H11467

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

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

Registry Number: **H11467**

LOCALITY

State: Maine

General Locality: Portland

Sub-locality: Approaches to Portland

2005

CHIEF OF PARTY
LTJG Jasper D. Schaer, NOAA

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DATE

ATLANTIC HYDROGRAPHIC BRANCH
PREFACE NOTES FOR PORTLAND, ME COMBINED SURVEY

The Portland Combined Survey is a combination of three surveys conducted in the Portland, Maine region in 2005 and 2006. The surveys are as follows:

1. NOAA Survey H11467, conducted by NRT-5 in 2005;
2. KR Survey W00177 conducted by Ocean Surveys Incorporated (OSI) for the Portland Pipeline Company and delivered in its entirety to NOAA as outside source data;
3. NOAA Field Examination F00524, conducted by NRT-5 in 2006.

In addition, U.S. Army Corps of Engineers Drawing #2631, was conducted by the Portland Army Corps in June 2006 and submitted to Atlantic Hydrographic Branch. This survey was submitted as a shoal-biased survey-scale sounding set and was used for chart comparisons only.

At the discretion of Atlantic Hydrographic Branch, these surveys were processed together to form one deliverable to the Marine Chart Division.

Organization of the combined report is as follows:

1. Descriptive Report, H11467;
2. Descriptive Report, W00177;
3. Descriptive Report, F00524;
4. Combined Appendix I: DTON. This report will combine all DTON submissions from all surveys as received from the field, as well as any DTON submissions from Atlantic Hydrographic Branch, in the following order: H11467, W00177, F00524 and AHB;
5. Appendix II: Survey Feature Reports. Appendix II will be the survey feature report generated by the Atlantic Hydrographic Branch and will encompass all surveys ***** ;
6. Combined Appendix III: Progress Sketch. This appendix will combine all progress sketches submitted by the field in the following order: H11467, W00177, and F00524;
7. Combined Appendix IV: Tide Note. This appendix will contain all preliminary and final tide notes in the following order: H11467, W00177, and F00524;
8. Combined Appendix V: Supplemental Records. This appendix will contain all correspondence, supplemental records, contract notes, etc, in the following order: H11467, W00177, and F00524;
9. Evaluation and Analysis Report.

***** *In 2006 the NOAA Field Procedures Manual and Hydrographic Survey Specifications and Deliverables were changed. The new survey deliverables, according to both documents, eliminates the requirement of Investigation of Geographic Names (previously Appendix II to the Descriptive Report for both documents) and creates new appendices as described in the list above. Surveys H11467 and F00524 do not comply with the new deliverable requirement. For these surveys, Appendix II was submitted as an investigation of Geographic Names. These Appendices are filed with the original field records and are not included in the office processing report.*

NOAA FORM 77-28 (11-72) U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

REGISTRY NUMBER:

HYDROGRAPHIC TITLE SHEET

H11467

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:	**Maine**		
General Locality:	**Portland**		
Sub-Locality:	**Approaches to Portland**		
Scale:	**1:10,000**	Date of Survey:	**6/01/05 to 8/31/05**
Instructions Dated:	**05/23/05**	Project Number:	**S-A911-NRT5-05**
Vessel:	**NOAA Survey Boat S-3002**		
Chief of Party:	**LTJG 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**~~ ***Feet*** **at MLLW**		

Remarks:

1) All Times are UTC.
2) This is a Navigable Area Hydrographic Survey.
3) Projection is UTM Zone 19.
4) Office Processor's Comments in Red, Bold, Italic

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

APPENDICES

DESCRIPTIVE REPORT

to accompany
HYDROGRAPHIC SURVEY S-A911-NRT5-05
Scale of Survey: 1:10,000
Year of Survey: 2005
NOAA Navigation Response Team 5
LTJG Jasper D. Schaer, Team Leader

A. AREA SURVEYED

This hydrographic survey was conducted in accordance with Hydrographic Survey Letter Instructions for Field Examination S-A911-NRT5-05, Portland, Maine*. The original instructions are dated May 23, 2005. ***Concur.***

Portland, ME 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 Portland, ME as critical survey areas. Portland Harbor is the most important port for Maine receiving the greatest amount of cargo by tonnage, more than any other port in the state. The port's traffic is primarily composed of petroleum, wood and seafood products.

