

H12138

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey: **Navigable Area**

Registry Number: **H12138**

LOCALITY

State: New York

General Locality: New York Harbor and Approaches, NY

Sub-locality: Rockaway Beach: Seaside to Silver Pt.

2009

CHIEF OF PARTY
CDR Shepard M. Smith
NOAA

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DATE

HYDROGRAPHIC TITLE SHEET

H12138

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: **New York**

General Locality: **New York Harbor and Approaches, NY**

Sub-Locality: **Rockaway Beach: Seaside to Silver Pt.**

Scale: **1:10,000** Date of Survey: **16 September 2009 to 26 October 2009**

Instructions Dated: **22 July 2009** Project Number: **OPR-B310-TJ-09**

Revised instruction dated : **8 September 2009**

Vessel: **NOAA Ship *Thomas Jefferson***

Chief of Party: **CDR Shepard M. Smith**

Surveyed by: ***Thomas Jefferson Personnel***

Soundings by: **Reson 8125 multibeam echosounder, 7125 multibeam echosounder, and
Odom MKII vertical beam echosounder.**

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: **Meter at MLLW *Acquired in Meters, compiled in feet.***

Remarks: ***Bold italic red notes in the Descriptive Report were made during office processing.***

- 1) All Times are in UTC.***
- 2) This is a Navigable Area Hydrographic Survey.***
- 3) Projection is UTM Zone 18, NAD83.***

Table of Contents

A. AREA SURVEYED.....4

B. DATA ACQUISITION AND PROCESSING.....7

 B.1 EQUIPMENT AND VESSELS.....7

 B.2 QUALITY CONTROL.....7

 Sounding Coverage.....7

 Systematic Errors.....7

 B.3 CORRECTIONS TO ECHO SOUNDINGS.....9

 B.4 DATA PROCESSING.....10

C. HORIZONTAL AND VERTICAL CONTROL.....11

D. RESULTS AND RECOMMENDATIONS.....11

 D.1 CHART COMPARISON.....11

 D.2 ADDITIONAL RESULTS.....12

Appendix I DANGER TO NAVIGATION REPORT

Appendix II SURVEY FEATURES REPORT

Appendix III FINAL PROGRESS SKETCH AND SURVEY OUTLINE

Appendix IV TIDES AND WATER LEVELS

Appendix V SUPPLEMENTAL SURVEY RECORDS AND CORRESPONDENCE

List of Tables

Table 1 Hydrographic Survey Statistics.....4

Table 2 Dates of Multibeam Data Acquisition in Calendar and Julian days.....6

Table 3 TPE Parameters.....10

Table 4 Fieldsheets.....10

List of Figures

Figure 1 Survey Limits.....5

Figure 2 H12138 Junction Surveys.....8

Figure 3 Final tide Zoning.....9

Descriptive Report to Accompany Hydrographic Survey

Project OPR-B310-TJ-09
 New York Harbor and Approaches, NY
 Rockaway Beach: Seaside to Silver Pt.
 Scale 1:10,000
 16 September – 26 October 2009
NOAA Ship *Thomas Jefferson*

A. AREA SURVEYED

This hydrographic survey was completed as specified by Hydrographic Survey Project Instructions OPR-B310-TJ-09, dated 22 July 2009.

Revised project instructions are dated 8 September 2009. Changes were made to include Southern Manhattan field examinations as part of survey F00573 and add tide gauge The Battery (851-8750).

Northern Limit	Southern Limit	Western Limit	Eastern Limit
40° 35' 18.92" N 073° 45' 16.27" W	40° 31' 44.32" N 073° 47' 03.83" W	40° 33' 30.33" N 073° 49' 33.68" W	40° 33' 43.58" N 073° 44' 29.89" W

Data acquisition was conducted from 16 September – 26 October 2009.

The purpose of this project is to provide accurate depths and object detection in the approaches to New York Harbor to support safe and efficient marine transportation in the region.

	Linear Nautical Miles
Single beam mainscheme only	387.90
Multibeam mainscheme only	N/A
Side Scan Sonar mainscheme only	387.39
Developments	3.71
Crosslines	31.48
Shoreline/nearshore investigations	0
Number of bottom samples	25
Number of AWOIS items investigated	3

Table 1: Hydrographic Survey Statistics

Survey limits of H12138 (Figure 1) are shown on the following page.

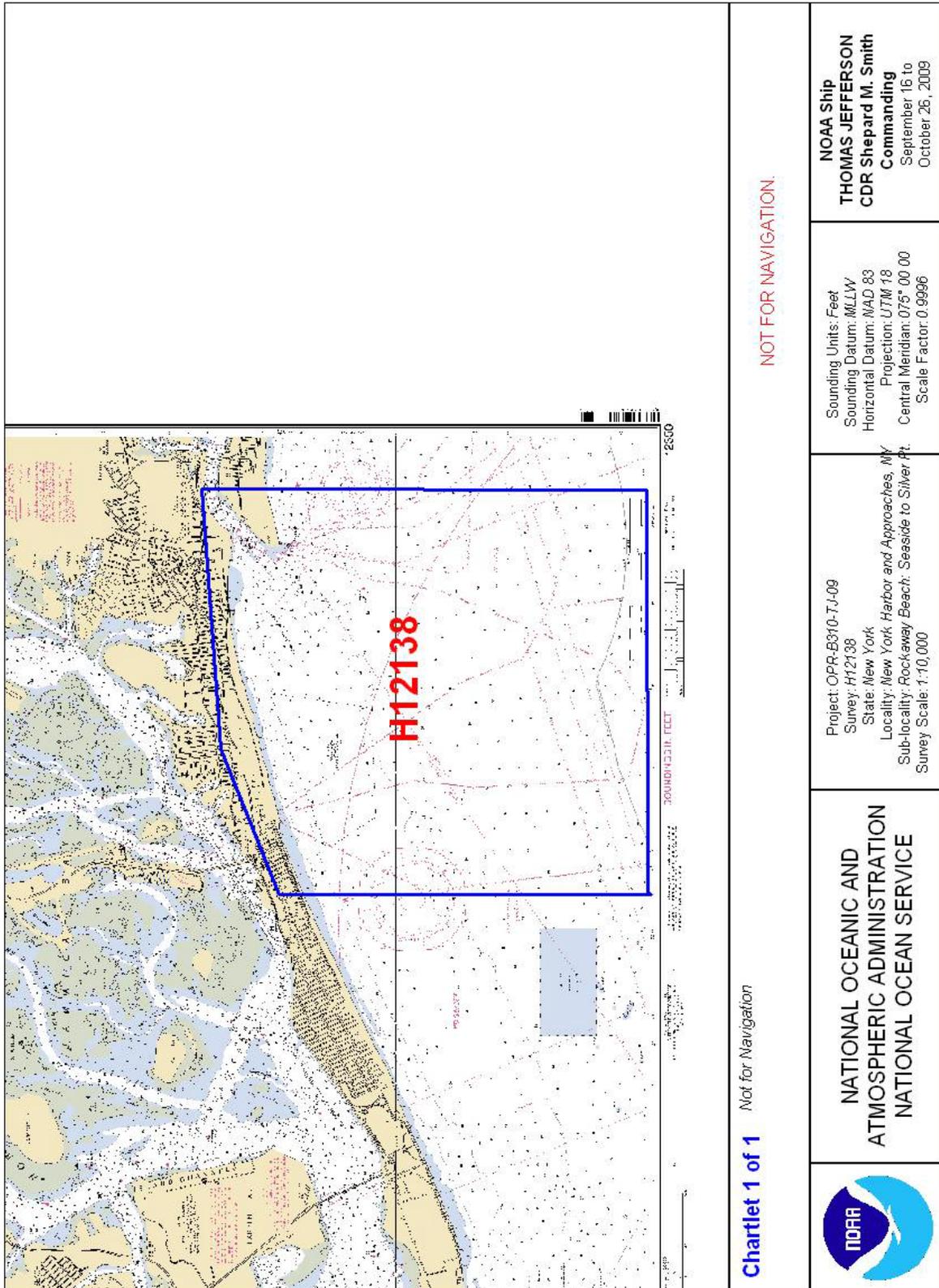


Figure 1: Survey Limits

Calendar Date	Julian Day
16 September 2009	259
22 September 2009	265
23 September 2009	266
8 October 2009	281
9 October 2009	282
20 October 2009	293
21 October 2009	294
22 October 2009	295
23 October 2009	296
26 October 2009	299

Table 2. Dates of Multibeam Data Acquisition in Calendar and Julian Days

B. DATA ACQUISITION AND PROCESSING *See also H-Cell Report*

Refer to *OPR-B310-TJ-09 Data Acquisition and Processing Report (DAPR)** for a complete description of data acquisition and processing systems, survey vessels, quality control procedures and data processing methods. Additional information to supplement sounding and survey data, and any deviations from the DAPR are included in this descriptive report.

B 1. EQUIPMENT AND VESSELS

Data were acquired by Hydrographic Survey Launches 3101 and 3102. Launch 3101 acquired Klein 5000 side-scan imagery, Reson 8125 multibeam echosounder soundings (nadir soundings with side scan and multibeam over developments), Odom MK II vertical beam echosounder soundings (low frequency secured, only high frequency acquired), sound velocity profiles, and bottom samples. Launch 3102 acquired Klein 5000 side-scan imagery (towed and hull mounted), Reson 7125 multibeam echosounder soundings (nadir beam soundings only), and sound velocity profiles. Vessel configurations, equipment operation and data acquisition and processing were consistent with specifications described in the DAPR.*

B 2. QUALITY CONTROL *See also the H-Cell Report.*

B 2.1 System Certification and Calibration

Refer to NOAA Ship THOMAS JEFFERSON DAPR and Hydrographic Systems Readiness Report (HSRR**) for a complete description of system integration and initial calibration results for equipment and sensors used for this survey.

**Included with H-Cell deliverables.*

***Data filed with original field records.*

B.2.2 Sounding Coverage

As per the Letter Instructions, this survey was conducted using 200% Side Scan Sonar with concurrent bathymetry. Side Scan Sonar coverage was monitored by creation of 100% and 200% coverage mosaics, each with 1 meter resolution. Multibeam developments were acquired over side scan contacts. *Concur*

The survey limits for H12138 were modified to remove a small portion north of Silver Point that was outside of the tide zone. *Concur with clarification - See Appendix 5 for additional information.*

There is a seven foot sounding at the eastern edge of the channel near Silver Point in *Latitude 40°35'07.35"N, Longitude 73°45'27.13"W* that should have had some splits acquired. *See Appendix I and Appendix V for final charting recommendation.*

B 2.3 Crosslines

Multibeam echosounder cross-lines totaling 31.48 lineal nautical miles, comprising 8 percent of main scheme hydrography, were acquired during the course of the survey. As per email dated 9/10/2009 from AHB, the quality control check was done using the standard deviation layer of the survey’s uncertainty surface. Areas of unusually high standard deviation were investigated and resolved in processing, except where caused by areas of high bathymetric relief or features or as described in Section 2.5 Systematic Errors. *Concur – See also Appendix 5 for additional information.*

B 2.4 Junctions and Prior Surveys *See also the H-Cell Report.*

The following contemporary surveys junction with H12138:

Registry #	Scale	Date	Field Party	Junction side
H11710	1:10,000	2009	<i>Thomas Jefferson</i>	West
H12036	1:40,000	2009	<i>Thomas Jefferson</i>	South

Survey H11710 junctions with H12138 in the West. The difference in soundings between the two surveys is no greater than one foot.

Survey H12036 junctions with H12138 in the South. The difference in soundings between the two surveys is no greater than one foot.

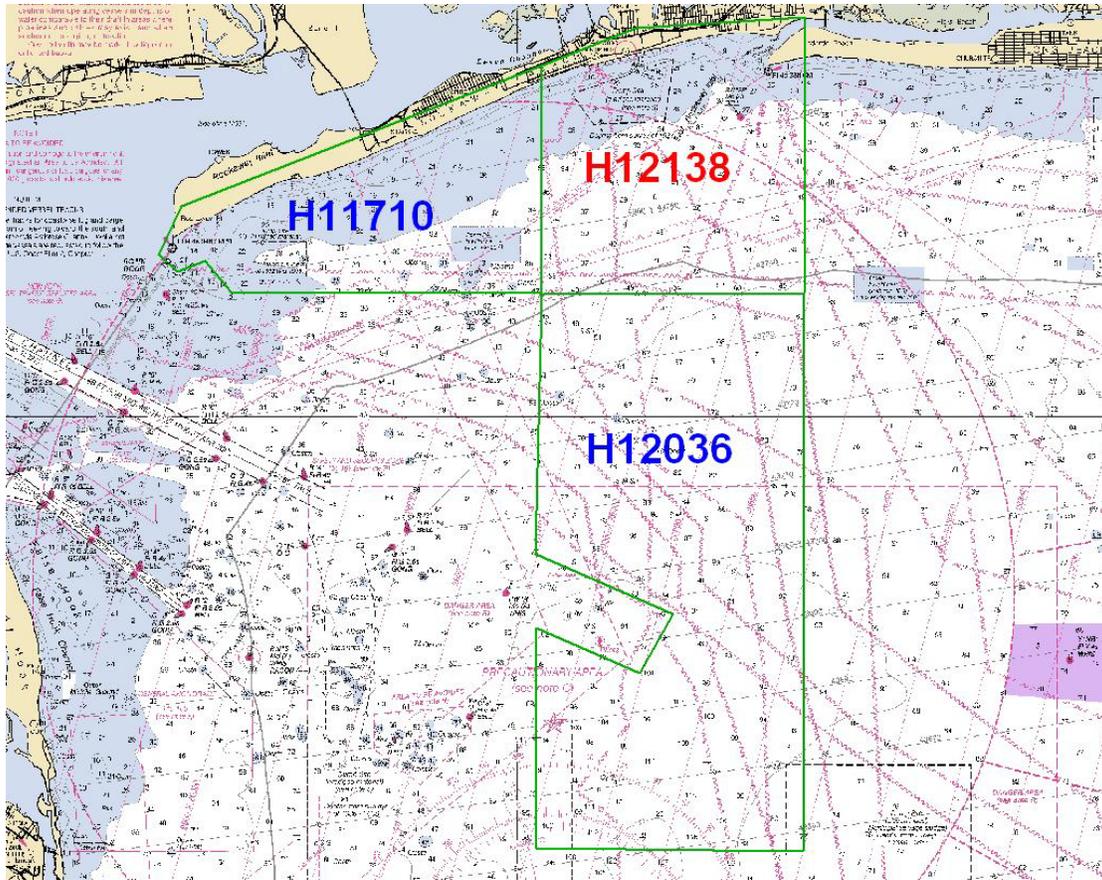


Figure 2. H12138 Junction Surveys.

B 2.5 Systematic Errors

On rough days lines heading into the seas have a high standard deviation. 16 September 2009 (DN259) had the highest standard deviation.

