

F00557

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey: **Field Examination**

Registry Number: **F00557**

LOCALITY

State: **Delaware**

General Locality: **Delaware Coast**

Sub-locality: **15.9 NM Southeast of Cape Henlopen**

2008

CHIEF OF PARTY
CDR P.Tod Schattgen
NOAA

LIBRARY & ARCHIVES
DATE

HYDROGRAPHIC TITLE SHEET

F00557

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: **Delaware**

General Locality: **Delaware Coast**

Sub-Locality: **15.9 NM Southeast of Cape Henlopen**

Scale: **1:5,000** Date of Survey: **06/10/08 to 06/11/08**

Instructions Dated: **2 June 2008** Project Number: **OPR-D302-TJ-08**

Vessel: **NOAA Ship THOMAS JEFFERSON**

Chief of Party: **CDR P. Tod Schattgen ,NOAA**

Surveyed by: **THOMAS JEFFERSON Personnel**

Soundings by: **Reson 7125 multibeam 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: **Meters at MLLW**

Remarks:
1) All Times are in UTC.
2) This is a Field Examination for Navigable Area Hydrographic Survey.
3) Projection is NAD83, UTM Zone 18.

Descriptive Report to Accompany Hydrographic Survey

**Project OPR-D302-TJ-08
 F00557
 Delaware Coast, DE
 15.9 NM Southeast of Cape Henlopen
 Scale 1:5000
 July 10rd - August 11th 2008
 NOAA Ship THOMAS JEFFERSON**

A. AREA SURVEYED

This Field Examination was conducted as specified by Hydrographic Survey Letter Instructions OPR-D302-TJ-08, dated 2 June, 2008. The survey area is as follows:

<u>Northern Limit</u>	<u>Southern Limit</u>	<u>Western Limit</u>	<u>Eastern Limit</u>
38 41 48.0" N	38 38 48.0" N	74 50 25.0" W	74 45 43.0" W

The Coast Guard reported that a possible submerged object consisting of three metal spud legs, measuring 70' by 2.5', as a result of a vessel casualty and requested that a NOAA survey vessel search the casualty area. THOMAS JEFFERSON was tasked to spend 15 hrs searching for these items, while in route from Norfolk to New York. The legs were last reportedly broken from the rig in approximate position 38-41-18.5N, 74-46- 15.65W. The purpose of this project is to locate three metal legs, determine if they are a danger to navigation and to provide the positions of the obstructions to the USCG for removal. The charted water depth was reported as 43 feet. The area covered actually ranged from 31 feet to 81 feet. This area is currently used to anchor, though it is not a designated anchorage. Ships not using the traffic separation scheme in their approach to Delaware Bay can also transit through this area, between the traffic lanes. On going information was being provided during survey operations. A concurrent survey was in progress conducted by a private contractor and their survey junctions with that area.

Statistics:

Single Beam Only	N/A
Multibeam Only	46.2 lnm
Side Scan Sonar Only	53.8 lnm
Side Scan/Single Beam	N/A
Crosslines	N/A
Multibeam Developments	1.9 lnm
Side Scan Developments	N/A
Shoreline Investigation	N/A
No bottom samples collected	N/A
No AWOIS items investigated	N/A