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

**** Filed with original field records.***

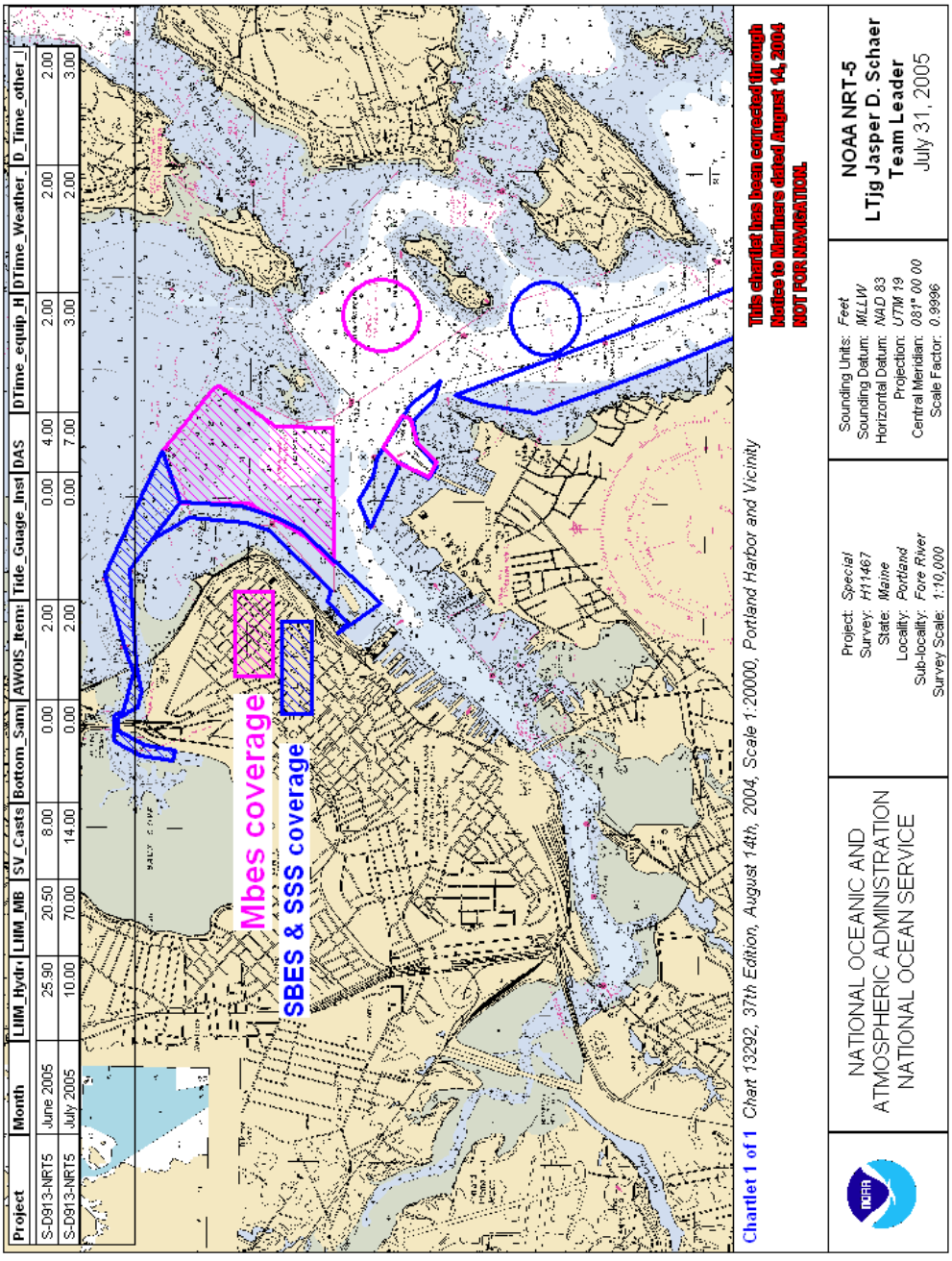


Figure 1: Complete Survey Limits & Data Coverage

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-Sept 04-Dec 05) 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. ***Concur.***

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

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. ***Concur.***
Data filed with original field records.

Multi Beam Quality Control

After MBES collection, post processing in CARIS revealed that deep depth data acquired on July 19, 2005 (DN 200) had sound velocity problems: the classic "swath frown". After reviewing the three casts collected for that day, it was determined that the depth of the ~~meter~~ ***sound velocity cast*** did not reach the required ***95% maximum*** depth of the water. The deepest cast was still shallow by a few meters. A comparison was made between this cast to a previous one taken on July 5, which reached a depth of 24m in about the same area. An extension

to the July 19 cast of 1m was made accordingly, reprocessed, and filtered to 45/45 degrees. In addition, on July 19 the MBES system failed mid-survey and the system was restarted, including the POS/MV log for true heave. Post- processing with heave was completed in CARIS (see DAPR*) and MBES data merged. However, because true heave was unable to be mended after the power outage, true-heave was not utilized because of errors caused with CARIS. In brief, only July 19 data does not include true heave applied to the MBES data set. ***Concur.***

Beyond the mentioned issue above, there were no other unusual events associated with the acquisition of the Multi Beam data for this project. Note: 200% MBES bottom coverage was collected oblique to 100% in the absence of SSS in anchorage A. There were simply too many lobster pots in the anchorage to tow the SSS safely. ***Concur.***

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

Base Surface

CARIS HIPS BASE (Bathymetry associated with Statistical Error) surfaces, which incorporate each sounding's total error (TPE), were created according to depth intervals. Each finalized BASE surface contains seven layers: depth, uncertainty (using the "greater of the two" options), density, mean standard deviation, shoal, and deep.