There was a 7.5 hour time gap in the Reson 8125 nadir data on 8 October 2009 (DN281). The problem could not be resolved. The Reson 8125 nadir data was re-acquired on 23 October 2009 (DN 296). *Concur*

B 3. CORRECTIONS TO ECHO SOUNDINGS

HDSCS sounding data were reduced to mean lower-low water (MLLW) using verified tides from The Battery, NY (851-8750) and Sandy Hook, NJ (853-1680) with final tide zoning applied as provided by CO-OPS in the Tide Note dated November 5 and illustrated in Figure 3.

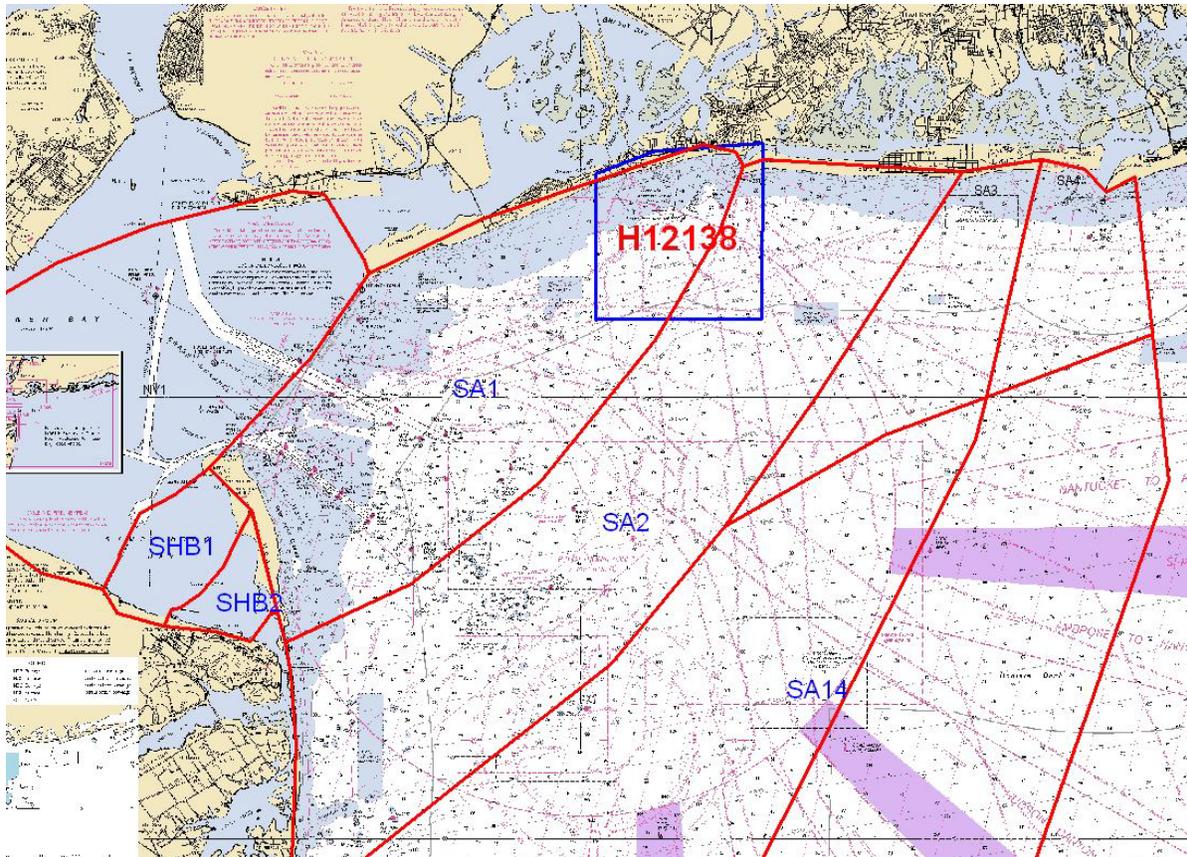


Figure 3: Final Tide Zoning

All other datum reduction procedures conform to those outlined in the *DAPR*.*

All methods and instruments used for sound velocity correction were as described in the *DAPR*.* A table detailing all sound velocity casts is located in Separate II** of this Descriptive Report.

**Included with H-Cell deliverables.*

***Filed with original field records.*

B 4. DATA PROCESSING *See also the H-Cell Report.*

B 4.1 Total Propagated Error

For the 2009 field season, Total Propagated Error (TPE) parameters for sound speed and tides are calculated separately for each project. The project-specific parameters for OPR-B310-TJ-09, Survey H12138 are as follows:

Vessel	Tide Values		Sound Speed Values	
	Measured	Zoning	Measured	Surface
3101	0.09	0	4	0.2
3102	0.09	0	4	0.2

Table 3: TPE Parameters

These values were calculated for all MBES data immediately following CARIS Merge.

B 4.2 BASE Surfaces and Mosaics

The following table describes all BASE Surfaces and Mosaics submitted as part of Survey H12138:

Name of Surfaces and/or Mosaics	Resolution	Type	Purpose
H12138_1_CUBE_NOAA_50cm_Final	0.5 meter	CUBE	Developments
H12138_1_Uncertainty_VB_2m_Final	2.0 meter	Uncertainty	Sounding Coverage
H12138_100_SSS_Mosaic_1m	1.0 meter	SSS Mosaic	100% SSS Coverage
H12138_200_SSS_Mosaic_1m	1.0 meter	SSS Mosaic	200% SSS Coverage

Table 4: Fieldsheets

This survey was processed using the Combined Uncertainty and Bathymetry Estimator (CUBE) algorithm for multibeam data and Uncertainty for single beam data. The CUBE configuration was set to NOAA 0.5m. Refer to the 2009 Data Acquisition and Processing Report,* 2009 Field Procedures Manual, and CARIS HIPS/SIPS manual for further discussion.

B 4.3 Data Cleaning

The survey was cleaned using the swath, subset, and single beam editor tools in CARIS. All areas of the BASE surface that indicated a high standard deviation were examined and cleaned as required such that no residual errors exist in the surface that exceed the IHO order 1 depth accuracy requirements.

**Included with H-Cell deliverables.*

C. VERTICAL AND HORIZONTAL CONTROL *See also the H-Cell Report.*

As per FPM section 5.2.3.2.3 a HVCR report was not filed as no horizontal and vertical control stations were established by the field party for this survey. A summary of horizontal and vertical control for this survey follows.

C 1.1 Horizontal Control

The horizontal datum for this project is the North American Datum of 1983 (NAD83). Differential GPS (DGPS) was the sole method of positioning. Differential corrections from U.S. Coast Guard beacons at Sandy Hook, NJ (286 kHz), and Moriches, NY (293 kHz), were used during this survey.

No horizontal control stations were established by the field party for this survey.

C 1.2 Vertical Control

The vertical datum for this project is Mean Lower-Low Water (MLLW). The operating National Water Level Observation Network (NWLON) station at The Battery, NY (851-8750) and Sandy Hook, NJ (853-1680), will serve as datum control for H12138. Verified tides with final zoning were applied to all sounding data. *Concur*

A request for delivery of final approved (verified) tides for this survey was forwarded to N/OPS1 on 27 October 2009 in accordance with the FPM and project letter instructions. Final smooth tide letter was received 5 November 2009, and states preliminary zoning is accepted as the final zoning. *Concur – Final zoning and tides were applied during field operations.*

D. RESULTS AND RECOMMENDATIONS *See also H-Cell Report*

D.1 Chart Comparison

Survey H12138 was compared with chart 12350 (59th Ed.; March 2006, 1:20,000), chart 12326 (51st Ed.; April 2009, 1:80,000), chart 12300 (47th Ed.; May 2008, 1:400,000), chart 13006 (35th Ed.; April 2009, 1:675,000), chart 5161 (13th Ed.; October 2003, 1:1,058,400), chart 13003 (49th Ed.; April 2007, 1:1,200,000), and ENC's US5NY50M, US2EC03M, and US3NY01M. Chart comparisons were performed in CARIS Base Editor and Pydro using survey-scale excess soundings.

D.1.1 Chart 12350 Comparison

In general the soundings agree within two feet. South of Edgemere there are differences of up to six feet where it has become more shoal. On the east and west side there are deep depths that have been filled. The biggest of these changes is by thirty-two feet. *Concur*

D.1.2 Chart 12326 Comparison

In general the soundings agree within one foot. The biggest differences occur close to shore. South of Atlantic Beach there are differences of up to eight feet where it has gotten shallower.

Concur

D.1.3 Chart 12300 Comparison

None of the depths on chart 12300 fall within the limits of H12138.

D.1.4 Chart 13006 Comparison

None of the depths on chart 12300 fall within the limits of H12138.

D.1.5 Chart 5161 Comparison

None of the depths on chart 12300 fall within the limits of H12138.

D1.6 Chart 13003 Comparison

None of the depths on chart 12300 fall within the limits of H12138.

D1.7 ENC US5NY50M Comparison

In general the soundings agree within one meter. South of Seaside there are some three meter differences where it has gotten deeper. *Concur*

D1.8 ENC US2EC03M Comparison

None of the depths on ENC US2EC03M fall within the limits of H12138.

D 1.9 ENC US3NY01M Comparison

None of the depths on ENC US3NY01M fall within the limits of H12138.

D.2 Additional Results

D.2.1 Automated Wreck and Obstruction Information Service (AWOIS) Items

A total of 3 assigned AWOIS items were located within the modified limits of H12138 and investigated during this survey. AWOIS items were investigated with 200 percent side scan sonar over the search radius. All AWOIS items are described in detail in Appendix II of this report. *Concur - See Appendix II for final charting recommendations of AWOIS items.*

AWOIS 13854 was not investigated due to it being outside the limits of the tide zone. *Concur – No change in charting is recommended.*

D.2.4 Shoreline

Shoreline was not investigated during survey H12138. *Concur*

D.2.5 Charted Features

The dump site in the vicinity of 40° 34' 33.50" N 073° 47' 47.18" W has soundings which are two feet shallower than the charted depths in the area. *Concur*

All other charted features and item investigations are described in detail in Appendix II* of this report. **Data appended to this report.*

D.2.6 Charted Pipelines and Cables

Ten charted cables and one pipeline area are located in the survey area. Some of these are seen in the side scan sonar data in the deep areas. The hydrographer has no recommendations regarding these cables and pipeline. *Concur*

D.2.7 Bridges, Ferry Routes, and Overhead Cables

There are no ferry routes, bridges, or overhead cable crossings within the limits of the survey.

D.3 Dangers to Navigation and Shoals

D 3.1 Dangers to Navigation

There are no dangers to navigation within the survey limits of H12138. *Concur with clarification – See Appendix I and V for additional information.*

D 3.2 Shoals

South of Edgemere there are differences of up to five feet where it has become shoal. *Concur*

D.4 Aids to Navigation

There are three charted Aids to Navigation (ATONs) within the revised limits of H12138.

The Aids to Navigation were found to be on station and serving their intended purpose. The Hydrographer has no recommendations regarding these ATONs. *Concur*

Six uncharted ATONs are located in the survey area. Detached positions were taken of these ATONs. More information can be found in Appendix II. *Concur*

D.5 Coast Pilot Information

The Hydrographer has no recommendations for changes or additions to the Coast Pilot.

D.6 Miscellaneous *See also the H-Cell Report.*

Bottom Samples

Bottom samples were collected in accordance with NOAA Hydrographic Survey Specifications and Deliverables. A total of 25 bottom samples were acquired. A list of bottom samples is contained in Appendix V. *Concur*

D.7 Adequacy of Survey *See also the H-Cell Report.*

This survey is considered complete and adequate to supersede charted depths within the common area as per requirements specified in the Project Letter Instructions. *Concur.*

Summary and Recommendations for Additional Work

No additional work is needed to complete this survey. Few changes significant to navigation have been noted and it is recommended that this survey receive normal processing priority. *Concur*

E. APPROVAL

As Lead Hydrographer, I have ensured that standard field surveying and processing procedures were followed in producing this examination in accordance with the Office of Coast Survey Hydrographic Surveys Division's *Field Procedures Manual*, and NOS *Hydrographic Surveys Specifications and Deliverables*. Field operations for this basic hydrographic survey were conducted under my daily supervision with frequent checks of progress and adequacy.

All field sheets, this Descriptive Report, and all accompanying records and data are approved. All records are forwarded for final review and processing to N/CS33, Atlantic Hydrographic Branch.

The Data Acquisition and Processing Report for OPR-B310-TJ-09 is submitted separately and contains additional information relevant to this survey.

Approved and Forwarded:



Mark Blankenship
2009.12.02 16:11:52 Z

LT Mark A. Blankenship, NOAA
Field Operations Officer



Digitally signed by
Shepard Smith
Date: 2009.11.24
16:50:47 -05'00'

CDR Shepard M. Smith, NOAA
Commanding Officer

In addition, the following individuals were also responsible for overseeing data acquisition and processing of this survey:

Survey Manager:

Kimberly Glomb
Survey Technician, NOAA

H12138 Dangers to Navigation Report

Registry Number: H12138
State: New York
Locality: New York Harbor and Approaches, NY
Sub-locality: Rockaway Beach: Seaside to Silver pt.
Project Number: OPR-B310-TJ-09
Survey Date: 09/23/2009

Seven foot shoal sounding identified in the East Rockaway Inlet channel, chart a shoal 7 ft. sounding.

Charts Affected

Number	Edition	Date	Scale (RNC)	RNC Correction(s)*
12352	32nd	12/01/2007	1:20,000 (12352_6)	[L]NTM: ?
12350	59th	03/01/2006	1:20,000 (12350_1)	USCG LNM: 06/02/2009 (07/14/2009) NGA NTM: 11/08/1997 (07/25/2009)
12326	50th	05/01/2006	1:80,000 (12326_1)	[L]NTM: ?
12300	47th	05/01/2008	1:400,000 (12300_1)	[L]NTM: ?
13006	34th	05/01/2007	1:675,000 (13006_1)	[L]NTM: ?
5161	13th	10/01/2003	1:1,058,400 (5161_1)	[L]NTM: ?
13003	49th	04/01/2007	1:1,200,000 (13003_1)	[L]NTM: ?