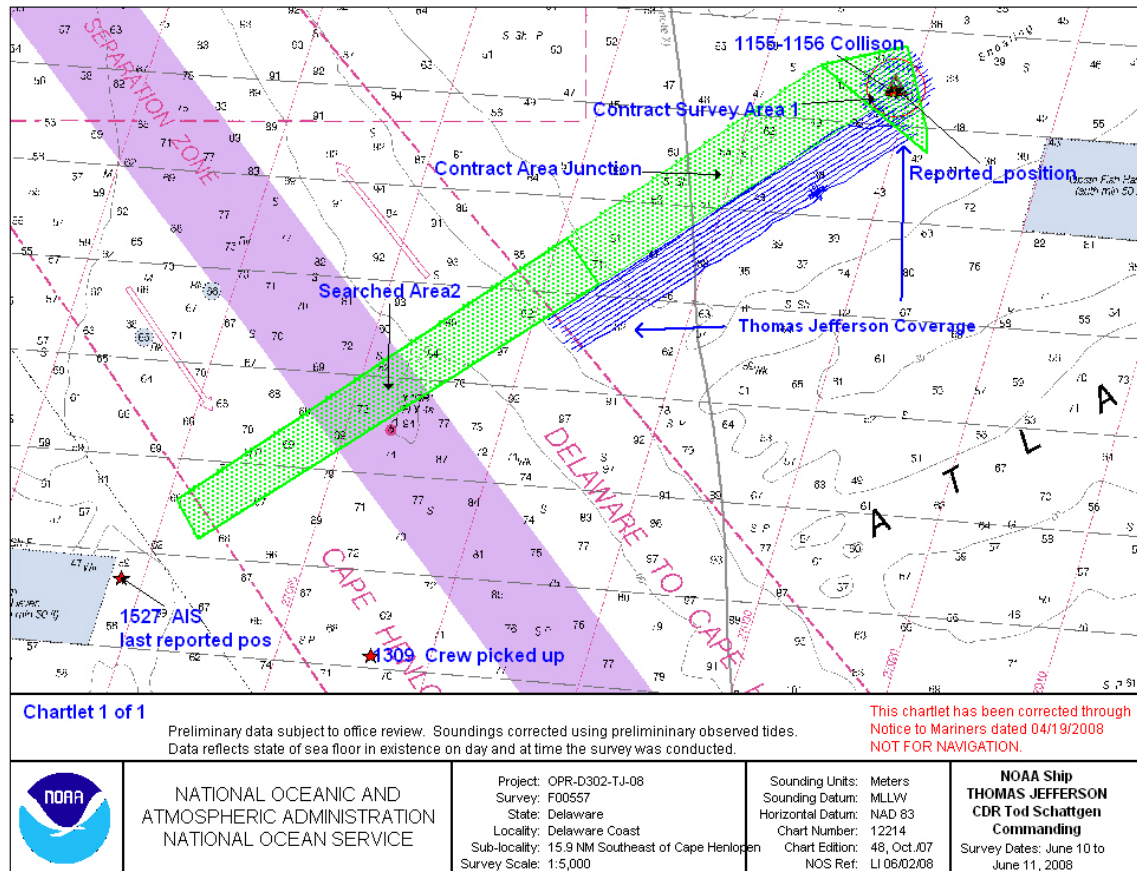


Fig 1. Survey Limits

B. DATA ACQUISITION AND PROCESSING

Refer to Data Acquisition and Processing Report, Spring 2008 (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 Thomas Jefferson (S222) using Klein 5000 Side Scan Sonar (SSS) and Reson 7125 multibeam (MB) echosounder soundings, 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

B 2.1. System Certification and Calibration

Refer to NOAA Ship THOMAS JEFFERSON's 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.

B.2.2 Sounding Coverage

Per the Letter Instructions, the primary source data was 100% and 200% SSS. Multibeam developments were limited and were for ancillary information only.

B 2.3 Crosslines

No crosslines were acquired.

B 2.4 Junctions and Prior Surveys

Not applicable.

B 2.5 Systematic Errors

No systematic errors were observed.

B 3. CORRECTIONS TO ECHO SOUNDING

HDGS sounding data were reduced to mean lower-low water (MLLW) using observed tides from the primary station at Cape May, NJ (853-6110). There was no zoning or final tides requested.

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.

B 4. DATA PROCESSING

B 4.1 Total Propagated Error

TPE was calculated using a default value for all MBES data immediately following CARIS Merge. These values were as follows: Tide Measured 0.20, Sound Speed measured 2.0 and surface 0.2.

B 4.2 BASE Surfaces and Mosaics

The following table describes all BASE Surfaces and Mosaics submitted as part of Survey F00557:

<i>Name of Fieldsheet</i>	<i>Resolution</i>	<i>Type</i>	<i>Purpose</i>
F00557_1	2m	CUBE deep final	MB developments
F00557_2	3m	SSS Mosaic	SSS Coverage

This survey was processed using the Combined Uncertainty and Bathymetry Estimator (CUBE) algorithm. The CUBE configuration was set to “Deep” for this entire survey. Refer to the Data Acquisition and Processing Report Spring 2008, 2008 Field Procedures Manual, and CARIS HIPS/SIPS 6.1 manual for further discussion of Cube.