Depths of 0-15 meters are contained in a series of seven finalized 0.75 resolution BASE surface (contained within field sheets of the same name):

H11467_p75_final

Note: The majority of the survey area did not surpass depths of 15m. One area did exceed that depth, but it was not a significantly large area. It was decided to leave that area within and above the BASE surface threshold. ***See Evaluation Report.***

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

Crosslines

NOAA Survey boat S3002 collected 8.32 nautical miles of SBES crosslines (about 14.9% of the 57.88 nm of mainscheme SBES data). SBES crosslines were compared to SBES data and MBES to MBES crossline data. MBES Checklines totaled 7.58nm, roughly 8.6% of the 88.13 nm of mainscheme MBES data. Overall, the crosslines have excellent agreement with their respective data sets. ***See Evaluation Report.***

Data filed with original field records.

Junctions

There are no junctions for this survey. ***See Evaluation Report.***

Prior Surveys

Registry Number	Scale	Year Surveyed
H10963	10,000	2000
H10830	10,000	1998
H10831	10,000	1998
H06781	5,000	1942
H06663	10,000	1941
H06672	5,000	1941
H06673	5,000	1941
H06677	10,000	1941
H06728	10,000	1941
H01033A	2,400	1869
H01033B	2,400	1869
H01034A	2,400	1869
H01032	1,200	1868

See Evaluation Report.

CORRECTIONS TO ECHO SOUNDING

All methods or instruments used were as 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.
Data filed with original field reports.

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 Portland, ME (841-8150) 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
NA163	0	x1.00	841-8150
NA164	0	x0.99	841-8150

NA166	0	x1.00	841-8150

A Request for Approved Tides letter was sent to N/OPS1 on 12 January, 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.
Data filed with original field reports.

HORIZONTAL CONTROL

Horizontal datum used for this survey is the North American Datum of 1983 (NAD 83), projected using UTM zone 19.

Horizontal positions were 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. ***Concur.***

D. RESULTS AND RECOMMENDATIONS

CHART COMPARISON

There are two charts affected by this survey:

Table 2: Affected Charts

Number	Version	Date	Scale
13292	37	08/01/2004	1:20,000
13290	36	07/1/2005	1:40,000

General Agreement with Charted Soundings

Survey area proposed, especially Anchorage A, added an unanticipated challenge in the form of lobster traps and their attached surface buoys. Because of this operational hazard, MBES was chosen over towed SSS due to increased maneuverability. Lobster boats continually moved traps throughout the survey area daily during survey operations. This added another obstacle with object detection, because traps were moved between adjacent track lines. Sounding discrepancies were frequent in the base surface associated with these traps, buoy lines, and/or submerged buoys. SSS was utilized at times to investigate these contacts only to further support “false” contacts, because of the movement of traps.

Last winter, a private dredging company was awarded a contract to deepen a portion of the channel in Portland and Anchorage B. The company then wanted to submit survey as third party data to the USACE to update the federal channel. A USACE field party was present during the first half of the summer to survey the dredged area to verify the depths. Unfortunately, the required depths were not reached and the dredge company has been scheduled to return and complete the work during winter 2005. A follow-up survey is to be completed in the near future by the USACE. However, data NRT5 collected might overlap in areas where MBES/SBES data was collected by the USACE. It is recommended that a comparison be done between the USACE data and NRT5 data. ***See Evaluation Report.***

The survey soundings vary from the charted depths in several places. This is believed to be in association with changes in the substrate due to dynamic environment and/or the advance of Echo Sounding technology over previous collection. ***Concur.***

Dangers to Navigation (DtoN's)

There is one DtoN for this survey, see Appendix I-a. ***See Evaluation Report. Refer to Appendix II for further information.***

AWOIS Items

There were seven AWOIS items identified as critical to surface navigation and assigned to this project for full investigation. In addition, three AWOIS items were provided for information purposes only, see Appendix I-b. ***Refer to Appendix II for further discussion of all AWOIS items assigned to this survey.***

Significant Uncharted Features

There are no significant uncharted features. ***See Evaluation Report.***

Non-AWOIS Charted Features & Notes

There are no non-AWOIS charted features. ***See Evaluation Report.***

ADDITIONAL RESULTS

Prior Surveys ***See Evaluation Report.***

Prior surveys of this area are as follows:

Table 3: Prior Surveys

Registry Number	Scale	Year Surveyed
H10963	10,000	2000
H10830	10,000	1998
H10831	10,000	1998
H06781	5,000	1942
H06663	10,000	1941
H06672	5,000	1941
H06673	5,000	1941
H06677	10,000	1941
H06728	10,000	1941
H01033A	2,400	1869
H01033B	2,400	1869
H01034A	2,400	1869
H01032	1,200	1868

The prior surveys and DR's were reviewed and overlapping data was compared to this project. Majority of the data agreed. Survey soundings vary from the charted depths in some areas. This is believed to be in association with changes in the substrate due to dynamic environment and/or the advance of Echo Sounding technology over previous collection. There are some shoreline changes and those areas have been addressed in the shoreline section of this DR. ***Concur.***

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*. ***Concur.***

Bridges and Overhead Cables

There are two bridges and no overhead cables in the survey area. The Casco Bridge was not represented correctly on the chart. This issue is addressed in the shoreline description of this DR. ***Refer to Appendix II for more information on the Casco Bridge.***

Ferry Routes

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

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 these features. ***Refer to Appendix II for more information on this pipeline.***

Shoreline

Shoreline data "GPs" collected by the Trimble backpack were submitted to Steve Soherr of the Customer Services Branch, reviewed, and then forward to Marine Charting Division. If there are any more questions related to the submitted shoreline, please contact Steve Soherr and ask to review the "work in progress" raster. ***See Evaluation Report.***

Another mentionable shoreline feature is Bug Light. This item, was absent on the chart and in the USCG Light List. This matter was brought to the attention to the Chief of AToN group in Portland, CWO Jeffery Chase. This light has since been updated in the USCG publication. ***Concur. This light is a privately-maintained aid to navigation and is charted appropriately.***

E. APPROVAL SHEET

S-A911-NRT5-05
Approaches to Portland, Maine
Portland, ME

Survey Registry No. H11467

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. ***Concur.***

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

- SEPARATES TO ACCOMPANY PROJECT S-A911-NRT5-05, SHEET A, H11467***
- S-A911-NRT5-05 HORIZONTAL AND VERTICAL CONTROL REPORT (*submitted 12/30/05)**
- SEPTEMBER 2004-DECEMBER 2005 DATA ACQUISITION AND PROCESSING REPORT (*submitted 12/30/05)**

Data filed with original field records.

Respectfully Submitted:

Name Bert S Ho
Title Physical Science Technician

Approved and Forwarded:

Name Jasper D. Schaer, LTJG/NOAA
Title Team Leader

W00177

NOAA FORM 76-35A

U.S. DEPARTMENT OF COMMERCE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE

Descriptive Report

Type of Survey *Multibeam Hydrographic*
Field No. *N/A*
Registry No. *W00177*

Locality

State *Maine*
General Locality *Atlantic Ocean*
Sub locality *Portland Harbor Entrance*

2006

CHIEF OF PARTY

George G. Reynolds

Library & Archives

Date……..

NOAA FORM 77-28 [11-72]
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

HYDROGRAPHIC TITLE SHEET

REGISTER NO. *W00177*

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

FIELD NO. *N/A*

State *Maine*

General Locality *Atlantic Ocean*

Locality *Portland Harbor Entrance*

Scale *1:20,000* Date of Survey *June 13 to July 14, 2006*

Instructions Dated *N/A* Project No. *N/A*

Vessel *R.V. Echo - Registration Number CT6111AE*

Chief of Party *George G. Reynolds*

Surveyed By *Russell S. Watson, Alexander G. Unrein*

Soundings taken by (*Echo Sounder*) *Reson Seabat 8125*

Graphic Record Scaled by *N/A*

Graphic Record Checked by *N/A*

Protracted by *N/A* Automated Plot by *Angela M. Rizzo*

Verification by *Michael J. Engels, Andrew A Robinson*

Soundings in *Feet* (*MLLW*)

REMARKS: *All Times Recorded in UTC*
Supplemental ("July") survey conducted to facilitate transient object detection

Contractor: *Ocean Surveys, Inc.*
91 Sheffield St.
Old Saybrook, CT. 06475

Office Processor's Comments in Red, Bold, Italics

THE INFORMATION PRESENTED IN THIS REPORT AND THE ACCOMPANYING PRELIMINARY SMOOTH SHEET REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY OCEAN SURVEYS, INC. BETWEEN 13 JUNE AND 14 JULY 2006 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO OSI.

TABLE OF CONTENTS

Page

APPENDICES

SEPARATES

Filed with original field records.

Descriptive Report
to Accompany
Hydrographic Survey W00177

Field Number NA
Scale 1:20,000
June 13 - July 14, 2006
Ocean Surveys, Inc. – R.V. Echo
Chief of Party: George G. Reynolds

INTRODUCTION

The purpose of this survey is to provide NOAA with modern, accurate hydrographic survey data to update the nautical charts of the Portland, Maine Federal Channel.