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

Features

No.	Name	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	1623/1 - dangerous 7 ft. sounding	Shoal	2.24 m	40° 35' 07.3" N	073° 45' 27.1" W	---

1.1) 1623/1 - dangerous 7 ft. sounding**DANGER TO NAVIGATION****Survey Summary**

Survey Position: 40° 35' 07.3" N, 073° 45' 27.1" W
Least Depth: 2.24 m (= 7.34 ft = 1.223 fm = 1 fm 1.34 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 0.980 m ; **TVU (TPEv)** ± 0.219 m
Timestamp: 2009-266.15:40:27.592 (09/23/2009)
Survey Line: h12138 / tj_3101_odom_vb / 2009-266 / 100_1537
Profile/Beam: 1623/1
Charts Affected: 12350_1, 12352_6, 12326_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

[None]

Feature Correlation

Address	Feature	Range	Azimuth	Status
h12138/tj_3101_odom_vb/2009-266/100_1537	1623/1	0.00	000.0	Primary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

7ft (12350_1, 12352_6, 12326_1)

1 ¼fm (12300_1, 13006_1, 13003_1)

2.2m (5161_1)

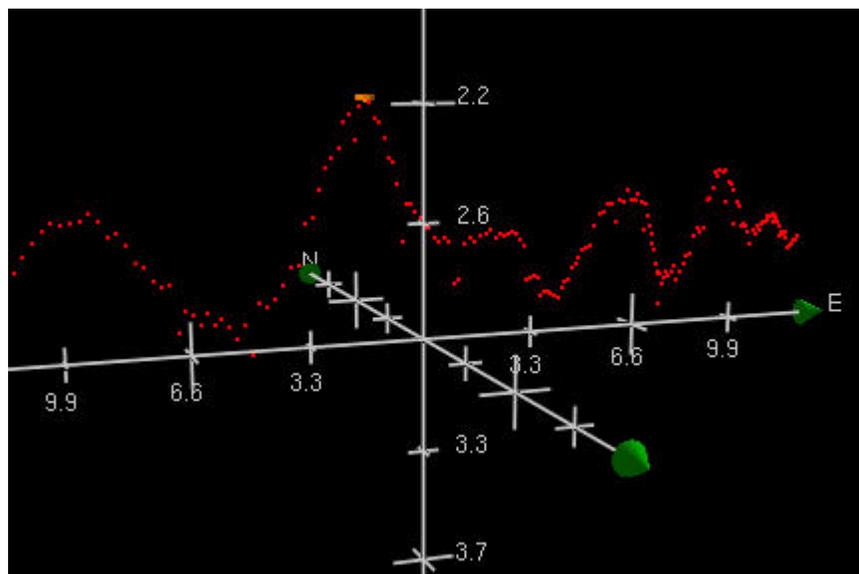
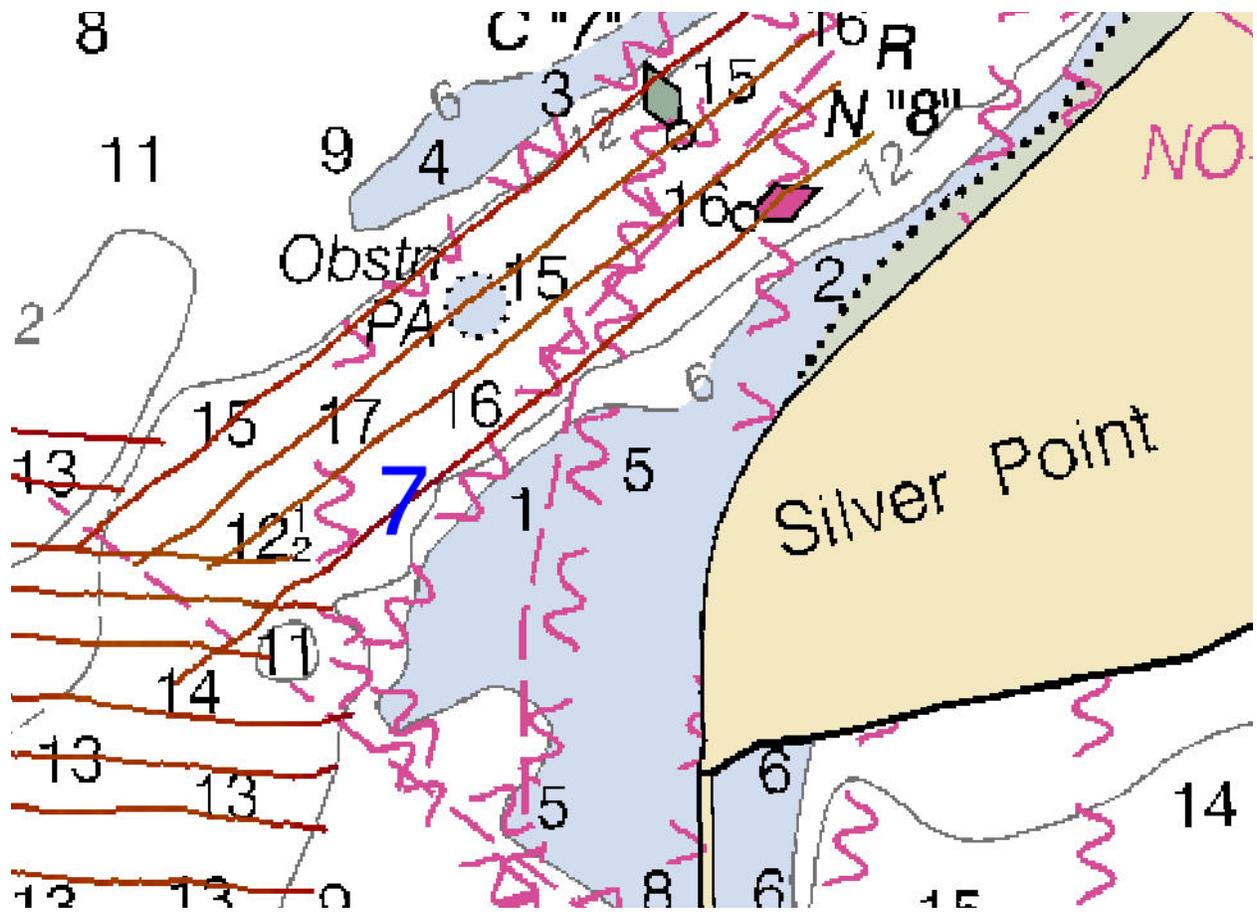
S-57 Data

Geo object 1: Sounding (SOUNDG)
Attributes: QUASOU - 1:depth known
 TECSOU - 1:found by echo-sounder
 VERDAT - 12:Mean lower low water

Office Notes

Concur with clarification - The 7 ft depth is not being charted. An email from Daniel Morrow (MCD) explained that the Corps Of Engineering after dredge survey dated 5/20/2010 has disproved the 7 ft depth. No change in charting is recommended.

See Appendix V. for email from Daniel Morrow (MCD)



H12138 Appendix II Feature Report

Registry Number: H12138
State: New York
Locality: New York Harbor and Approaches, NY
Sub-locality: Rockaway Beach: Seaside to Silver pt.
Project Number: OPR-B310-TJ-09
Survey Dates: 09/23/2009 - 10/26/2009

Charts Affected

Number	Edition	Date	Scale (RNC)	RNC Correction(s)*
12352	32nd	12/01/2007	1:20,000 (12352_6)	[L]NTM: ?
12350	59th	03/01/2006	1:20,000 (12350_1)	USCG LNM: 06/02/2009 (07/14/2009) NGA NTM: 11/08/1997 (07/25/2009)
12326	50th	05/01/2006	1:80,000 (12326_1)	[L]NTM: ?
12300	47th	05/01/2008	1:400,000 (12300_1)	[L]NTM: ?
13006	34th	05/01/2007	1:675,000 (13006_1)	[L]NTM: ?
5161	13th	10/01/2003	1:1,058,400 (5161_1)	[L]NTM: ?
13003	49th	04/01/2007	1:1,200,000 (13003_1)	[L]NTM: ?
14500	27th	10/01/2002	1:1,500,000 (14500_1)	[L]NTM: ?

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

Features

No.	Name	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	AWOIS #13853	AWOIS	[no data]	[no data]	[no data]	---
1.2	AWOIS #7787	AWOIS	[no data]	[no data]	[no data]	---
1.3	AWOIS #7734	AWOIS	[no data]	[no data]	[no data]	---
1.4	Buoy G C "1"	Green buoy	[None]	40° 34' 42.1" N	073° 45' 45.8" W	---
1.5	Buoy R N "2"	Red buoy	[None]	40° 34' 41.7" N	073° 45' 41.1" W	---
1.6	Buoy G C "3"	Green buoy	[None]	40° 34' 55.6" N	073° 45' 38.8" W	---
1.7	Buoy R N "4"	Red buoy	[None]	40° 34' 54.6" N	073° 45' 35.8" W	---
1.8	Buoy G C "5"	Green buoy	[None]	40° 35' 08.0" N	073° 45' 31.9" W	---
1.9	Buoy R N "6"	Red buoy	[None]	40° 35' 06.1" N	073° 45' 29.2" W	---

1.10	409/215 - 24 ft. Obstn	Obstruction	7.36 m	40° 34' 49.0" N	073° 46' 23.8" W	---
1.11	277/175 - 29 ft. Obstn	Obstruction	8.82 m	40° 33' 51.2" N	073° 48' 33.2" W	---
1.12	731/151 - 35 ft. Wk	Wreck	10.89 m	40° 33' 32.9" N	073° 49' 24.8" W	---
1.13	214/155 - 36 ft. Wk	Wreck	10.92 m	40° 33' 23.2" N	073° 49' 18.5" W	---
1.14	209/68 - 33 ft. Obstn	Obstruction	10.19 m	40° 32' 50.5" N	073° 49' 31.4" W	---
1.15	49/170 - 37 ft. Obstn	Obstruction	11.29 m	40° 32' 40.6" N	073° 49' 29.5" W	---
1.16	216/41 - 35 ft. Rk	Rock	10.71 m	40° 32' 34.2" N	073° 49' 29.0" W	---
1.17	208/71 - 37 ft. Obstn	Obstruction	11.47 m	40° 32' 37.3" N	073° 47' 59.7" W	---
1.18	102/178 - 31 ft. Obstn	Obstruction	9.54 m	40° 33' 32.6" N	073° 49' 17.8" W	---

1.1) AWOIS #13853 - AWOIS #13853

No Primary Survey Feature for this AWOIS Item

Search Position: 40° 35' 19.0" N, 073° 45' 27.9" W
Historical Depth: [None]
Search Radius: 400
Search Technique: S2
Technique Notes: SEARCH NOT REQUIRED IN DEPTHS LESS THAN 12 FT

History Notes:

NM 52/64 -- AN OBSTRUCTION CONSISTING OF A 2000 LB ANCHOR HAS BEEN REPORTED IN THE CHANNEL IN THE VICINITY OF THE EAST ROCKAWAY INLET BUOY 7 WHICH IS LOCATED ABOUT 810 YARDS 337 DEGREES FROM EAST ROCKAWAY INLET BREAKER LIGHT. THE LIGHT IS POSITIONED SOUTH OF SILVER POINT AT 40-34-56 N, 073-45-19 W, NAD27. UPDATED 10/31/2006 JCM.

Survey Summary

Charts Affected: 12350_1, 12352_6, 12326_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

AWOIS 13853 was surveyed with 200% Klein 5000 side scan sonar in the channel up to the end of the tide zone. Nothing was found.

Feature Correlation

Address	Feature	Range	Azimuth	Status
NewYorkHarborAndApproachesAWOIS	AWOIS # 13853	0.00	000.0	Primary

Hydrographer Recommendations

Remove charted obstruction.

S-57 Data

[None]

Office Notes

Concur - Delete Obstn, PA and danger curve.

Feature Images

1.2) AWOIS #7787 - AWOIS #7787

No Primary Survey Feature for this AWOIS Item

Search Position: 40° 33' 42.2" N, 073° 46' 31.8" W
Historical Depth: [None]
Search Radius: 0
Search Technique: [None]
Technique Notes: [None]

History Notes:

[None]

Survey Summary

Charts Affected: 12350_1, 12326_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

AWOIS 7787 was investigated with 200% Klein 5000 side scan sonar. There is no AWOIS description for this item. Nothing was found at its position.

Feature Correlation

Address	Feature	Range	Azimuth	Status
NewYorkHarborAndApproachesAWOIS	AWOIS # 7787	0.00	000.0	Primary
h12138/tj_3102_klein5000_tow_100/2009-265/177_090922134500	0001	90.11	026.1	Secondary (grouped)
h12138/tj_3102_klein5000_tow_200/2009-266/258_090923140400	0001	94.10	023.0	Secondary (grouped)

Hydrographer Recommendations

Retain as uncharted.

S-57 Data

Geo object 1: Wreck (WRECKS)
Attributes: CATWRK - 2:dangerous wreck
 QUASOU - 2:depth unknown
 TECSOU - 2:found by side scan sonar
 WATLEV - 3:always under water/submerged

Office Notes

Concur - Retain as uncharted.

Feature Images

1.3) AWOIS #7734 - AWOIS #7734

No Primary Survey Feature for this AWOIS Item

Search Position: 40° 31' 57.7" N, 073° 44' 38.6" W
Historical Depth: [None]
Search Radius: 0
Search Technique: [None]
Technique Notes: [None]

History Notes:

DESCRIPTION

195 LORAN C RATES PROVIDED BY MR. RICHARD TARACKA GREENWICH, i
 CT. POLICE DEPARTMENT, TEL. NO. 203-622-8020; IDENTIFIED AS TUG; i
 9960-X 26881.5, 9960-Y 43737.3; LAT. 40-31-57.28N, LONG. i
 73-44-40.08W (COMPUTED FROM LORAN RATES). (ENTERED 5/90 MSM)

Survey Summary

Charts Affected: 12350_1, 12326_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

AWOIS 7734 was investigated with 200% Klein 5000 side scan sonar. Nothing was found.

Feature Correlation

Address	Feature	Range	Azimuth	Status
NewYorkHarborAndApproachesAWOIS	AWOIS # 7734	0.00	000.0	Primary

Hydrographer Recommendations

No AWOIS radius specified, no wreck identifiable in the immediate vicinity. Concur, update the AWOIS database for AWOIS #7734, unnamed tug, this AWOIS item is considered disproven.

S-57 Data

[None]

Office Notes

Concur - Wreck not shown on chart 12350, 15th., Ed., 20090601. No change in charting is recommended.

1.4) Buoy G C "1"

Survey Summary

Survey Position: 40° 34' 42.1" N, 073° 45' 45.8" W
Least Depth: [None]
TPU ($\pm 1.96\sigma$): **THU (TPEh)** [None] ; **TVU (TPEv)** [None]
Timestamp: 2009-266.13:07:50.000 (09/23/2009)
DP Dataset: vesselconfig / tj_3101_dp / 2009-266 / 09232009
Profile/Beam: 1/1
Charts Affected: 12350_1, 12352_6, 12326_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted buoy G C "1".

Feature Correlation

Address	Feature	Range	Azimuth	Status
vesselconfig/tj_3101_dp/2009-266/09232009	1/1	0.00	000.0	Primary

Hydrographer Recommendations

Chart Buoy G C "1".

S-57 Data

Geo object 1: Buoy, lateral (BOYLAT)
Attributes: BOYSHP - 4:pillar
 CATLAM - 2:starboard-hand lateral mark
 COLOUR - 4:green

Office Notes

Concur with clarification - Defer to MCD Update Services Branch for charting recommendation of navigational aid.