C. VERTICAL AND HORIZONTAL CONTROL

As per HSTP guidance (see: Appendix 5), a HVCR report was not filed as no horizontal 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), zone 18. Differential GPS (DGPS) was the sole method of positioning. Differential corrections from U.S. Coast Guard beacons at Reedy Point, DE, 309 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 Cape May, NJ (853-6110) will serve as datum control for F00557. Observed tides were applied to all sounding data.

Final approved (verified) tides for this survey are not requested.

D. RESULTS AND RECOMMENDATIONS

D.1 Chart Comparison

The soundings observed from this area are consistent with charted soundings on 12214 and in the ENC, US4DE11M.

D.2 Additional Results

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

No AWOIS items were provided for this survey.

D.2.4 Shoreline

There is no shoreline within the sheet limits of survey F00557.

D.2.5 Charted Features

There are no charted features within the survey area

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

D.2.6 Charted Pipelines and Cables

There are no charted pipelines or cables in the survey area.

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

There were no Dangers to Navigation Reported for this survey

D 3.2 Shoals

There was no evidence of shoaling in this survey.

D.4 Aids to Navigation

There are no charted Aids to Navigation (ATON) within the revised limits of F00557.

D.5 Coast Pilot Information

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

D.6 Miscellaneous

Bottom Samples

No bottom samples were taken.

D.8 Adequacy of Survey

This survey is considered complete within the common area as per requirements specified in the Project Letter Instructions.

Summary and Recommendations for Additional Work

Only one major item that resembled the spud legs was found. The information was forwarded to USCG for further investigation. Later in the month, all the spuds were found by a contracted surveyor and removed, therefore no charting actions will have to be taken (see appendix V). All other items were considered insignificant as pertains to this survey. All features can be found in the PYDRO PSS and Feature Report Section.

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.

Survey F00557 is adequate to supersede charted soundings pending Atlantic Hydrographic Branch approval.

Listed below are supplemental reports submitted separately that contain additional information relevant to this survey:

<u>Title</u>	<u>Date Sent</u>	<u>Office</u>
Data Acquisition and Processing Report Spring 2008	5/7/2008	N/CS33
Horizontal and Vertical Control Report for OPR-D302-TJ-08	n/a	N/CS33
Tides and Water Levels Package for OPR-D302-TJ-08	n/a	N/OPS1
Coast Pilot Report for OPR-D302-TJ-08	n/a	N/CS26

Approved and Forwarded:

LT Jasper Schaer, NOAA
Field Operations Officer

CDR Tod Schattgen, NOAA
Commanding Officer

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

Survey Manager:

SST Peter Lewit

Appendix I

Dangers to Navigation

*No Dangers to Navigation were found during survey F00557.

Appendix II

Survey Features Report

1. AWOIS Items

-none

2. Charted Features

-one listed

3. Uncharted Features

-none

F00557 Features

Registry Number: F00557
State: Delaware
Locality: Delaware Coast
Sub-locality:
Project Number: OPR-D302-TJ-08
Survey Dates: 06/10/2008 - 06/11/2008

Charts Affected

Number	Edition	Date	Scale (RNC)	RNC Correction(s)*
12214	48th	10/01/2007	1:80,000 (12214_1)	USCG LNM: 04/08/2008 (04/15/2008) NGA NTM: 01/10/1998 (04/19/2008)
12200	48th	06/01/2004	1:419,706 (12200_1)	[L]NTM: ?
13003	48th	10/01/2004	1:1,200,000 (13003_1)	[L]NTM: ?

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

Features

No.	Name	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	0001 Primary TGT A	Obstruction	[None]	38° 41' 17.5" N	074° 46' 15.7" W	---
1.2	0001 Primary TGT B	SSS	[None]	38° 40' 20.8" N	074° 47' 09.3" W	---

1 - New Features

1.1) 0001 Primary TGT A

Survey Summary

Survey Position: 38° 41' 17.5" N, 074° 46' 15.7" W
Least Depth: [None]
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 2008-162.08:07:37 (06/10/2008)
Survey Line: f00557 / tj_s222_klein5000_sss100 / 2008-162 / 016_1742
Contact/Point: 0001/1
Charts Affected: 12214_1, 12200_1, 13003_1

Remarks:

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00557/tj_s222_klein5000_sss100/2008-162/016_1742	0001	0.00	000.0	Primary
f00557/tj_s222_klein5000_sss200/2008-162/203_1636	0001	3.73	203.1	Secondary (grouped)
f00557/tj_s222_klein5000_sss100/2008-162/103_1709	0001	9.27	224.1	Secondary (grouped)
f00557/tj_s222_klein5000_sss100/2008-162/017_1752	0001	13.50	168.2	Secondary (grouped)