This survey was conducted in accordance with the NOS Specifications and Deliverables March 2003 requirements. ***Concur.***

A. AREA SURVEYED

The W00177 survey encompasses the southern portion of the Portland Harbor Entrance Channel. The survey area includes the width of the Federal Channel and extends from the southern channel entrance north-northwest approximately 2.5 km. The northeast edge of the site abuts the southwest limit of the Diamond Island Roads General Anchorage B (Figure 1).

Multibeam soundings were acquired over the entire site in the primary ("June") survey along tracklines spaced at approximately 12-meter intervals oriented parallel with the Portland Harbor Entrance Navigation Channel. Line spacing was chosen such that 200% coverage would be achieved with overlapping multibeam swaths trimmed to 45 degrees from nadir. The survey site was divided into three sub-survey areas (Area AB, Area C, and Area E) to assist in spatially categorizing sound velocity profiles and data management (Figure 1).

Several hundred small objects (lobster pots) were identified in the primary June survey, therefore a 200% supplemental ("July") survey was carried out to facilitate the differentiation between true obstructions and transient objects. The supplemental July survey allowed for the entire site to be studied at two distinct times in order to determine if an object observed during the primary June survey was an actual obstruction, or a transient object (lobster pot). The supplemental July survey was only used for object verification and sounding data obtained from this survey were not incorporated into the final dataset. ***Concur.***

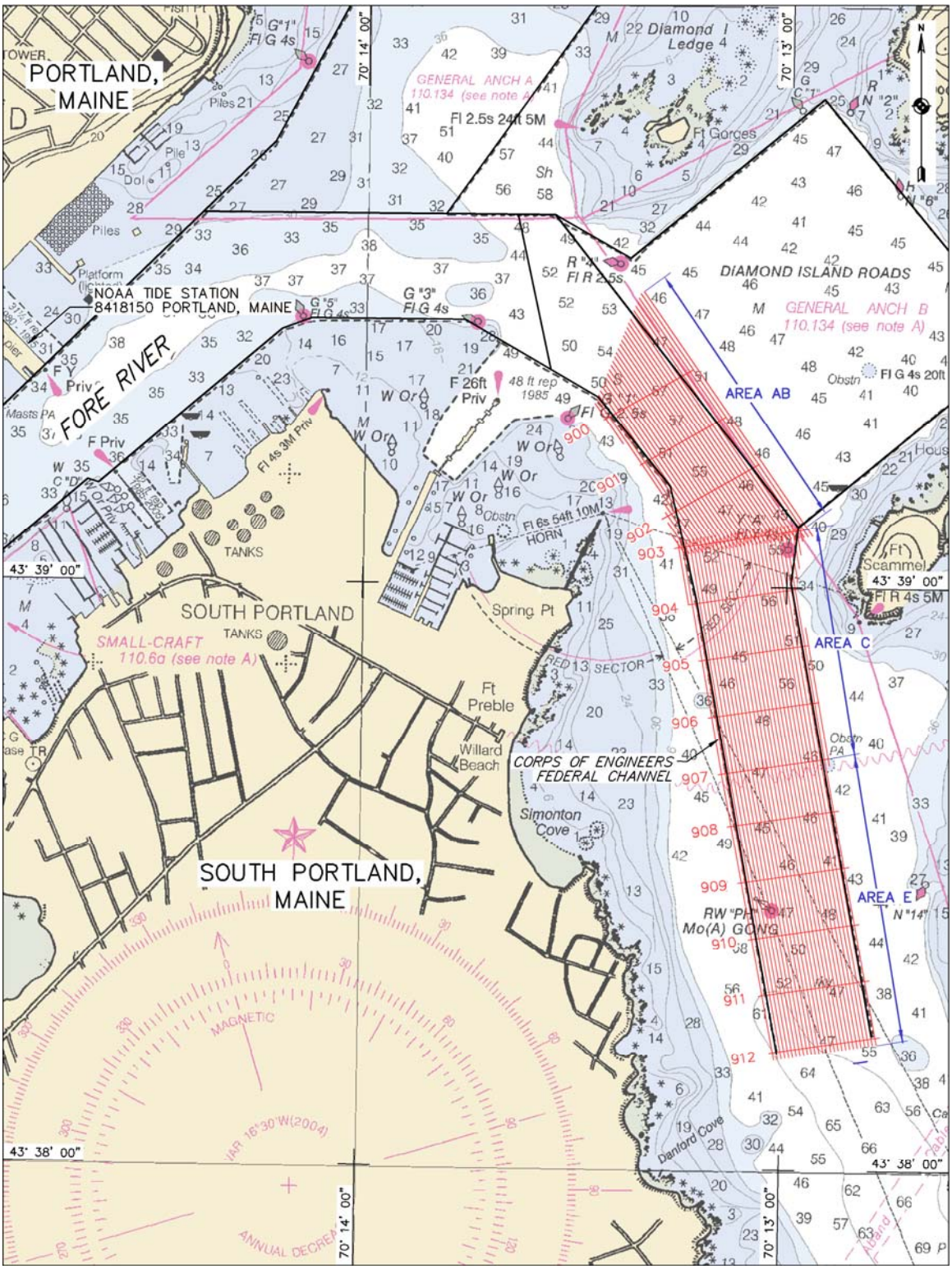


Figure 1 - Survey site with tracklines, NOAA tide station, and sub-survey areas.