1.5) Buoy R N "2"

Survey Summary

Survey Position: 40° 34' 41.7" N, 073° 45' 41.1" W
Least Depth: [None]
TPU ($\pm 1.96\sigma$): **THU (TPEh)** [None] ; **TVU (TPEv)** [None]
Timestamp: 2009-266.13:11:41.000 (09/23/2009)
DP Dataset: vesselconfig / tj_3101_dp / 2009-266 / 09232009
Profile/Beam: 2/1
Charts Affected: 12350_1, 12352_6, 12326_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted buoy R N "2".

Feature Correlation

Address	Feature	Range	Azimuth	Status
vesselconfig/tj_3101_dp/2009-266/09232009	2/1	0.00	000.0	Primary

Hydrographer Recommendations

Chart Buoy R N "2"

S-57 Data

Geo object 1: Buoy, lateral (BOYLAT)
Attributes: BOYSHP - 4:pillar
 CATLAM - 1:port-hand lateral mark
 COLOUR - 3:red

Office Notes

Concur with clarification - Defer to MCD Update Services Branch for charting recommendation of navigational aid.

1.6) Buoy G C "3"

Survey Summary

Survey Position: 40° 34' 55.6" N, 073° 45' 38.8" W
Least Depth: [None]
TPU ($\pm 1.96\sigma$): **THU (TPEh)** [None] ; **TVU (TPEv)** [None]
Timestamp: 2009-266.13:16:58.000 (09/23/2009)
DP Dataset: vesselconfig / tj_3101_dp / 2009-266 / 09232009
Profile/Beam: 3/1
Charts Affected: 12350_1, 12352_6, 12326_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted Buoy G C "3".

Feature Correlation

Address	Feature	Range	Azimuth	Status
vesselconfig/tj_3101_dp/2009-266/09232009	3/1	0.00	000.0	Primary

Hydrographer Recommendations

Chart Buoy G C "3"

S-57 Data

Geo object 1: Buoy, lateral (BOYLAT)
Attributes: BOYSHP - 2:can (cylindrical)
 CATLAM - 2:starboard-hand lateral mark
 COLOUR - 4:green

Office Notes

Concur with clarification - Defer to MCD Update Services Branch for charting recommendation of navigational aid.

1.7) Buoy R N "4"

Survey Summary

Survey Position: 40° 34' 54.6" N, 073° 45' 35.8" W
Least Depth: [None]
TPU ($\pm 1.96\sigma$): **THU (TPEh)** [None] ; **TVU (TPEv)** [None]
Timestamp: 2009-266.13:18:57.000 (09/23/2009)
DP Dataset: vesselconfig / tj_3101_dp / 2009-266 / 09232009
Profile/Beam: 4/1
Charts Affected: 12350_1, 12352_6, 12326_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted buoy R N "4".

Feature Correlation

Address	Feature	Range	Azimuth	Status
vesselconfig/tj_3101_dp/2009-266/09232009	4/1	0.00	000.0	Primary

Hydrographer Recommendations

Chart Buoy R N "4"

S-57 Data

Geo object 1: Buoy, lateral (BOYLAT)
Attributes: BOYSHP - 1:conical (nun, ogival)
 CATLAM - 1:port-hand lateral mark
 COLOUR - 3:red

Office Notes

Concur with clarification - Defer to MCD Update Services Branch for charting recommendation of navigational aid.

1.8) Buoy G C "5"

Survey Summary

Survey Position: 40° 35' 08.0" N, 073° 45' 31.9" W
Least Depth: [None]
TPU ($\pm 1.96\sigma$): **THU (TPEh)** [None] ; **TVU (TPEv)** [None]
Timestamp: 2009-266.13:22:29.000 (09/23/2009)
DP Dataset: vesselconfig / tj_3101_dp / 2009-266 / 09232009
Profile/Beam: 5/1
Charts Affected: 12350_1, 12352_6, 12326_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted buoy G C "5".

Feature Correlation

Address	Feature	Range	Azimuth	Status
vesselconfig/tj_3101_dp/2009-266/09232009	5/1	0.00	000.0	Primary

Hydrographer Recommendations

Chart Buoy G C "5"

S-57 Data

Geo object 1: Buoy, lateral (BOYLAT)
Attributes: BOYSHP - 2:can (cylindrical)
 CATLAM - 2:starboard-hand lateral mark
 COLOUR - 4:green

Office Notes

Concur with clarification - Defer to MCD Update Services Branch for charting recommendation of navigational aid.

1.9) Buoy R N "6"

Survey Summary

Survey Position: 40° 35' 06.1" N, 073° 45' 29.2" W
Least Depth: [None]
TPU ($\pm 1.96\sigma$): **THU (TPEh)** [None] ; **TVU (TPEv)** [None]
Timestamp: 2009-266.13:24:43.000 (09/23/2009)
DP Dataset: vesselconfig / tj_3101_dp / 2009-266 / 09232009
Profile/Beam: 6/1
Charts Affected: 12350_1, 12352_6, 12326_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Uncharted buoy R N "6".

Feature Correlation

Address	Feature	Range	Azimuth	Status
vesselconfig/tj_3101_dp/2009-266/09232009	6/1	0.00	000.0	Primary

Hydrographer Recommendations

Chart Buoy R N "6"

S-57 Data

Geo object 1: Buoy, lateral (BOYLAT)
Attributes: BOYSHP - 1:conical (nun, ogival)
 CATLAM - 1:port-hand lateral mark
 COLOUR - 3:red

Office Notes

Concur with clarification - Defer to MCD Update Services Branch for charting recommendation of navigational aid.

1.10) 409/215 - 24 ft. Obstn**Survey Summary**

Survey Position: 40° 34' 49.0" N, 073° 46' 23.8" W
Least Depth: 7.36 m (= 24.15 ft = 4.025 fm = 4 fm 0.15 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 0.982 m ; **TVU (TPEv)** ± 0.212 m
Timestamp: 2009-299.20:54:19.967 (10/26/2009)
Survey Line: h12138 / tj_3101_reson8125_mb / 2009-299 / 602_2053
Profile/Beam: 409/215
Charts Affected: 12350_1, 12352_6, 12326_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

[None]

Feature Correlation

Address	Feature	Range	Azimuth	Status
h12138/tj_3101_reson8125_mb/2009-299/602_2053	409/215	0.00	000.0	Primary
h12138/tj_3101_klein5000_sss200/2009-265/241_090922181500	0001	7.77	025.6	Secondary

Hydrographer Recommendations

Two 16m long abandoned dredge pipes (possibly 3 pipes) on the seafloor, chart an Obstn with a depth of 24 ft. in Latitude 40°34'49.028"N, Longitude 73°46'23.800"W.

Cartographically-Rounded Depth (Affected Charts):

24ft (12350_1, 12352_6, 12326_1)

4fm (12300_1, 13006_1, 13003_1)

7.4m (5161_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)
Attributes: NATCON - 7:metal
 QUASOU - 6:least depth known
 STATUS - 1:permanent
 TECSOU - 3:found by multi-beam

VALSOU - 7.361 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Concur - Add 24 ft. Obstns and danger curve.

1.11) 277/175 - 29 ft. Obstn**Survey Summary**

Survey Position: 40° 33' 51.2" N, 073° 48' 33.2" W
Least Depth: 8.82 m (= 28.95 ft = 4.826 fm = 4 fm 4.95 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 0.982 m ; **TVU (TPEv)** ± 0.211 m
Timestamp: 2009-299.20:15:34.499 (10/26/2009)
Survey Line: h12138 / tj_3101_reson8125_mb / 2009-299 / 615_2015
Profile/Beam: 277/175
Charts Affected: 12350_1, 12326_1, 12300_1, 13006_1, 5161_1, 13003_1, 14500_1

Remarks:

[None]

Feature Correlation

Address	Feature	Range	Azimuth	Status
h12138/tj_3101_reson8125_mb/2009-299/615_2015	277/175	0.00	000.0	Primary
h12138/tj_3101_klein5000_sss200/2009-294/229_091021152400	0001	2.53	047.0	Secondary

Hydrographer Recommendations

Two 16m long pipes with a ht. off the seafloor of 1m. Chart an Obstn with a depth of 29 ft. in Latitude 40°33'51.160", Longitude 73°48'33.153"W.

Cartographically-Rounded Depth (Affected Charts):

29ft (12350_1, 12326_1)

4 $\frac{3}{4}$ fm (12300_1, 13006_1, 13003_1, 14500_1)

8.8m (5161_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)
Attributes: QUASOU - 6:least depth known
 TECSOU - 3:found by multi-beam
 VALSOU - 8.825 m
 WATLEV - 3:always under water/submerged

Office Notes

Concur - Add 29 ft. Obstn and danger curve.

1.12) 731/151 - 35 ft. Wk**Survey Summary**

Survey Position: 40° 33' 32.9" N, 073° 49' 24.8" W
Least Depth: 10.89 m (= 35.74 ft = 5.956 fm = 5 fm 5.74 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 0.982 m ; **TVU (TPEv)** ± 0.213 m
Timestamp: 2009-299.17:39:01.666 (10/26/2009)
Survey Line: h12138 / tj_3101_reson8125_mb / 2009-299 / 619_1738
Profile/Beam: 731/151
Charts Affected: 12350_1, 12326_1, 12300_1, 13006_1, 5161_1, 13003_1, 14500_1

Remarks:

[None]

Feature Correlation

Address	Feature	Range	Azimuth	Status
h12138/tj_3101_reson8125_mb/2009-299/619_1738	731/151	0.00	000.0	Primary
h12138/tj_3101_klein5000_sss200/2009-294/231_091021164400	0001	1.32	041.0	Secondary
h12138/tj_3101_klein5000_sss100/2009-281/132_091008201300	0002	2.69	336.5	Secondary

Hydrographer Recommendations

Wreck on its side on the seafloor - Chart a Wk with a depth of 35 ft. in Latitude 40°33'32.941"N, Longitude 73°49'24.765"W.

Cartographically-Rounded Depth (Affected Charts):

35ft (12350_1, 12326_1)

6fm (12300_1, 13006_1, 13003_1, 14500_1)

10.9m (5161_1)

S-57 Data

Geo object 1: Wreck (WRECKS)
Attributes: CATWRK - 2:dangerous wreck
 QUASOU - 6:least depth known
 STATUS - 1:permanent

TECSOU - 3:found by multi-beam

VALSOU - 10.893 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Concur - Add 35 ft. Wk and danger curve.

Feature Images

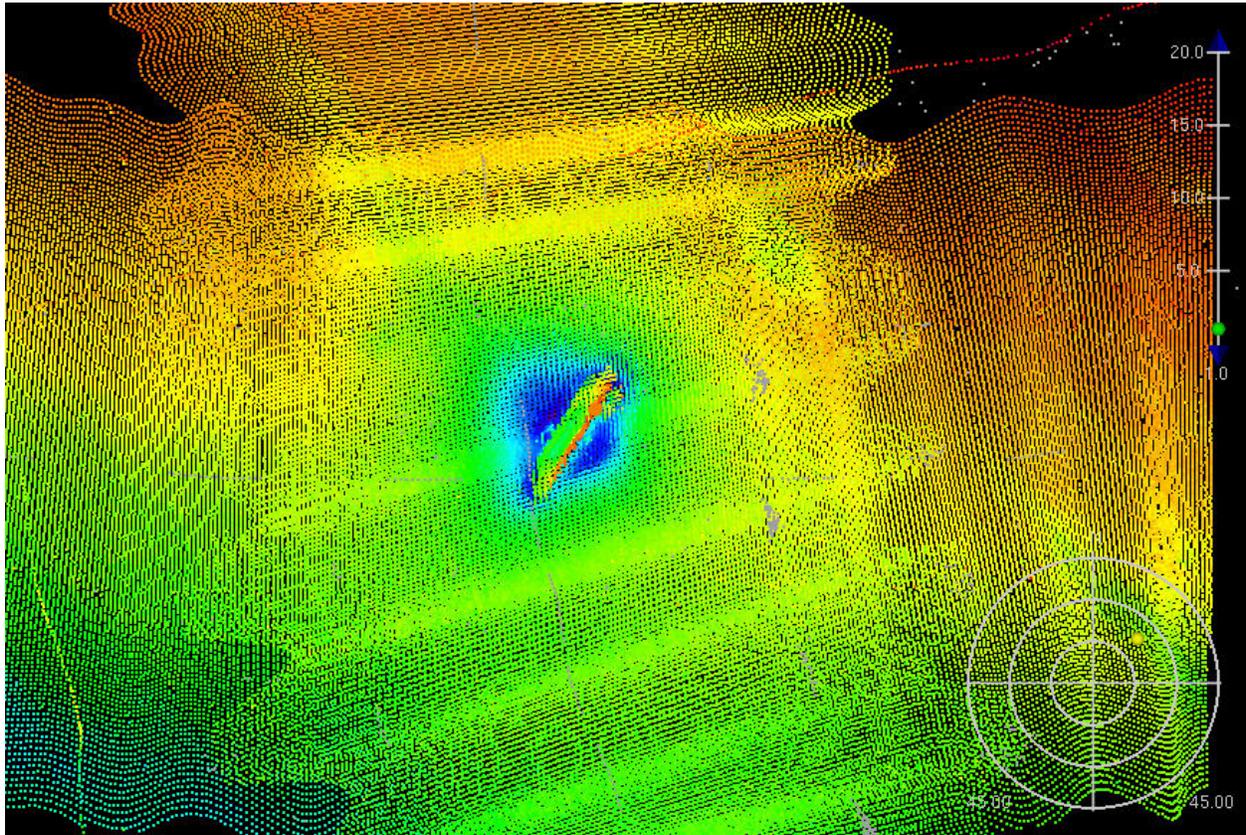


Figure 1.12.1

1.13) 214/155 - 36 ft. Wk**Survey Summary**

Survey Position: 40° 33' 23.2" N, 073° 49' 18.5" W
Least Depth: 10.92 m (= 35.83 ft = 5.972 fm = 5 fm 5.83 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 0.982 m ; **TVU (TPEv)** ± 0.213 m
Timestamp: 2009-299.17:43:47.500 (10/26/2009)
Survey Line: h12138 / tj_3101_reson8125_mb / 2009-299 / 623_1743
Profile/Beam: 214/155
Charts Affected: 12350_1, 12326_1, 12300_1, 13006_1, 5161_1, 13003_1, 14500_1

Remarks:

[None]

Feature Correlation

Address	Feature	Range	Azimuth	Status
h12138/tj_3101_reson8125_mb/2009-299/623_1743	214/155	0.00	000.0	Primary
h12138/tj_3101_klein5000_sss200/2009-294/234_091021172900	0001	0.72	214.5	Secondary
h12138/tj_3101_klein5000_sss100/2009-281/135_091008192000	0002	1.76	008.1	Secondary
h12138/tj_3101_klein5000_sss100/2009-281/134_091008193300	0001	5.27	102.2	Secondary

Hydrographer Recommendations

Chart a Wk with a depth of 36 ft. in Latitude 40°33'23.214"N, Longitude 73°49'18.490"W.