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Obstruction (OBSTRN)
Attributes: TECSOU - 2:found by side scan sonar
 VERDAT - 12:Mean lower low water
 WATLEV - 3:always under water/submerged

Feature Images

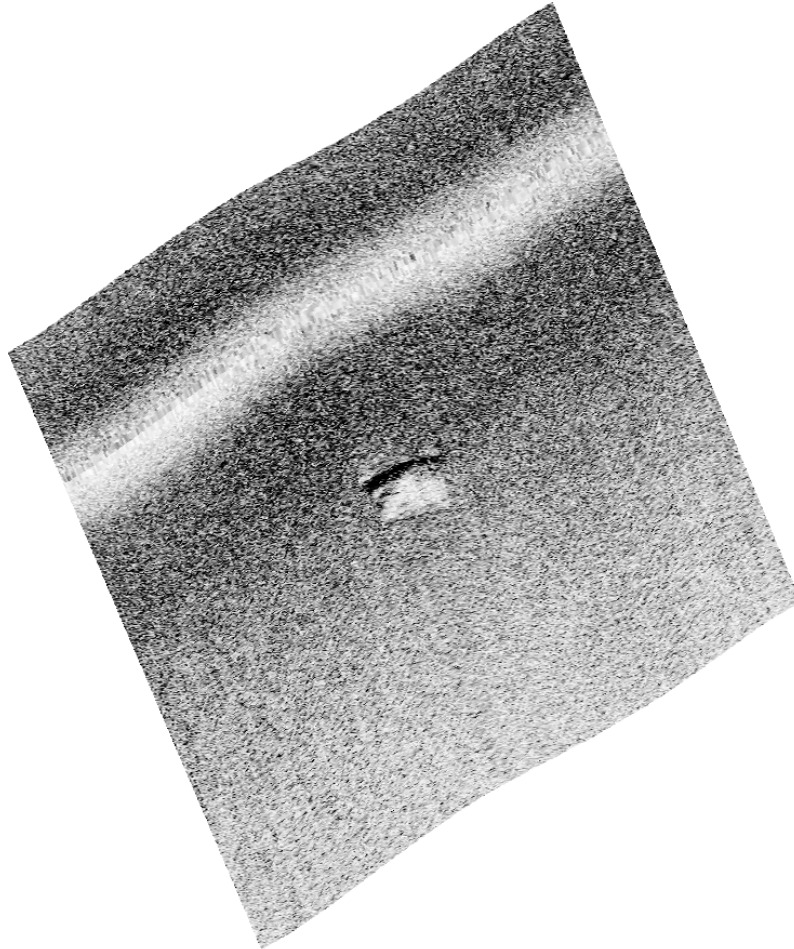


Figure 1.1.1

1.2) 0001 Primary TGT B

Survey Summary

Survey Position: 38° 40' 20.8" N, 074° 47' 09.3" W
Least Depth: [None]
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 2008-163.05:52:10 (06/11/2008)
Survey Line: f00557 / tj_s222_klein5000_sss200 / 2008-163 / 032_0207
Contact/Point: 0001/1
Charts Affected: 12214_1, 12200_1, 13003_1

Remarks:

Feature Correlation

Address	Feature	Range	Azimuth	Status
f00557/tj_s222_klein5000_sss200/2008-163/032_0207	0001	0.00	000.0	Primary
f00557/tj_s222_klein5000_sss100/2008-163/211_0025	0001	3.12	127.9	Secondary (grouped)
f00557/tj_s222_klein5000_sss200/2008-163/035_0241	0001	5.63	060.3	Secondary (grouped)
f00557/tj_s222_klein5000_sss200/2008-162/210_2347	0001	8.02	121.5	Secondary (grouped)
f00557/tj_s222_klein5000_sss200/2008-163/034_0157	0001	8.83	101.2	Secondary (grouped)
f00557/tj_s222_klein5000_sss200/2008-163/034_0214	0001	10.08	070.6	Secondary (grouped)
f00557/tj_s222_klein5000_sss200/2008-163/027_0149	0001	10.08	080.9	Secondary (grouped)
f00557/tj_s222_klein5000_sss200/2008-163/028_0131	0001	10.41	093.9	Secondary (grouped)
f00557/tj_s222_klein5000_sss200/2008-163/030_0141	0002	12.53	058.6	Secondary (grouped)
f00557/tj_s222_klein5000_sss200/2008-163/029_0115	0001	16.91	127.0	Secondary (grouped)

