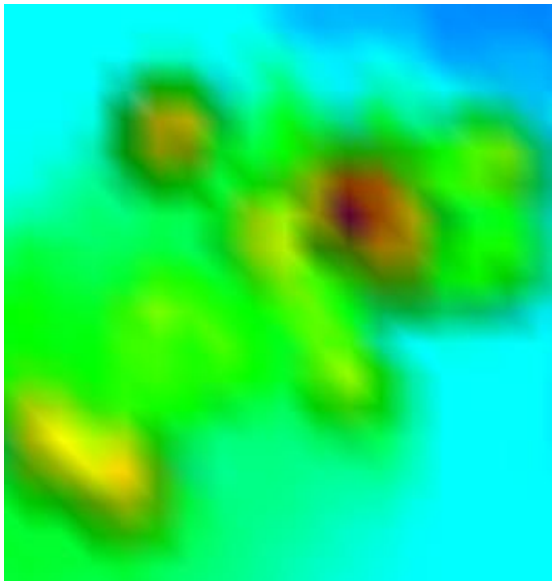
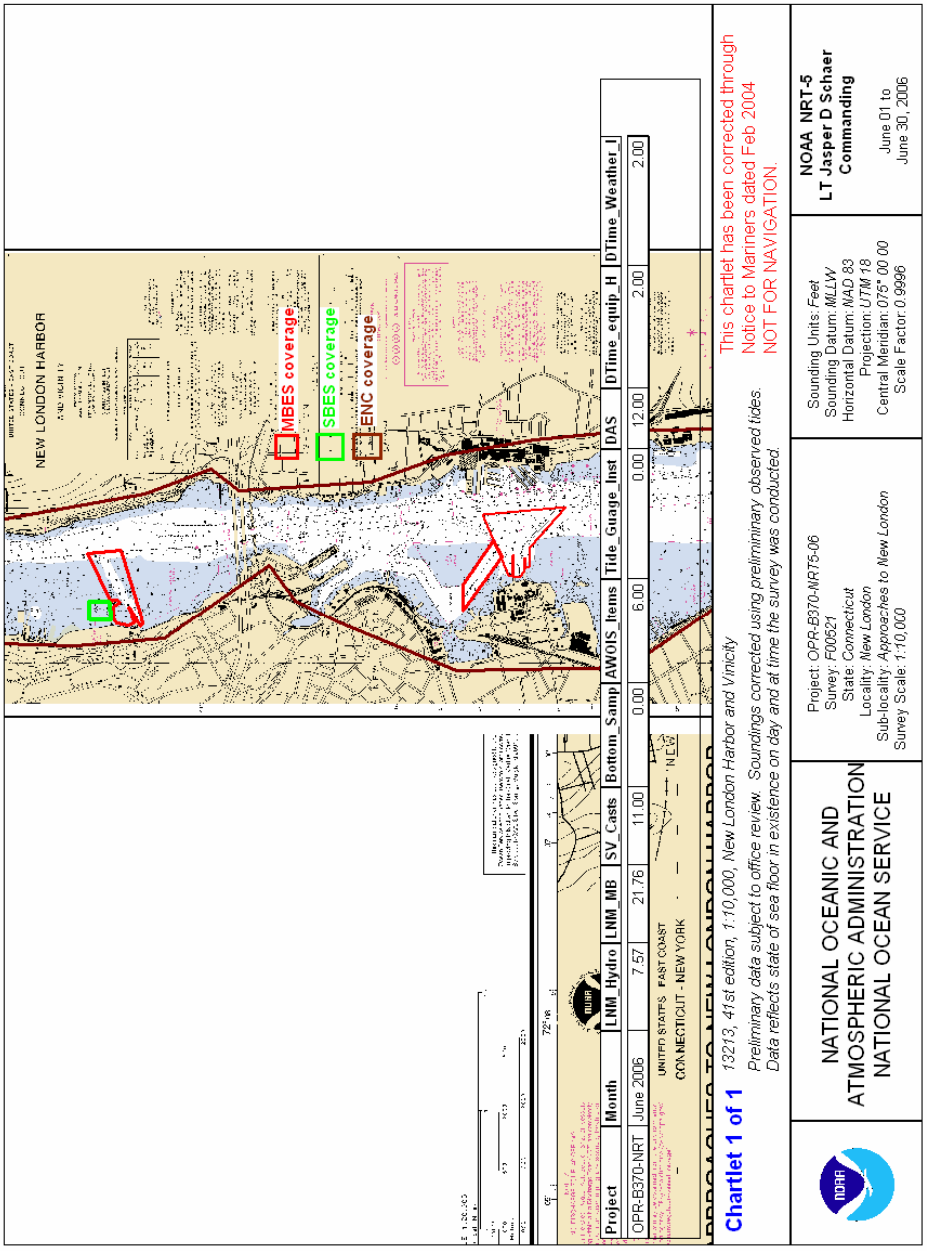


Figure 1.3.1

APPENDIX III: FINAL PROGRESS SKETCH & SURVEY OUTLINE



APPENDIX IV: TIDES AND WATER LEVELS

1) Field Tide Note
-No field tide note this project

2) Smooth Tide Request

3) Times of Hydrography

4) Final Tide Note

-No final field tide note this project

Time of Hydrography for F00522

Year_DOY	Min Time	Max Time
2006_151	12:23:23	16:16:07
2006_152	12:53:55	13:41:08
2006_156	13:09:43	16:08:11
2006_157	14:38:48	15:28:49
2006_163	14:15:50	14:42:35
2006_164	13:47:57	16:58:19

APPENDIX V: SUPPLEMENTAL RECORDS & CORRESPONDENCES

V.1. COAST PILOT REPORT, NOAA FORM 77-6

No coast pilot report for this survey was submitted.

V.2. BOTTOM SAMPLE, NOAA FORM 75-44

No bottom samples were acquired during this survey.

V.3. NONFLOATING AIDS OR LANDMARKS FOR CHARTS, NOAA FORM 76-40

No non-floating aids or landmarks were positioned during this survey.

APPROVAL SHEET
H11441, H11224 and F00521

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

Digitally signed by bryan.chauveau
DN: cn=bryan.chauveau
Reason: I am the author of this document
Date: 2008.06.20 09:25:37 -04'00'

Bryan Chauveau
Physical Scientist,
Atlantic Hydrographic Branch

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

Norris Wike
2008.06.20
09:32:46 -04'00'

Norris Wike
Cartographer,
Atlantic Hydrographic Branch

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

Approved:

Shepard Smith
I am approving this document
2008.06.20 10:51:50 -04'00'

Lt. Commander Shepard M. Smith, NOAA
Chief, Atlantic Hydrographic Branch

Christopher Hare
AWOIS and SURF Check
2008.07.21 09:27:13 -04'00'