Cartographically-Rounded Depth (Affected Charts):

36ft (12350_1, 12326_1)

6fm (12300_1, 13006_1, 13003_1, 14500_1)

10.9m (5161_1)

S-57 Data

Geo object 1: Wreck (WRECKS)
Attributes: CATWRK - 2:dangerous wreck
 QUASOU - 6:least depth known
 STATUS - 1:permanent

TECSOU - 3:found by multi-beam

VALSOU - 10.921 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Concur - Add 36 ft. Wk and danger curve.

Feature Images

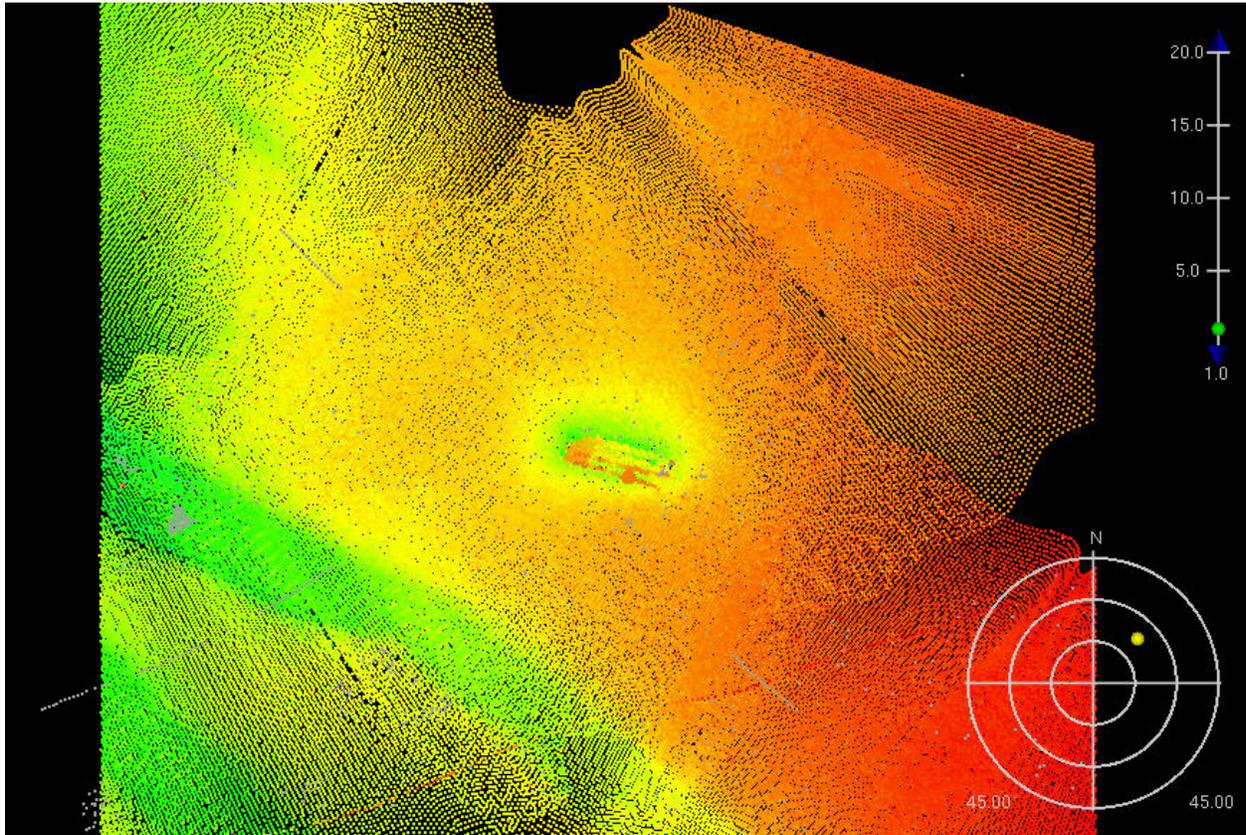


Figure 1.13.1

1.14) 209/68 - 33 ft. Obstrn

Survey Summary

Survey Position: 40° 32' 50.5" N, 073° 49' 31.4" W
Least Depth: 10.19 m (= 33.42 ft = 5.570 fm = 5 fm 3.42 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 0.982 m ; **TVU (TPEv)** ± 0.212 m
Timestamp: 2009-299.17:57:04.479 (10/26/2009)
Survey Line: h12138 / tj_3101_reson8125_mb / 2009-299 / 628_1756
Profile/Beam: 209/68
Charts Affected: 12350_1, 12326_1, 12300_1, 13006_1, 5161_1, 13003_1, 14500_1

Remarks:

[None]

Feature Correlation

Address	Feature	Range	Azimuth	Status
h12138/tj_3101_reson8125_mb/2009-299/628_1756	209/68	0.00	000.0	Primary
h12138/tj_3101_klein5000_sss200/2009-295/281_091022170900	0001	3.76	336.0	Secondary

Hydrographer Recommendations

1 m height pipe, chart an Obstrn with a depth of 33 ft. in Latitude 40°32'50.475"N, Longitude 73°49'31.389"W.

Cartographically-Rounded Depth (Affected Charts):

33ft (12350_1, 12326_1)

5 ½fm (12300_1, 13006_1, 13003_1, 14500_1)

10.2m (5161_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)
Attributes: QUASOU - 6:least depth known
 STATUS - 1:permanent
 TECSOU - 3:found by multi-beam
 VALSOU - 10.187 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Concur - Add 33 ft. Obstn and danger curve.

1.15) 49/170 - 37 ft. Obstrn**Survey Summary**

Survey Position: 40° 32' 40.6" N, 073° 49' 29.5" W
Least Depth: 11.29 m (= 37.04 ft = 6.173 fm = 6 fm 1.04 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 0.983 m ; **TVU (TPEv)** ± 0.214 m
Timestamp: 2009-299.18:02:38.435 (10/26/2009)
Survey Line: h12138 / tj_3101_reson8125_mb / 2009-299 / 629_1802
Profile/Beam: 49/170
Charts Affected: 12350_1, 12326_1, 12300_1, 13006_1, 5161_1, 13003_1, 14500_1

Remarks:

[None]

Feature Correlation

Address	Feature	Range	Azimuth	Status
h12138/tj_3101_reson8125_mb/2009-299/629_1802	49/170	0.00	000.0	Primary
h12138/tj_3102_reson7125_nadir/2009-282/143_1447	26631/1	24.82	076.0	Secondary

Hydrographer Recommendations

4m x 4m object, chart an Obstrn with a depth of 37 ft. in Latitude 40°32'40.583"N, Longitude 73°49'29.480"W.

Cartographically-Rounded Depth (Affected Charts):

37ft (12350_1, 12326_1)

6fm (12300_1, 13006_1, 13003_1, 14500_1)

11.3m (5161_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)
Attributes: QUASOU - 6:least depth known
STATUS - 1:permanent
TECSOU - 1:found by echo-sounder
VALSOU - 11.289 m
VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Concur - Add 37 ft. Obstn and danger curve.

Feature Images

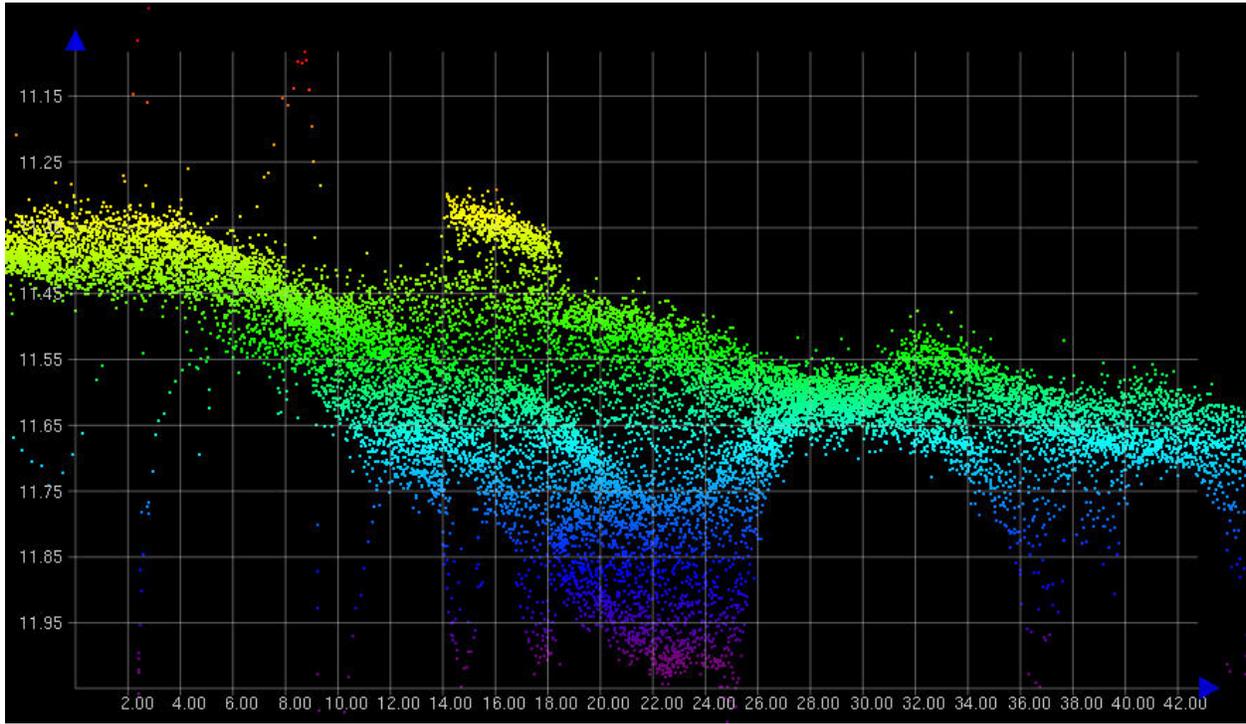


Figure 1.15.1

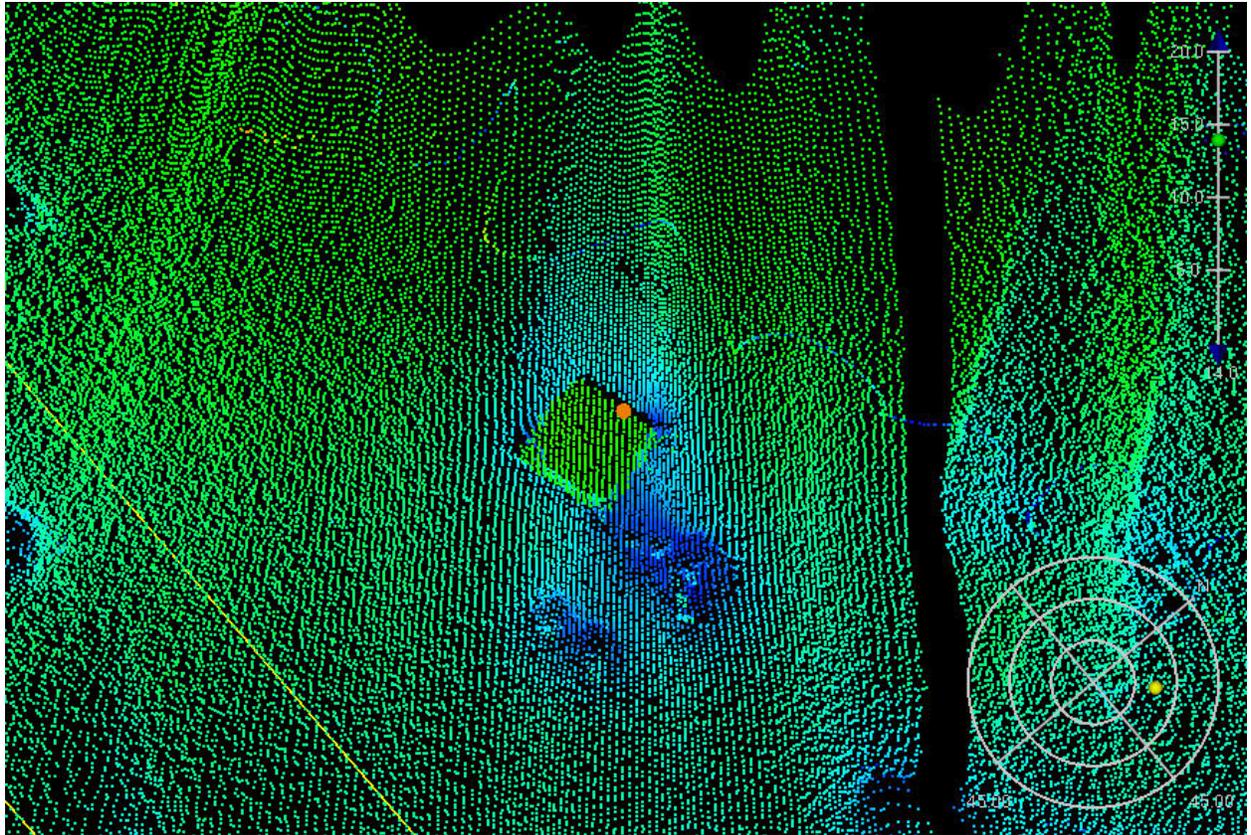


Figure 1.15.2

1.16) 216/41 - 35 ft. Rk**Survey Summary**

Survey Position: 40° 32' 34.2" N, 073° 49' 29.0" W
Least Depth: 10.71 m (= 35.15 ft = 5.858 fm = 5 fm 5.15 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 0.984 m ; **TVU (TPEv)** ± 0.218 m
Timestamp: 2009-299.18:07:23.618 (10/26/2009)
Survey Line: h12138 / tj_3101_reson8125_mb / 2009-299 / 634_1806
Profile/Beam: 216/41
Charts Affected: 12350_1, 12326_1, 12300_1, 13006_1, 5161_1, 13003_1, 14500_1

Remarks:

[None]

Feature Correlation

Address	Feature	Range	Azimuth	Status
h12138/tj_3101_reson8125_mb/2009-299/634_1806	216/41	0.00	000.0	Primary
h12138/tj_3101_klein5000_sss200/2009-295/284_091022180100	0002	0.67	040.9	Secondary

Hydrographer Recommendations

1.1 m ht. Rk - Chart a Rk with a depth of 35 ft. in Latitude 40°32'34.235"N, Longitude 73°49'29.039"W.

Cartographically-Rounded Depth (Affected Charts):

35ft (12350_1, 12326_1)

5 ¾fm (12300_1, 13006_1, 13003_1, 14500_1)

10.7m (5161_1)

S-57 Data**Geo object 1:** Underwater rock / awash rock (UWTROC)**Attributes:** QUASOU - 6:least depth known

STATUS - 1:permanent

TECSOU - 3:found by multi-beam

VALSOU - 10.714 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Concur - Add 35 ft. Rk and danger curve.