Hydrographer Recommendations

[None]

S-57 Data

[None]

Feature Images

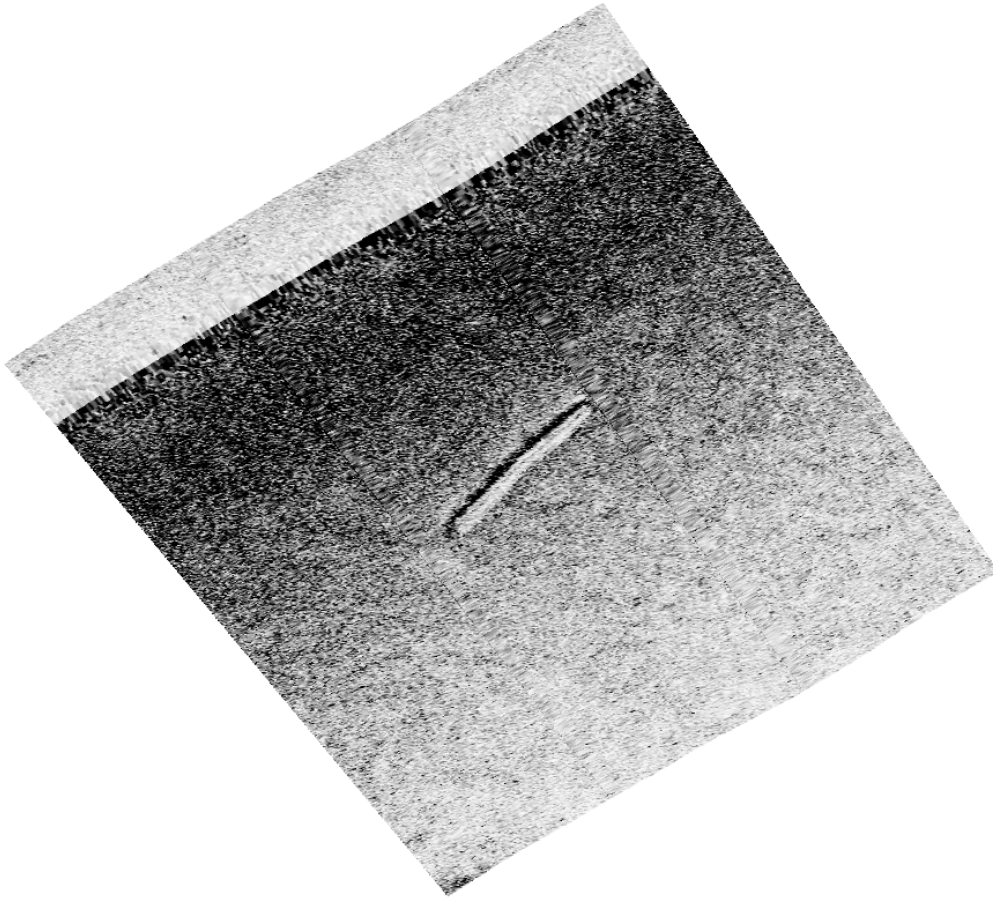
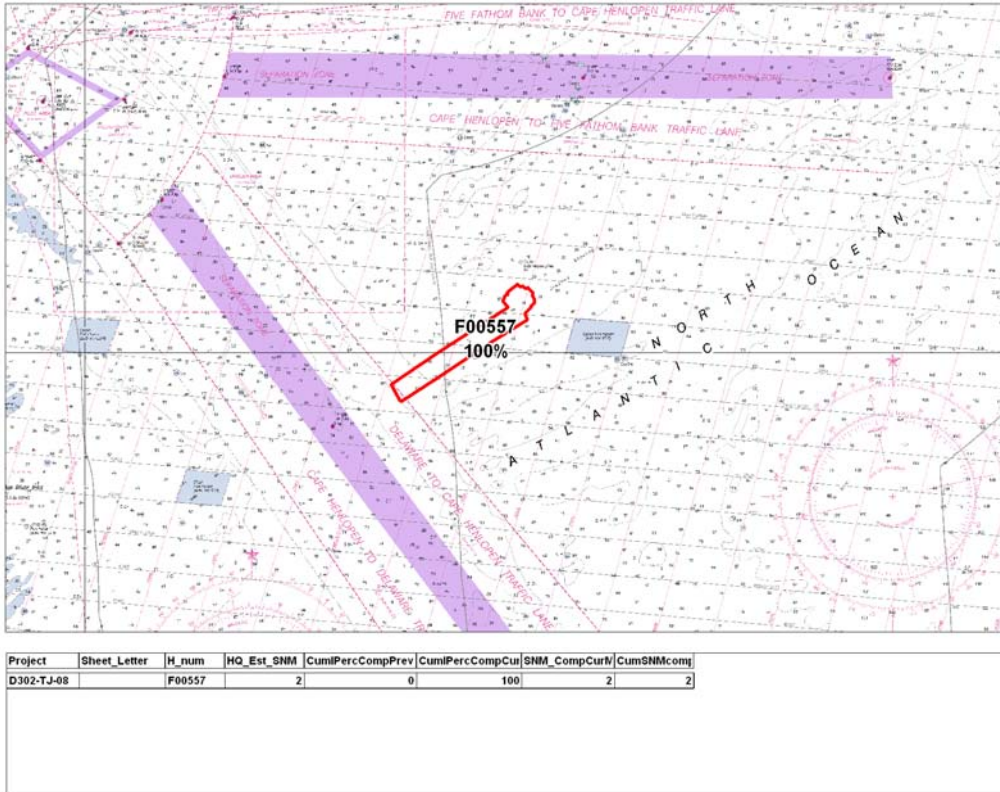