B. DATA ACQUISITION AND PROCESSING

B.1 Equipment

The equipment listed in the table below was employed in collecting hydrographic data for Survey W00177.

System	Manufacturer	Model No.
Multibeam Echosounder Transducer	Reson	8125
Multibeam Echosounder Processor	Reson	8125
Trition Isis	Triton-Elics	6.7
HYPACK Max	HYPACK, Inc.	4.3A
Primary Navigation RTK GPS	Trimble	MS 750
RTK GPS Base Station	Trimble	7400 MSi
Motion Sensor	VT TSS	DMS 3-05
Gyro Compass	VT TSS	Meridian
Sound Velocity Profiler	Seabird	Seacat SBE 19
Sound Velocity Profiler	Seabird	Seacat SBE 19
Sound Velocity at multibeam head	Seabird	SBE 37
Bar Check	OSI	Lead Disk
GPS Navigation	Trimble	4000 DS
U.S.C.G. Differential Beacon Receivers	Magnavox	MX - 51R
U.S.C.G. Radio Antenna	Magnavox	MBA-L
Blue Brick-Radio Modem	Pacific Crest	RFM96W

All hydrographic survey operations were conducted from the R/V "Echo." R/V Echo (Connecticut Registration Number CT 6111 AE) is a 24-foot fiberglass vessel, with a 9-foot beam and 2.0-foot draft. The vessel is powered by twin 115 HP outboard engines.

Hydrographic data were acquired employing a Reson 8125 focused multibeam echosounder with digital data recorded along with all other sensor data onto disk in XTF format via Triton Isis collection software. Vessel positioning and attitude were achieved using Trimble Real Time Kinematic (RTK) GPS positioning, a VT TSS Meridian gyrocompass, and a TSS DMS3-05 motion sensor. Trackline and boat position information were displayed using HYPACK Survey software.

B.2 Quality Control

The survey data were of high quality and repeatability. The percentage of crossline miles as compared to main scheme miles was 6.32% for the primary June survey and 6.09% for the supplemental July survey. The June survey consisted of 41.3 nautical miles (nm) of mainscheme lines and 2.6nm of crosslines. The July survey had 42.9nm of mainscheme lines and 2.6nm of crosslines. ***Concur.***

Statistical quality control information was generated by comparing each of the 13 crosslines to an individual mainscheme multibeam line. All mainscheme multibeam survey lines were filtered using CARIS Swath/Sweep filter to a 5-degree near nadir swath. Figure 2 shows a standard deviation plot of the intersections of the 5-degree mainscheme lines overlapping the crosslines for Area AB in the primary June survey. This standard deviation CARIS BASE (Bathymetry Associated with Statistical Error) surface was useful for choosing intersections to analyze further and in showing that no individual lines have systematic errors. Surfaces were similarly created and intersections checked for the other two sub-areas, Area C and Area E, and the supplemental July survey. ***Concur.***