1.17) 208/71 - 37 ft. Obstrn**Survey Summary**

Survey Position: 40° 32' 37.3" N, 073° 47' 59.7" W
Least Depth: 11.47 m (= 37.61 ft = 6.269 fm = 6 fm 1.61 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 0.983 m ; **TVU (TPEv)** ± 0.216 m
Timestamp: 2009-299.18:46:52.165 (10/26/2009)
Survey Line: h12138 / tj_3101_reson8125_mb / 2009-299 / 644_1846
Profile/Beam: 208/71
Charts Affected: 12350_1, 12326_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

[None]

Feature Correlation

Address	Feature	Range	Azimuth	Status
h12138/tj_3101_reson8125_mb/2009-299/644_1846	208/71	0.00	000.0	Primary
h12138/tj_3101_klein5000_sss200/2009-295/287_091022185300	0001	5.13	045.7	Secondary

Hydrographer Recommendations

1.5m ht. Obstrn - Chart an Obstrn with a depth of 37 ft. in Latitude 40°32'37.329"N, Longitude 73°47'59.667"W.

Cartographically-Rounded Depth (Affected Charts):

37ft (12350_1, 12326_1)

6 ¼fm (12300_1, 13006_1, 13003_1)

11.5m (5161_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)
Attributes: QUASOU - 6:least depth known
STATUS - 1:permanent
TECSOU - 3:found by multi-beam
VALSOU - 11.465 m
WATLEV - 3:always under water/submerged

Office Notes

Concur - Add 37 ft. Obstn and danger curve.

1.18) 102/178 - 31 ft. Obstn**Survey Summary**

Survey Position: 40° 33' 32.6" N, 073° 49' 17.8" W
Least Depth: 9.54 m (= 31.32 ft = 5.219 fm = 5 fm 1.32 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 0.982 m ; **TVU (TPEv)** ± 0.211 m
Timestamp: 2009-299.17:36:05.671 (10/26/2009)
Survey Line: h12138 / tj_3101_reson8125_mb / 2009-299 / 620_1735
Profile/Beam: 102/178
Charts Affected: 12350_1, 12326_1, 12300_1, 13006_1, 5161_1, 13003_1, 14500_1

Remarks:

[None]

Feature Correlation

Address	Feature	Range	Azimuth	Status
h12138/tj_3101_reson8125_mb/2009-299/620_1735	102/178	0.00	000.0	Primary
h12138/tj_3101_reson8125_mb/2009-299/619_1738	81/119	1.35	350.0	Secondary
h12138/tj_3101_klein5000_sss200/2009-294/232_091021165500	0001	1.49	047.1	Secondary
h12138/tj_3101_klein5000_sss100/2009-281/132_091008201300	0001	2.21	097.6	Secondary

Hydrographer Recommendations

1.35m ht Obstn - Chart an Obstn with a depth of 31 ft. in Latitude 40°33'32.604"N, Longitude 73°49'17.847"W.

Cartographically-Rounded Depth (Affected Charts):

31ft (12350_1, 12326_1)

5 ¼fm (12300_1, 13006_1, 13003_1, 14500_1)

9.5m (5161_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)
Attributes: QUASOU - 6:least depth known
STATUS - 1:permanent
TECSOU - 3:found by multi-beam

VALSOU - 9.545 m

VERDAT - 12:Mean lower low water

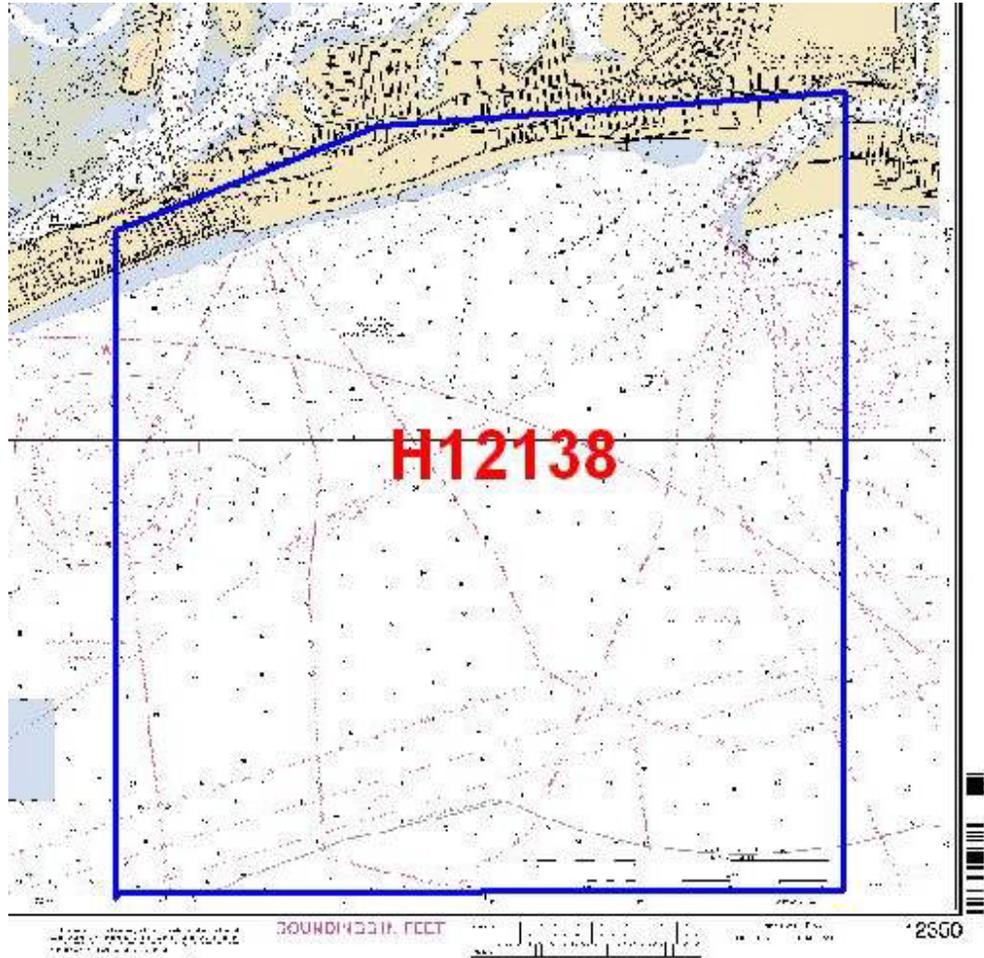
WATLEV - 3:always under water/submerged

Office Notes

Concur - Add 31 ft. Obstn and danger curve.

Appendix III

Progress Sketch



Thomas Jefferson
Survey Progress Estimate

FY2009 Field Season

OPS											
FIELD											
Project Number and Name	Sheet Identifier	Registry Number	HQ Estimated SNM	Sheet Start Date	Sheet End Date	Smooth Tides Request Date	Smooth Tides Received Date	Cumulative % Complete at the end of September	Cumulative % Complete at the end of October	Cumulative % Complete at the end of November	Cumulative % Complete at the end of December
OPR-B310, Appr. to New York Hbr	1	H12036	16	9/12/09	10/21/09	10/24/09		50%	100%		
	2	H11710	25	10/26/09					25%		
	3	H12138	13	9/16/09	10/27/09	10/28/09		30%	100%		
	4	F00573	0.2	9/15/09	9/15/09	9/15/09	10/9/09	100%			
	5	H12158	18	10/20/09					60%		



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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE : November 05, 2009

HYDROGRAPHIC BRANCH: Atlantic
HYDROGRAPHIC PROJECT: OPR-B310-TJ-2009
HYDROGRAPHIC SHEET: H12138

LOCALITY: Rockaway Beach: Seaside to Silver Pt., New York Harbor and Approaches
TIME PERIOD: September 16 - October 26, 2009

TIDE STATION USED: 853-1680 Sandy Hook, NJ
Lat. 40° 28.0'N Long. 74° 0.6' W

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 1.492 meters

REMARKS: RECOMMENDED ZONING

Preliminary zoning is accepted as the final zoning for project OPR-B310-TJ-2009, H12138, during the time period between September 16 and October 26.

Please use the zoning file "B310TJ2009CORP_Rev2" submitted with the project instructions for OPR-B310-TJ-2009. Zones SA1 and SA2 are the applicable zones for H12138

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).

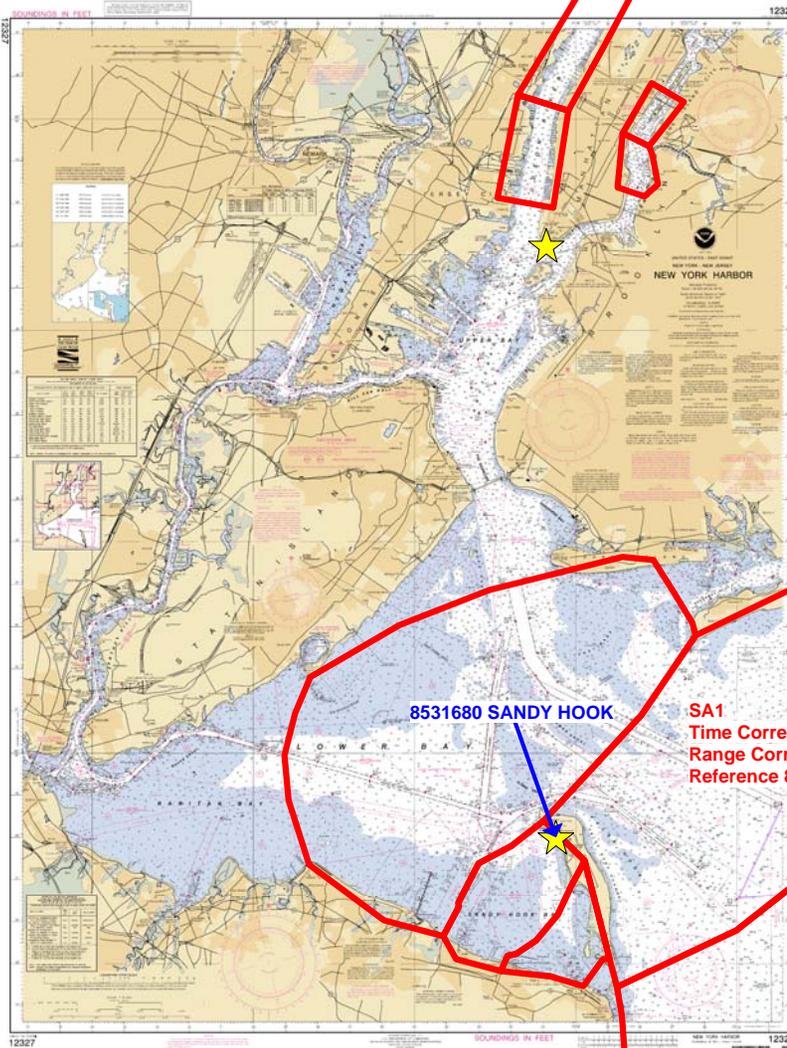
Peter J. Stone

Digitally signed by Peter J. Stone
DN: cn=Peter J. Stone, o=CO-OPS, ou=NOAA/
NOS, email=peter.stone@noaa.gov, c=US
Date: 2009.11.05 17:39:44 -05'00'

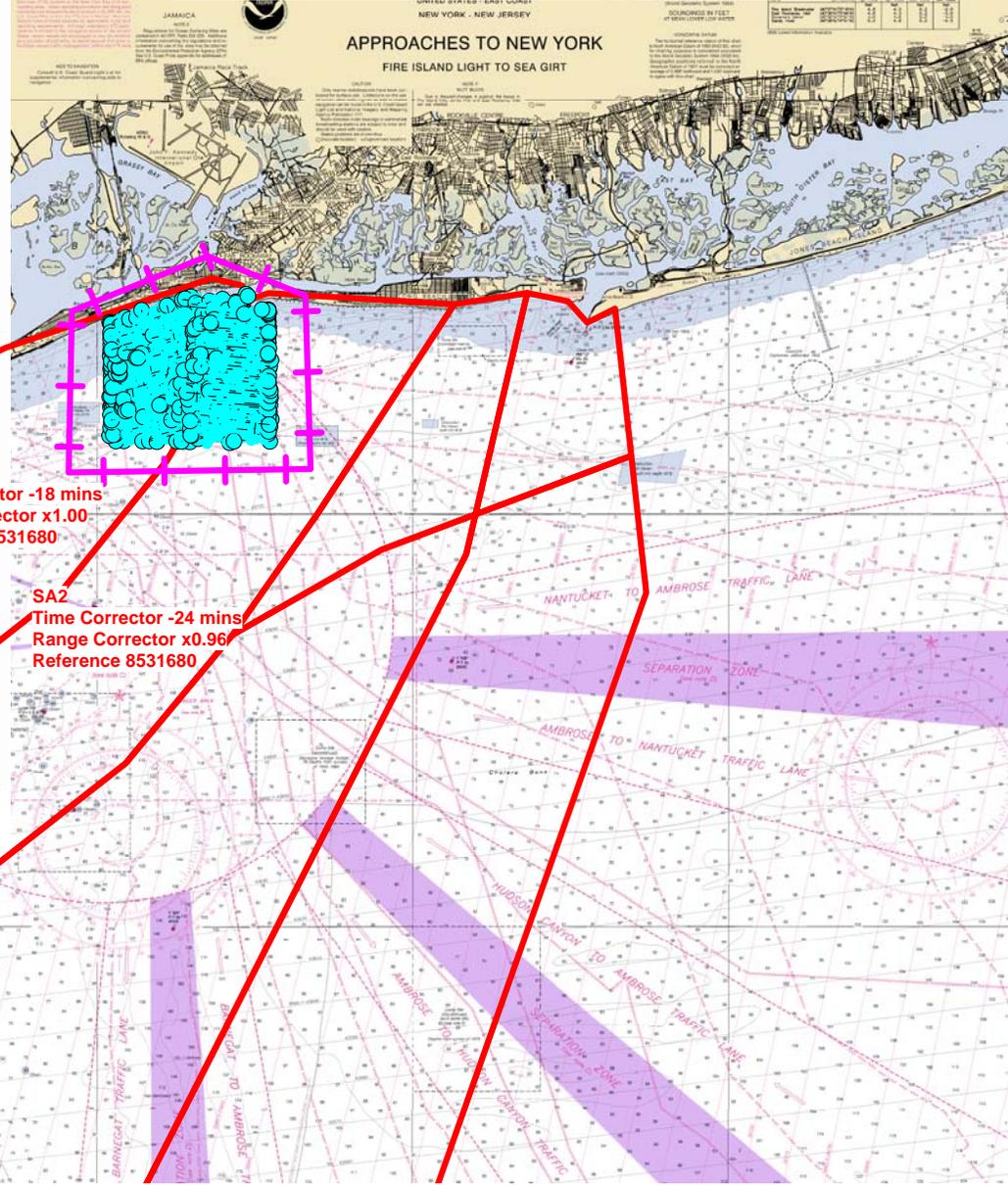
CHIEF, OCEANOGRAPHIC DIVISION



ELIZABETH



Preliminary as Final Tidal Zoning for OPR-B310-TJ-2009, H12138 New York Harbor and Approaches, NY/NJ



LORAN-C
GENERAL EXPLANATION

RATES ON THIS CHART
1980-1990-Y

This section provides a general explanation of the LORAN-C system and the rates on the chart, which are for the years 1980-1990-Y.