Figure 1.2.1

Appendix III

Progress Sketch



**Progress Sketch OPR-D302-TJ-08
June, 2008**

Appendix IV

Tides and Water Levels

1. Tide Notes

-n/a

2. Request for Approved Tides

-n/a

3. Final Tide Notes

-n/a

Appendix V

Supplemental Survey Records & Correspondence

From Olivia.Hauser@noaa.gov



Sent Thursday, May 1, 2008 3:10 pm

To Christiaan.VanWestendorp@noaa.gov , jasper.schaer@noaa.gov , Daniel.Wright@noaa.gov , Jake.Yoos@noaa.gov , James.Jacobson@noaa.gov , Matthew.Ringel@noaa.gov , Mark.Mcmann@noaa.gov , David.Elliott@noaa.gov , Kathryn.Simmons@noaa.gov , Lucy.Massimillo@noaa.gov , Matthew.Jaskoski@noaa.gov , "Eric M. Moore" <Eric.M.Moore@noaa.gov> , Michael.Davidson@noaa.gov , Stephen.Kuzirian@noaa.gov , "Lynnette V. Morgan" <Lynnette.V.Morgan@noaa.gov>

Cc Mark.Vanwaes@noaa.gov

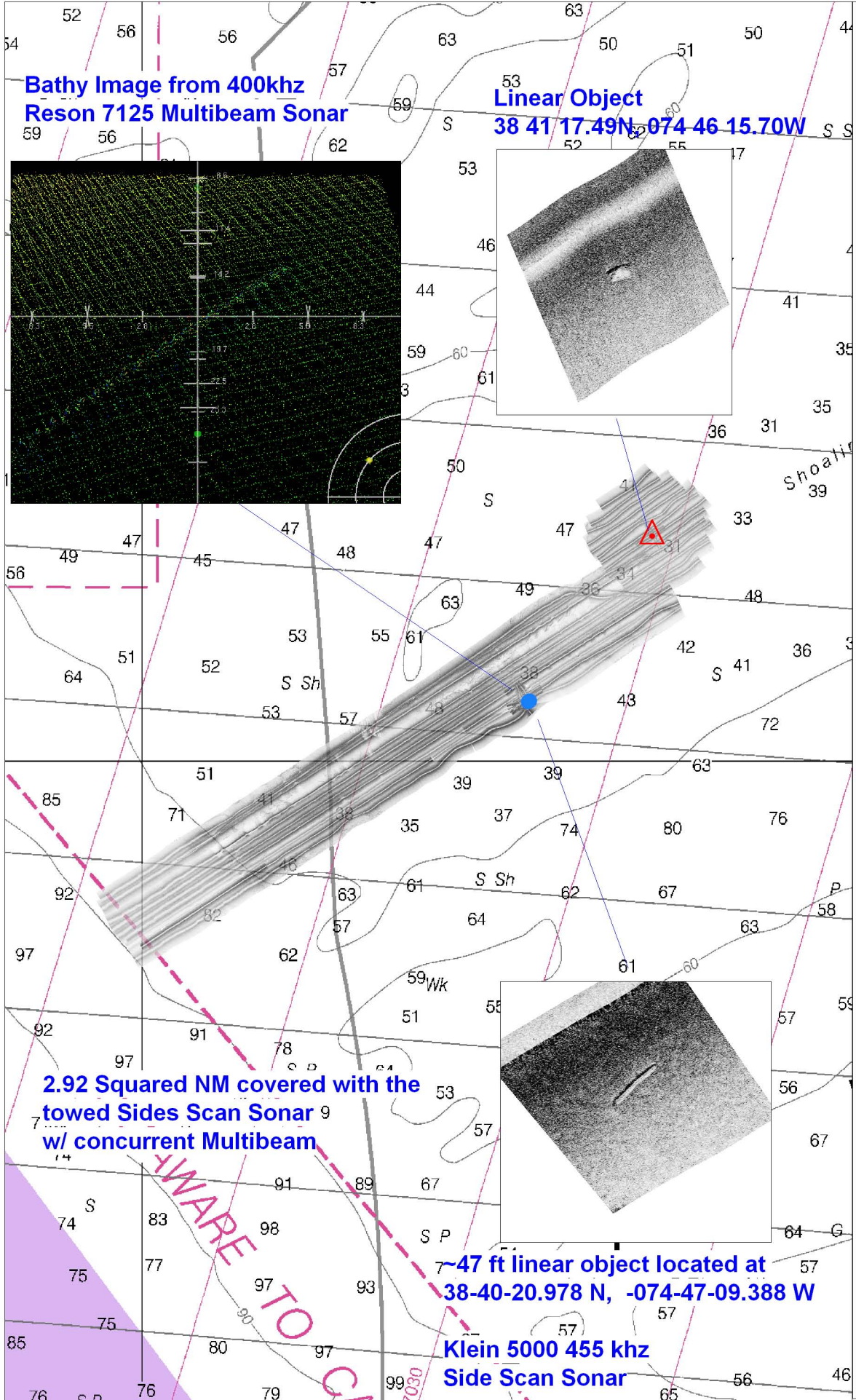
Bcc

Subject HVCR

Hi FOOs, CSTs and Team Leads,

A recent discussion made me realize that many of you are still creating some sort of Horizontal and Vertical Control Report (HVCR), even if you have not done any active horizontal control or vertical control. If you have not actively set up a tide gauge or a differential beacon, you are not required to write a HVCR. See FPM section "5.2.3.2.3. Horizontal & Vertical Control Report (HVCR)" Please just state that fact in your DR, and place a txt file in a HVCR folder stating there was not a report required for this survey. This lets the branch know that you do not have a report, and saves you from having to re-write, or copy any information into a separate document. Please email me if you have any questions.

Olivia



Bathy Image from 400khz Reson 7125 Multibeam Sonar

**Linear Object
38 41 17.49N, -074 46 15.70W**

**This chartlet has been corrected through
Notice to Mariners dated 04/19/2008
NOT FOR NAVIGATION.**

**NOAA Ship
THOMAS JEFFERSON
CDR Tod Schattgen
Commanding
Survey Dates: June 10, 2008**

Sounding Units: N/A
Sounding Datum: MLLW
Horizontal Datum: NAD 83
Chart Number: 12214
Chart Edition: 48, Oct./07
NOS Ref:

Preliminary data subject to office review. Soundings corrected using preliminary observed tides.
Data reflects state of sea floor in existence on day and at time the survey was conducted.