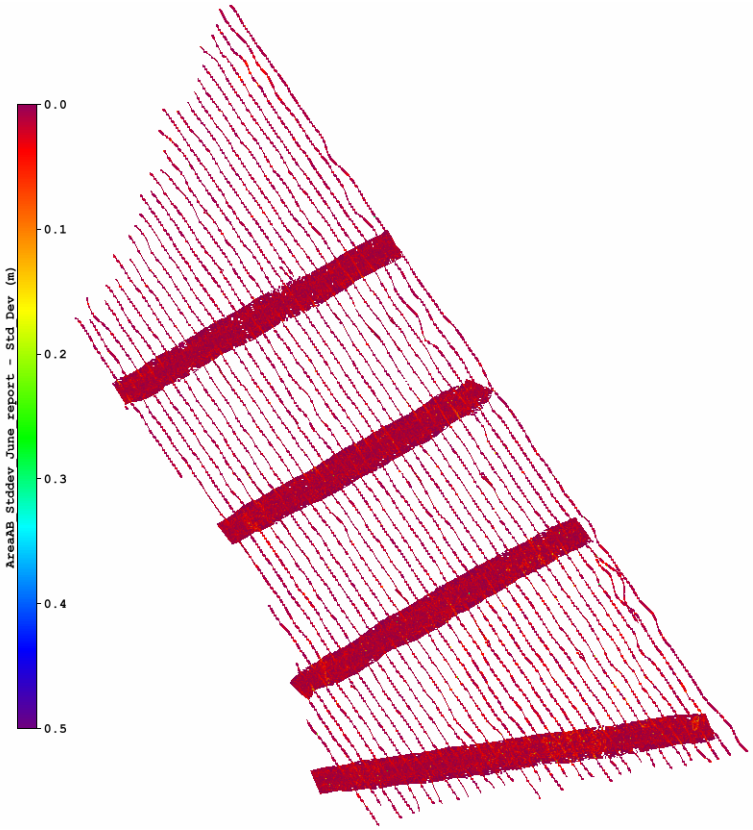


Figure 2 – Area AB Standard deviation BASE surface from the primary June survey with trimmed mainscheme lines for QC report

The intersections were investigated using the CARIS QC Report, which compares all the unsmoothed soundings from a crossline within a beam number range to the cells of a gridded 0.25m resolution BASE surface created from the filtered mainscheme line. The output of the report is a table organized by beam number that shows the number of data points within a beam number range, the maximum and minimum differences, the mean difference, and the standard deviation. ***Concur.***

QC reports were created for 28 intersections distributed throughout the site geographically and from different survey days, while avoiding intersections falling on slopes or other areas of large vertical relief. A table summarizing the standard deviations of these reports can be found in Separate V***, along with the graphs of the QC reports.

The results of the QC report showed that the mainscheme/crossline comparisons had a standard deviation of less then 0.05m with the majority around 0.02m. There were no significant discrepancies within the mainscheme/crossline intersections. ***Concur.***
Data filed with original field records.

B.2.1 Preliminary Smooth Sheet Histogram

A histogram was made of the primary June smoothsheet data points and their beam number (Figure 3). The smoothsheet soundings were selected from the 5m shoal binned dataset using the HYPACK Sort routine and a map scale of 1:20,000.

The histogram shows an even distribution throughout the inner beams and a slightly greater concentration on the outer beams, without any single beam showing a higher chance of contributing to a selected sounding. To minimize outer beam bias, multibeam data were limited to only allow sounding values from recorded data between plus and minus 45 degrees from nadir to be considered. ***Concur.***

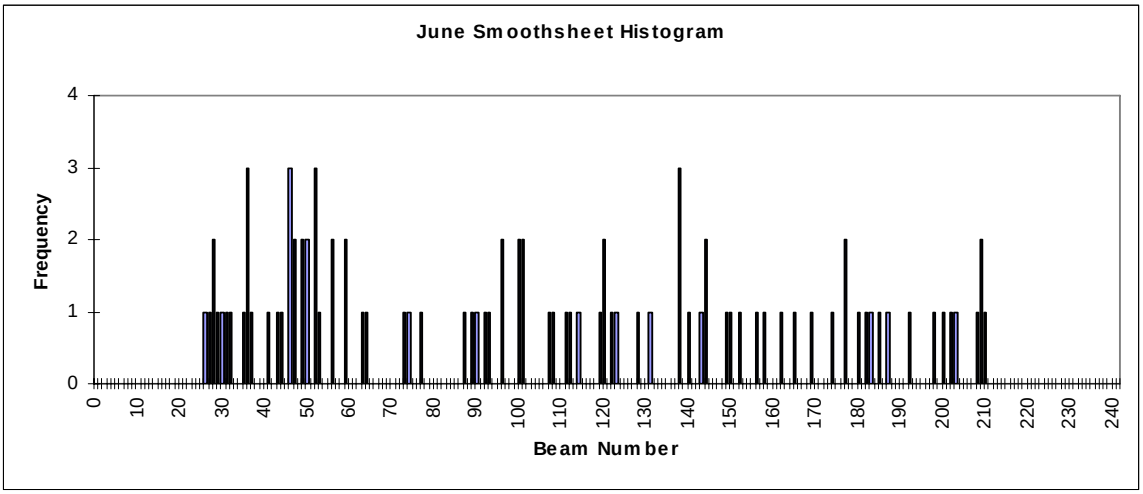


Figure 3 - Graph of the distribution of smooth sheet sounding based on beam number.

B.2.2 Analysis of the DTM Images

Two sun-illuminated Digital Terrain Model (DTM) images were made using 1m line-by-line shoal binned data for both the primary June and the supplemental July (See Figures 4 and 5 and oversized plots provided in a separate tube). The DTM images were illuminated at orthogonal angles to accentuate any line-to-line or along-line discrepancies. The DTM images produced showed no sign of any problems with vessel motion compensation, navigation timing, or water level correctors. ***Concur.***

B.2.3 Multibeam Quality Control Checks

Multibeam quality control bar checks along with RTK navigation checks were performed as a daily part of the survey operations. Both of these system checks showed properly functioning equipment each day. Tables of these results can be found in Separate I.***
Concur.