Appendix V

Supplemental Survey Records & Correspondence

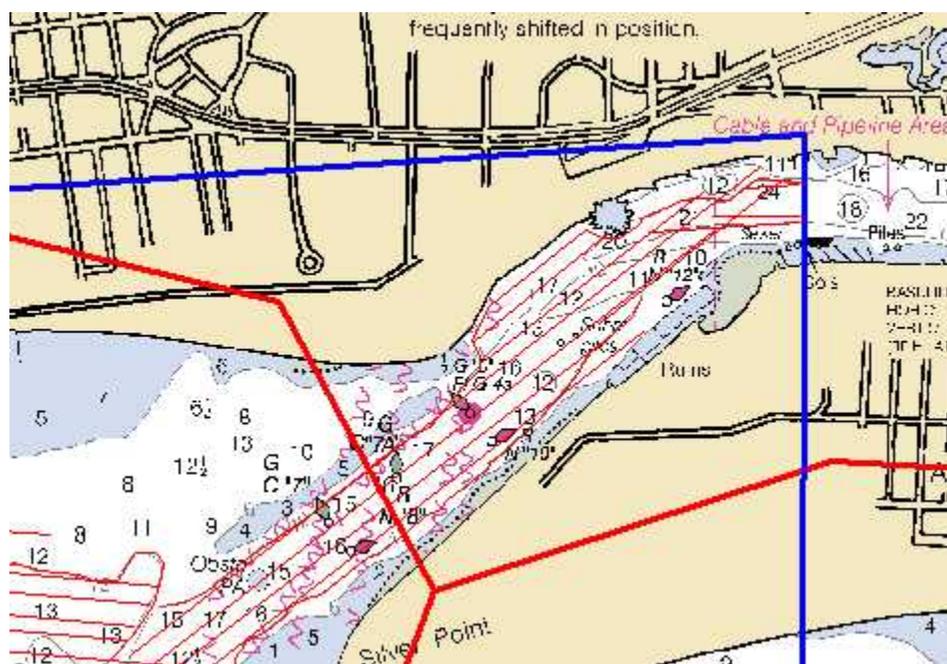
Subject: [Fwd: H12138 preparations]
From: "jasper schaeer" <jasper.schaer@noaa.gov>
Date: Tue, 15 Sep 2009 23:33:37 -0400
To: marina.kosenko@noaa.gov
CC: "kimberly.glomb" <kimberly.glomb@noaa.gov>

Modify the plans, as per CO's recommendation, before placing them on the launch tomorrow.
-foo

Subject: H12138 preparations
From: "co.thomas.jefferson" <co.thomas.jefferson@noaa.gov>
Date: Tue, 15 Sep 2009 21:39:24 -0400
To: jasper schaeer <jasper.schaer@noaa.gov>, daniel wright <daniel.wright@noaa.gov>

FOO,

I noticed that the lines they laid out for H12138 went past the tide zone into the harbor.



Also, I did the CSF workup for this survey. It turned out to be trivial. One obstruction, one modified coastline, and lots of bottom samples. The hob and 000 are in the CSF directory.

CO

--
CDR Shepard Smith, NOAA
Commanding Officer
NOAA Ship Thomas Jefferson
439 West York St
Norfolk, VA 23510
757-647-0187

H12138 preparations.eml	Content-Type: message/rfc822 Content-Encoding: 7bit
--------------------------------	--

Subject: [Fwd: Revised Coverage Requirements]
From: "co.thomas.jefferson" <co.thomas.jefferson@noaa.gov>
Date: Mon, 14 Sep 2009 17:17:28 -0400
To: foo.thomas.jefferson@noaa.gov, daniel wright <daniel.wright@noaa.gov>

Please include in DR correspondence as appropriate.

CO

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

Subject: Revised Coverage Requirements
Date: Mon, 14 Sep 2009 17:05:00 -0400
From: james.m.crocker <James.M.Crocker@noaa.gov>
To: _NMAO MOA CO Thomas Jefferson <CO.Thomas.Jefferson@noaa.gov>, _NMAO MOA FOO Thomas Jefferson <FOO.Thomas.Jefferson@noaa.gov>
CC: Jeffrey Ferguson <Jeffrey.Ferguson@noaa.gov>, Jeremy McHugh <Jeremy.McHugh@noaa.gov>, Richard T Brennan <Richard.T.Brennan@noaa.gov>, Kyle Ward <Kyle.Ward@noaa.gov>, Benjamin K Evans <Benjamin.K.Evans@noaa.gov>

CDR Smith,

This email is to detail the agreement to relax the multibeam resolution requirements for a survey when collecting multibeam bathymetry concurrent with side scan sonar data, where complete coverage for object detection for the survey is being met by 200% side scan sonar coverage. This agreement supersedes, where applicable, the requirements outlined in the 2009 HSSD and HTD 2009-2 for grid resolution and density.

For all projects assigned in 2009, where the complete coverage requirement for assigned surveys is being met by 200% side scan sonar data acquisition, the following requirements shall be met at a minimum:

- 1 - Grid resolutions shall be 2m for water depths less than 20m, and 4 m for water depths of 20m to 40m.
- 2 - Sounding density requirements are set at a minimum of 2 sounding per node.
- 3 - Grid resolution and density for feature developments used to determine least depth shall meet object detection requirements as defined in 2009 HSSD and HTD 2009-2 and soundings shall be designated where appropriate.

Regards,
Jim

--
CDR Shepard Smith, NOAA
Commanding Officer
NOAA Ship Thomas Jefferson
439 West York St
Norfolk, VA 23510
757-647-0187

Subject: H12138 Danger to Navigation

From: "daniel.morrow" <Daniel.Morrow@noaa.gov>

Date: Fri, 17 Sep 2010 11:49:24 -0400

To: Bryan Chauveau <Bryan.Chauveau@noaa.gov>

CC: Castle E Parker <Castle.E.Parker@noaa.gov>, John Barber <John.Barber@noaa.gov>

Greetings AHB,

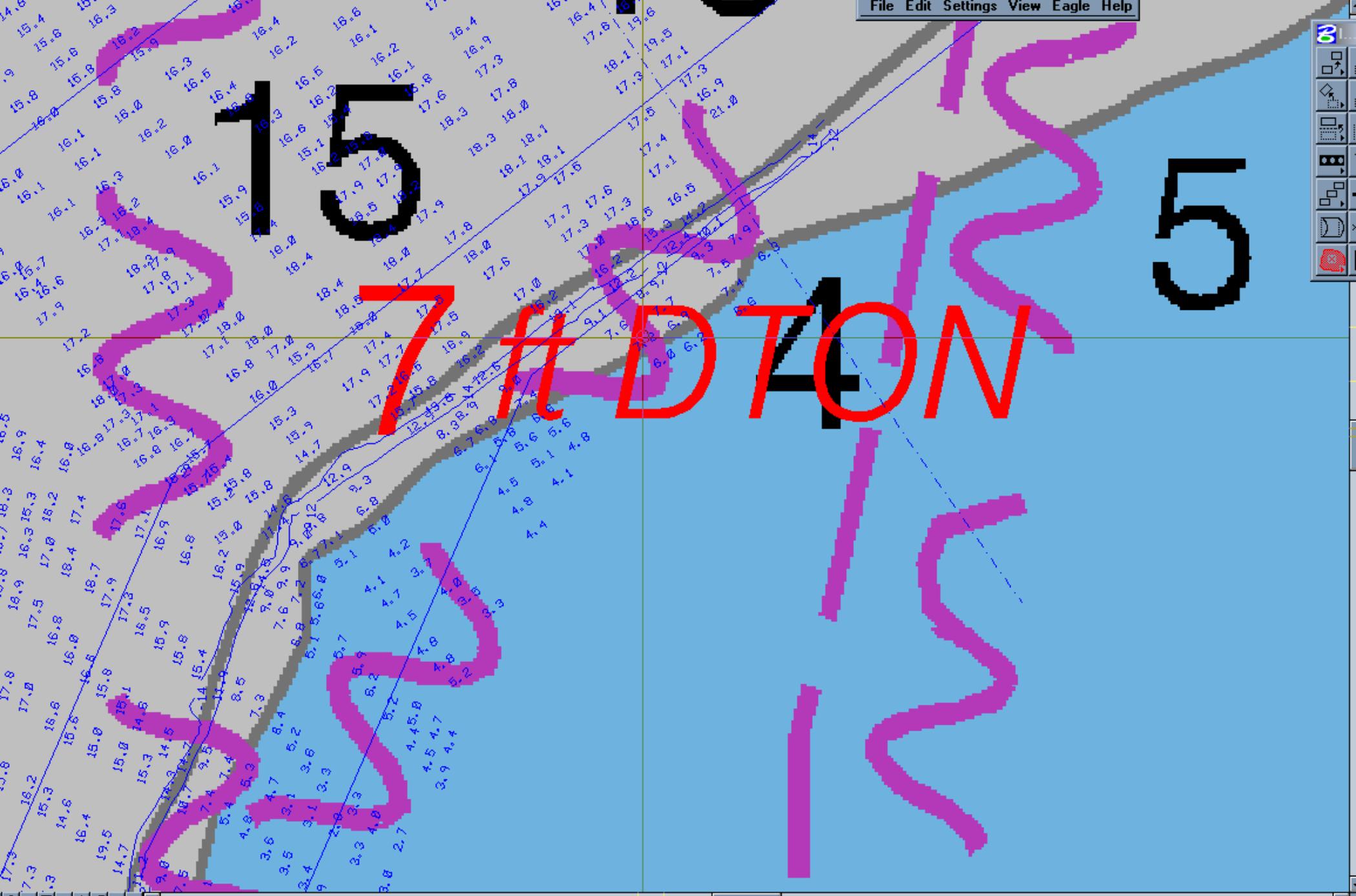
MCD received a DTON calling for the addition of a 7 ft sounding in East Rockaway Inlet Channel and I want to explain why this information will not be presented in a Notice to Mariner. The DTON survey area from 9/23/2009 has been superseded by an after dredge Army Corps of Engineers Survey from 5/20/2010. We treated the DTON as No Correction. I attached a screen shot indicating the DTON item and it's location within the After Dredge Survey.^^

Thanks,

Dan Morrow

DTON.tif	Content-Type: image/tiff
	Content-Encoding: base64

Item not shown on Chart 12350, 59th., Ed., 20090601. No change in charting is recommended.



15

5

7ADTON

Subject: Re: Crossline comparison

From: Chris van Westendorp <Christiaan.VanWestendorp@noaa.gov>

Date: Thu, 10 Sep 2009 13:00:35 -0400

To: "mark.blankenship" <Mark.Blankenship@noaa.gov>

CC: LCDR Rick Brennan <Richard.T.Brennan@noaa.gov>, Castle Parker <Castle.E.Parker@noaa.gov>, Edward Owens <Edward.Owens@noaa.gov>, LT Jasper Schaer <jasper.schaer@noaa.gov>, CDR Shep Smith <Shep.Smith@noaa.gov>, Daniel Wright <Daniel.Wright@noaa.gov>

Mark,

Per 5.1.4.3 of the HSSD, AHB authorizes TJ to use the Standard Deviation layer to conduct surface difference comparison and analysis on future survey submissions of multibeam data. This meets the crossline comparison requirement laid out in HSSD.

Please let me know if you have any questions or need for further clarification.

R/

LCDR Chris van Westendorp, NOAA

mark.blankenship wrote:

Chris,

You mentioned in the meeting today that AHB was not going to require the multiple CUBE surface comparison, instead allowing us to use a single surface standard deviation layer to do our checks with. Is there any memo coming out for that?

Mark

LCDR Chris van Westendorp <christiaan.vanwestendorp@noaa.gov>

Atlantic Hydrographic Branch

NOAA OCS

From Jeremy McHugh <Jeremy.McHugh@noaa.gov>

Sent Thursday, July 30, 2009 9:49 am

To daniel wright <Daniel.Wright@noaa.gov> , jasper schae <jasper.schaer@noaa.gov>

Cc "shep.smith" <Shep.Smith@noaa.gov> , Kyle Ward <Kyle.Ward@noaa.gov> , James M Crocker <James.M.Crocker@noaa.gov>

Subject Re: [Fwd: Re: [Fwd: H11710]] revised Rockaway Beach sheets for B310

Dan (and Jasper),

Thanks for the revised MapInfo table. That works for us too. Here are the new details for the two pieces I just updated in Survey Tracker:

registry number: **H11710**

sublocality: **Rockaway Beach: Rockaway Pt. to Seaside**

ESNM: **10**

sheet/priority: **3**

registry number: **H12138**

sublocality: **Rockaway Beach: Seaside to Silver Pt.**

ESNM: **13**

sheet/priority: **2**

Jeremy

daniel wright wrote, On 7/29/2009 3:46 PM:

Hi Jeremy,

Attached are the revised mapinfo outlines for B310 divided sheet 2. Please let us know if you need any additional info.

Br,
Dan

shep.smith wrote:

CST,

Jasper is up to his ears today, maybe you could take care of this, or ask one of your folks.

CO

Subject: Re: [Fwd: H11710]

From: Jeremy McHugh <Jeremy.McHugh@noaa.gov>

Date: Wed, 29 Jul 2009 12:07:27 -0400

To: Jasper Schae <jasper.schaer@noaa.gov>

To: Jasper Schae <jasper.schaer@noaa.gov>

CC: "Kyle.Ward" <Kyle.Ward@noaa.gov>, James M Crocker <James.M.Crocker@noaa.g

Smith <Shep.Smith@noaa.gov>

Jasper,

Go ahead and split the sheet in the way that works best for you and then send me the revised table of the sheets. I will then issue an additional registry number for the new piece.

Jeremy

Kyle.Ward wrote, On 7/29/2009 11:54 AM:

Jeremy,

I do not see a problem with splitting the sheet.

Shep,

I would like to participate in the call.

Thanks,

Kyle

Jeremy McHugh wrote:

I am forwarding this since Jim is out...they want to break the NY Harbor / Rockaway beach survey into two sheets. Do you see any reason why we should not do that?

I won't be able to join in on the conference call next Monday. Does someone else want to join in?