Project: OPR-D302-TJ-08
Survey: F00557
State: DE
Locality: Approaches to Delaware
Sub-locality: 15m NM SE of Cape Henlopen
Survey Scale: 1:10,000

**NATIONAL OCEANIC AND
ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE**



Chartlet 1 of 1

**2.92 Squared NM covered with the
towed Sides Scan Sonar
w/ concurrent Multibeam**

**~47 ft linear object located at
38-40-20.978 N, -074-47-09.388 W
Klein 5000 455 khz
Side Scan Sonar**

BE AWARE TO CAPTAIN

Subject: [Fwd: RE: Update on Spuds from RW Peterson]
From: "james.m.crocker" <James.M.Crocker@noaa.gov>
Date: Wed, 25 Jun 2008 07:39:26 -0400
To: Jasper Schaer <jasper.schaer@noaa.gov>
CC: Tod Schattgen <Tod.Schattgen@noaa.gov>

Jasper,

For your documentation. No dangers to report since all spuds have been successfully recovered.

Jim

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

Subject: RE: Update on Spuds from RW Peterson
Date: Wed, 25 Jun 2008 02:52:34 +0000
From: riskol@comcast.net
To: Kaszuba, Mike <Mike.Kaszuba@uscg.mil>, Florio, Steven LTJG <Steven.J.Florio@uscg.mil>, doi@aquasurvey.com, steve@oceantechusa.com
CC: Dunn, Brian CDR <Brian.L.Dunn@uscg.mil>, McAvoy, Kyle CDR <Kyle.P.McAvoy@uscg.mil>, Walters, John <John.R.Walters@uscg.mil>, James.M.Crocker@noaa.gov, McCarthy, Doreen LT <Doreen.McCarthy@uscg.mil>, hwood41@comcast.net

Good Evening:

The last spud was recovered as of late this afternoon and are currently on our barge in Cape May, all 3 spuds will be delivered to Allen Steel around mid day tomorrow. Please feel free to call me for a more accurate eta around mid morning tomorrow if needed.

Thanks,

Phil Risko
609-602-1222 cell

----- Original message -----

From: "Kaszuba, Mike" <Mike.Kaszuba@uscg.mil>

> Phil,
> Could you keep me informed on when the legs are going to be lifted and where they are going to be taken to.

>
> Mike Kaszuba
> Chief Investigations Division
> Sector Delaware Bay
> (215) 271-4861

> -----Original Message-----

> From: riskol@comcast.net [<mailto:riskol@comcast.net>]
> Sent: Tuesday, June 17, 2008 9:18 PM
> To: Florio, Steven LTJG; doi@aquasurvey.com; steve@oceantechusa.com
> Cc: Dunn, Brian CDR; McAvoy, Kyle CDR; Walters, John; James.M.Crocker@noaa.gov;
> McCarthy, Doreen LT; Kaszuba, Mike
> Subject: Update on Spuds from RW Peterson

>
>
> Good Evening:

>
> As of 1700hrs today our vessel the Northstar 4 is towing the "3rd" leg which was located in close proximity to the entrance channel to Del. bay,

into Cape May.

> Our original plan was to tow it to the position of the "1st" leg
and put it on

> the bottom in that area, however, we were able configure it such
that we can

> bring it safely into Cape May, it will likely be moored at
Utsch's Marina to be

> hauled out at a later time.

>

> We are hoping this thursday or Friday to be able retrieve the two
remaining legs

> with our Crane Barge NS90, will update on that sometime tomorrow.

>

> Thank you,

>

> Phil Risko

>

LCDR James Crocker, NOAA <James.m.crocker@noaa.gov>

Chief, Operations Branch

Hydrographic Surveys Division

NOAA

**ATLANTIC HYDROGRAPHIC BRANCH
EVALUATION REPORT to Accompany
Survey F00557 (2008)**

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

D. RESULTS AND RECOMMENDATIONS

D.1.1 Hydrography

The survey was conducted at the request of the USCG with the intent of locating the three lost spuds. All of the bathymetry collected is consistent with currently charted depths. Due to special handling requirements and the irrelevance of this survey with respect to charting, this data should not be used for charting.

D.8 ADEQUACY OF SURVEY

This survey is considered complete within the common area as per requirements specified in the Project Letter Instructions.

The present survey should not be used to supersede the charted bathymetry within the common area as the bathy data was not fully processed with residual tide and there are Sound Velocity problems. These factors result in inaccurate depth measurements making it difficult to get reliable bathy data for updating charts. This data will not be added to the Bathy Warehouse or to the public NGDC archive.

Mark Opdyke
ERT Physical Scientist
Atlantic Hydrographic Branch

Approved: _____

Shepard Smith
Lieutenant Commander, NOAA
Chief, Atlantic Hydrographic Branch