Jeremy

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

Subject: H11710

Date: Wed, 29 Jul 2009 14:35:38 +0000

From: shep.smith <Shep.Smith@noaa.gov>

To: Jeremy McHugh <Jeremy.McHugh@noaa.gov>, LCDR Rick Brennan NOAA <Richard.T.Brennan@noaa.gov>, Vanessa.Self@noaa.gov

CC: James Crocker <James.M.Crocker@noaa.gov>,

Daniel.Wright@noaa.gov, jasper.schaer <jasper.schaer@noaa.gov>,

Jeffrey.Ferguson@noaa.gov

Jeremy,

We would like to open a conversation with you up front on how we should handle these nearshore areas and shoreline that have clearly changed significantly. It appears to me that some fairly recent shoreline was applied to the chart that moved the land seaward, covering what used to be soundings on the chart. MCD, in accordance with their policies, did not remove any nearshore soundings in the area of the change, but it clearly is not 17 or 15 ft deep where it is charted.

I expect that we will find a new 18 some distance from the beach. Since TJ does not have inshore survey capability, I recommend that we plan to blue tint (DEPARE 0-18) everything inside the 18 curve.

The project instructions require us to get to the 4 meter curve (approx 12 ft). However, the only survey boats we have to accomplish this are the two 17,000 lb launches. These draw 4-5 ft and are not very nimble. I am not comfortable sending them to survey the 12 ft curve on this project, on an open beach. We will guarantee the 18, but will not likely get the 12 curve regularly. If this sort of work is expected to continue to be assigned to TJ, I recommend we acknowledge the fact that we don't have the boat for the job, and go about getting one. I also recommend that we consider breaking this survey into two sheets, one east and one west. As it stands now, it is almost 10 miles from one end to the other, and our experience is that these inshore sheets in NY are full of features. I think we would get it off the ship and through AHB faster in two sheets. I think we should use a 20 boat-day rule of thumb for sheet size, and as one sheet, this exceeds this limit.

We plan to use orthophotos to sketch in a low water line for use by the launches in these areas that have changed. We can provide our shoreline edits to the branch as part of the deliverables package, or let the branch do it from scratch later, at AHB's direction. We would probably use AHB staff to do the shoreline digitization anyway, so it might be easier to just take care of it up front in a way that would work for the H-Cell later.

I would like to invite Jeremy and Vanessa (and others if they desire) to join us to discuss this next Monday at 1500. Rick-may we use AHB's conference calling codes?

Shep

--

CDR Shepard Smith, NOAA
Commanding Officer
NOAA Ship Thomas Jefferson
439 West York St

Norfolk, VA 23510
757-647-0187

--

Jeremy McHugh, Physical Scientist
NOAA's Office of Coast Survey
301-713-2702 x117

--

Jeremy McHugh, Physical Scientist
NOAA's Office of Coast Survey
301-713-2702 x117

GPT "S Sh" 600888.72 4487209.84 0.00 40.529491444441 -73.808837555544 16:45:14 11/03/2009 0.0
GPT "S Sh" 601958.88 4487228.95 0.00 40.529532638885 -73.796202055543 16:45:18 11/03/2009 0.0
GPT "S Sh" 602863.42 4487235.32 0.00 40.529478249996 -73.785523666653 16:45:20 11/03/2009 0.0
GPT "S Sh" 600805.91 4488834.19 0.00 40.544132055552 -73.809556111100 16:45:23 11/03/2009 0.0
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GPT "hrd" 604777.63 4492871.11 0.00 40.579999138885 -73.761993472207 18:59:29 11/03/2009 0.00

H12138 COMPILATION LOG

General Survey Information	
REGISTRY No.	<i>H12138</i>
PROJECT No.	<i>OPR-B310-TJ-09</i>
FIELD UNIT	<i>NOAA SHIP THOMAS JEFFERSON</i>
DATE OF SURVEY	<i>September 16, 2009 to October 26, 2009</i>
LARGEST SCALE CHART	<i>12350, 59th. Ed., 20090601</i>
SOUNDING UNITS	<i>Feet</i>
COMPILER	<i>Norris Wike</i>
Source Grids	File Name
	 H12138_1_CUBE_NOAA_50cm_Final.csar 244 KB CSAR File  H12138_VBE52m_ShoalExtract.csar 493 KB CSAR File
Surfaces	File Name
<i>Combined</i>	<i>H12138_4M_Combined.csar</i>
<i>Interpolated TIN</i>	<i>H12138_12M_InterpTIN.csar</i>
<i>Shifted Interpolated TIN</i>	<i>H12138_12M_InterpTIN_shifted.csar</i>
Final HOBs	File Name
<i>Survey Scale Soundings</i>	<i>H12138_SS.hob,</i>
<i>Chart Scale Soundings</i>	<i>H12138_CS.hob</i>
<i>Contour Layer</i>	<i>H12138_Contours.hob</i>
<i>Feature Layer</i>	<i>H12138_Features.hob</i>
<i>Meta-Objects Layer</i>	<i>H12138_MetaLayers.hob</i>
<i>Blue Notes</i>	<i>H12138_BlueNotes.hob</i>
<i>Bottom Samples</i>	<i>H12138_BottomSamples.hob</i>
<i>ENC</i>	<i>H12138_ENC_Retained.hob</i>
Meta-Objects Attribution	
Acronym	
M_COVR	
CATCOV	<i>1</i>
SORDAT	<i>20091026</i>
SORIND	<i>US,US,graph,H12138</i>
M_QUAL	
CATZOC	<i>6</i>
INFORM	<i>NOAA Ship Thomas Jefferson</i>
POSACC	<i>10</i>
SORDAT	<i>20091026</i>
SORIND	<i>US,US,graph,H12138</i>
SUREND	<i>20091026</i>
SURSTA	<i>20090916</i>
DEPARE	
DRVALV 1	<i>6.0 ft</i>
DRVALV2	<i>65.0 ft</i>
SORDAT	<i>20091026</i>
SORIND	<i>US,US,graph,H12138</i>

SPECIFICATIONS:

I. COMBINED SURFACE:

- a. Number of ESAR Final Grids: **2**
- b. Resolution of Combined (m): **4M**

II. SURVEY SCALE SOUNDINGS (SS):

- a. Radius
- b. Shoal biased
- c. Use Single-Defined Radius (mm at Map Scale): **20000**
 - i. Radius Value (m): **NA**
 - ii. Or use a Sounding Space Range Table (if applicable): **H12138_SS_SSR_80k.txt**

0	3.658	0.9
3.6581	5.486	1.0
5.4861	9.144	1.1
9.1441	27.432	1.2

- d. Queried Depth of All Soundings
 - i. Minimum: **7.339 ft**
 - ii. Maximum: **64.833 ft**

III. INTERPOLATED TIN SURFACE:

- a. Resolution (m): **12M**
- b. Linear
- c. Shifted value: **[-0.229m (feet), (≤ 10 fathoms)]**
[-1.372m (fathoms), (> 10 fathoms)]

IV. CONTOURS:

- a. Use a Depth List: **H12138_depth_curves_list.txt**
- b. Line Object: DEPCNT
- c. Value Attribute: VALDCO

V. FEATURES:

- a. Total Number of Features: **9**
- b. Number of Insignificant Features: **17**

VI. CHART SURVEY SOUNDINGS (CS):

- a. Number of ENC CS Soundings: **535**
- b. Radius
- c. Shoal biased
- d. Use Single-Defined Radius: m on the ground
 - i. Radius Value (m): **NA**
 - ii. Or use a Sounding Space Range Table (if applicable): **H 12138_CS_SSR.txt**

0	5.4860	200
5.48601	9.1440	225
9.14401	27.4220	275

- e. Filter: Interpolated != 1
- f. Number Survey CS Soundings: **556**

VII. Notes:

**ATLANTIC HYDROGRAPHIC BRANCH
H-CELL REPORT to ACCOMPANY
SURVEY H12138 (2009)**

This H-Cell Report has been written to supplement and/or clarify the original Descriptive Report. Sections in this report refer to the corresponding sections of the Descriptive Report.

B. DATA ACQUISITION AND PROCESSING

B.2. QUALITY CONTROL

H-Cell

The AHB source depth grid for the survey's nautical chart update product entailed the field's original 0.5m and 2m grids. These grids were combined at 4 meter resolution. The survey scale soundings were created from the combined surface using the Sounding Spacing Range table process. Refer to the Compilation Log above for exact values used for this process. A TIN was created from the survey scale soundings from which an interpolated surface was generated. The chart scale soundings were derived from only the non-interpolated nodes of this surface to preserve absolute continuity between the charted depths, the survey scale soundings, and the original source grid. The chart scale soundings were selected using a sounding spacing range (SSR) file. 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 interpolated TIN surface of 12m resolution was shifted by the NOAA sounding rounding value of -0.75 feet. The shifted interpolated TIN was used to generate depth contours in feet. The depth contours are forwarded to MCD for reference only. The contours were utilized during chart scale sounding selection and quality assurance efforts at AHB. The depth contours are incorporated into the SS H-Cell product as per 2009 H-Cell Specifications.

The compilation products (Final *.HOB files) for this survey are detailed in the H12138 AHB Compilation Log contained within this document. The Final HOB files included depth areas (DEPARE), depth contours (DEPCNT), soundings (SOUNDG), meta-objects (M_COVR, M_QUAL), cartographic Blue Notes (\$CSYMB), and features (OBSTN, UWTRC, SBDARE, WRECKS).

As dictated by Hydrographic Technical Directive 2008-8, the Final HOB files were combined into two separate H-Cell files in S-57 format. Both S-57 files were exported from CARIS Bathy DataBASE in meters, and then converted from metric units into feet using CARIS HOM ENC 3.3. Quality assurance and topology checks were conducted using CARIS S-57 Composer 2.1 and DKART Inspector 5.1 validation tests.

The final H-Cell products are two S-57 files, in Lat/Long NAD-83. The contents of these two H-Cell deliverables are listed in the table below:

<u>TABLE 1</u> - Contents of H-Cell Files			
H12138_CS.000		Scale 1:20,000	
Object Class Types	Geographic	Cartographic	Meta
S-57 Object Acronyms	DEPARE	\$CSYMB	M_COVR
	OBSTRN		M_QUAL
	SBDARE		
	UWTROC		
	WRECKS		
	SOUNDG		
H12138_SS.000		Scale 1:20,000	
Object Class Types	Geographic		
S-57 Object Acronyms	DEPCNT		
	SOUNDG		

B.2.4 Junctions

Survey H12138 (2009) has a junction with surveys H11710 (2009) to the west and H12036 (2009) to the south. Present survey soundings compare within 1 foot with H12036 (2009) and H11710 (2009). Most present survey depths compare within 1 foot of the charted hydrography to the east and north.

DATA PROCESSING

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

CARIS HIPS/SIPS version 6.1 SP2, HF 1-8
 CARIS Bathy DataBase version 3.0 HF 1, 3, 5, 8, 9, 10
 CARIS S-57 Composer version 2.1 HF 1-4
 DKART INSPECTOR, version 5.0 Build 732 SP1
 CARIS HOM ENC 3.3 SP3 HF 1-8
 PYDRO version 10.11 (r3191)

C. VERTICAL AND HORIZONTAL CONTROL

The hydrographer makes adequate mention of horizontal and vertical control used for this survey in section C of the DR. The sounding datum for this survey is Mean Lower Low Water (MLLW), and the 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 North.

D. RESULTS AND RECOMMENDATIONS

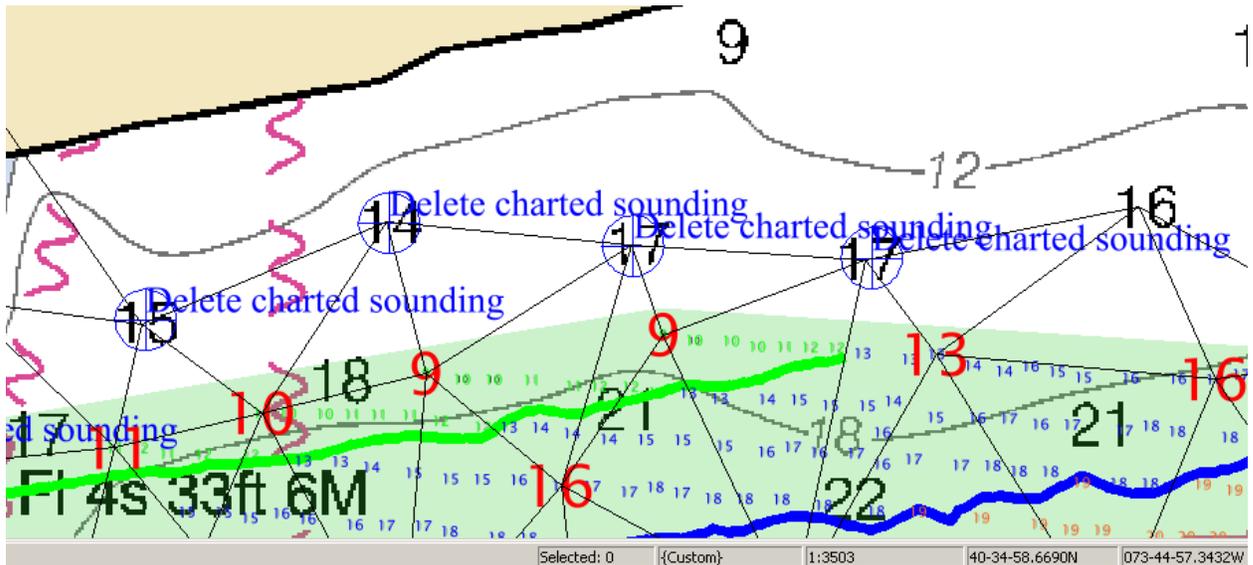
CHART COMPARISON **12350 (59th. Edition, Jun. /09)**
Jamaica Bay and Rockaway Inlet
Corrected through NM 01/08/2011
Corrected through LNM 12/30/2010
Scale 1:20,000

ENC Comparison **US5NY50M**
Jamaica Bay and Rockaway Inlet
Edition 15
Application Date 2011-01-11
Issue Date 2011-01-11
Chart 12350

Hydrography

The charted hydrography originates with prior surveys and requires no further consideration. The hydrographer makes adequate chart comparisons in section D. and Appendix I and II of the Descriptive Report. Any charted features not specifically addressed either in the H-Cell files or the Blue Notes should be retained as charted. The following should be noted:

In the vicinity of Latitude 40-34-58.5N, Longitude 073-44-58.5W, present survey soundings are 4 to 9 feet shoaler than inshore charted soundings. It is recommended that the area be charted as shown in H-Cell.



MISCELLANEOUS

Chart compilation was completed 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.

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 section D. and Appendix I and II of the Descriptive Report for further recommendations by the hydrographer.

APPROVAL SHEET
H12138 (2009)

Initial Approvals:

The completed survey has been inspected with regard to survey coverage, delineation of depth contours, disposition 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.

Norris A. Wike
Cartographer
Atlantic Hydrographic Branch

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

Approved: _____

Richard T. Brennan
Commander, NOAA
Chief, Atlantic Hydrographic Branch