B.2.4 Survey Junctions

There were no junctions for this survey.

See Evaluation Report.

B.2.5 Unusual Conditions/Factors Affecting Corrections to Soundings

The only unusual conditions encountered during this survey were caused by the heavy lobster boat traffic and by NOAA preliminary tide gauge outages on two survey days. The field and office QA/QC crews observed both of these conditions, and great care was taken to abort any potentially degraded transects and rerun them at a later date. Therefore, neither of these conditions led to a degradation of data used for the final smoothsheet. ***Concur.***

B.3 Corrections to Echo Soundings

There are no deviations to information described in the “Corrections to Echo Soundings” section of the “Data Acquisition and Processing Report.” * ***Concur.***

Data filed with original field records.

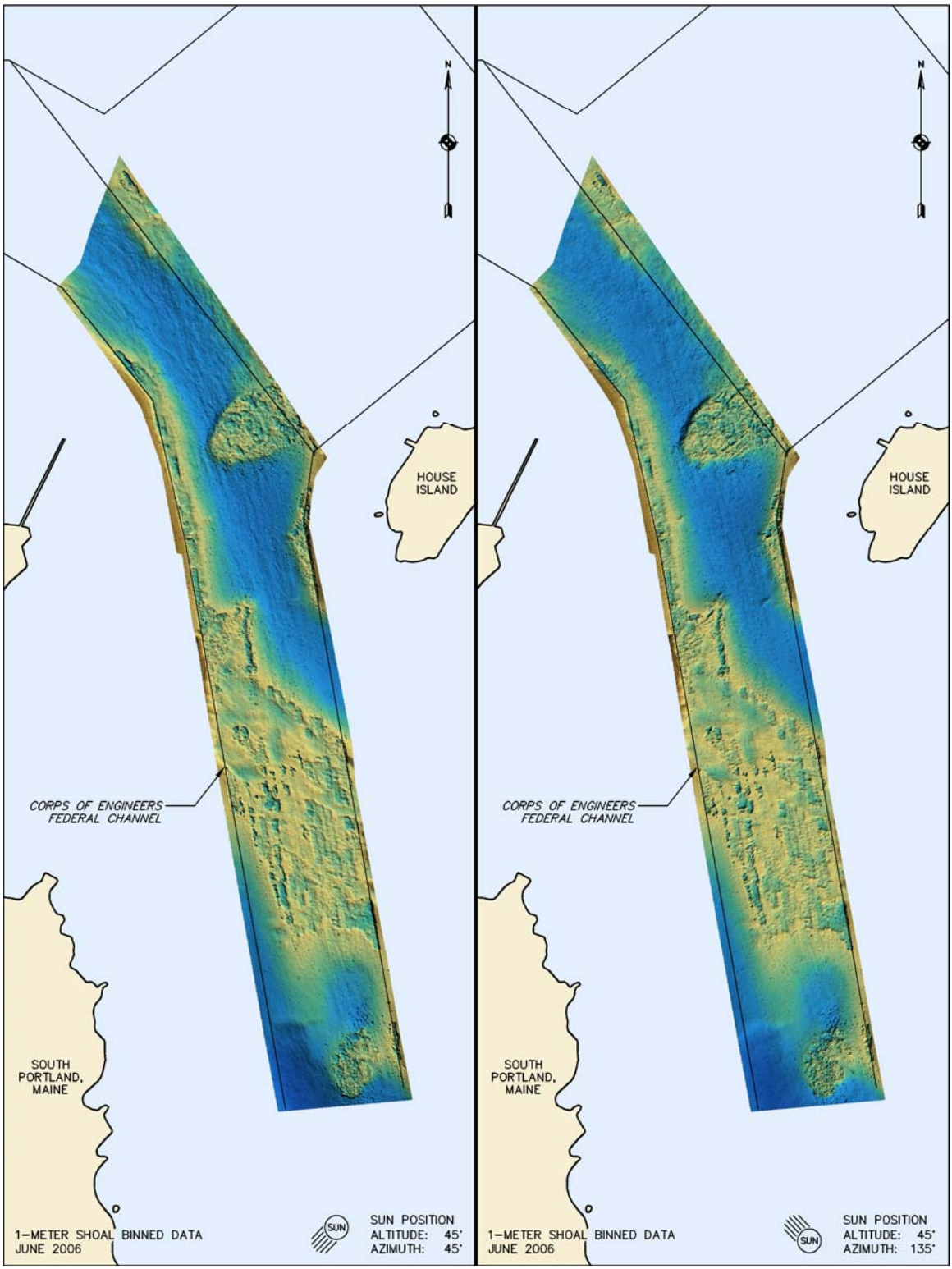


Figure 4 – DTM of the primary June survey with 1m shoal binned data illuminated from orthogonal angles.

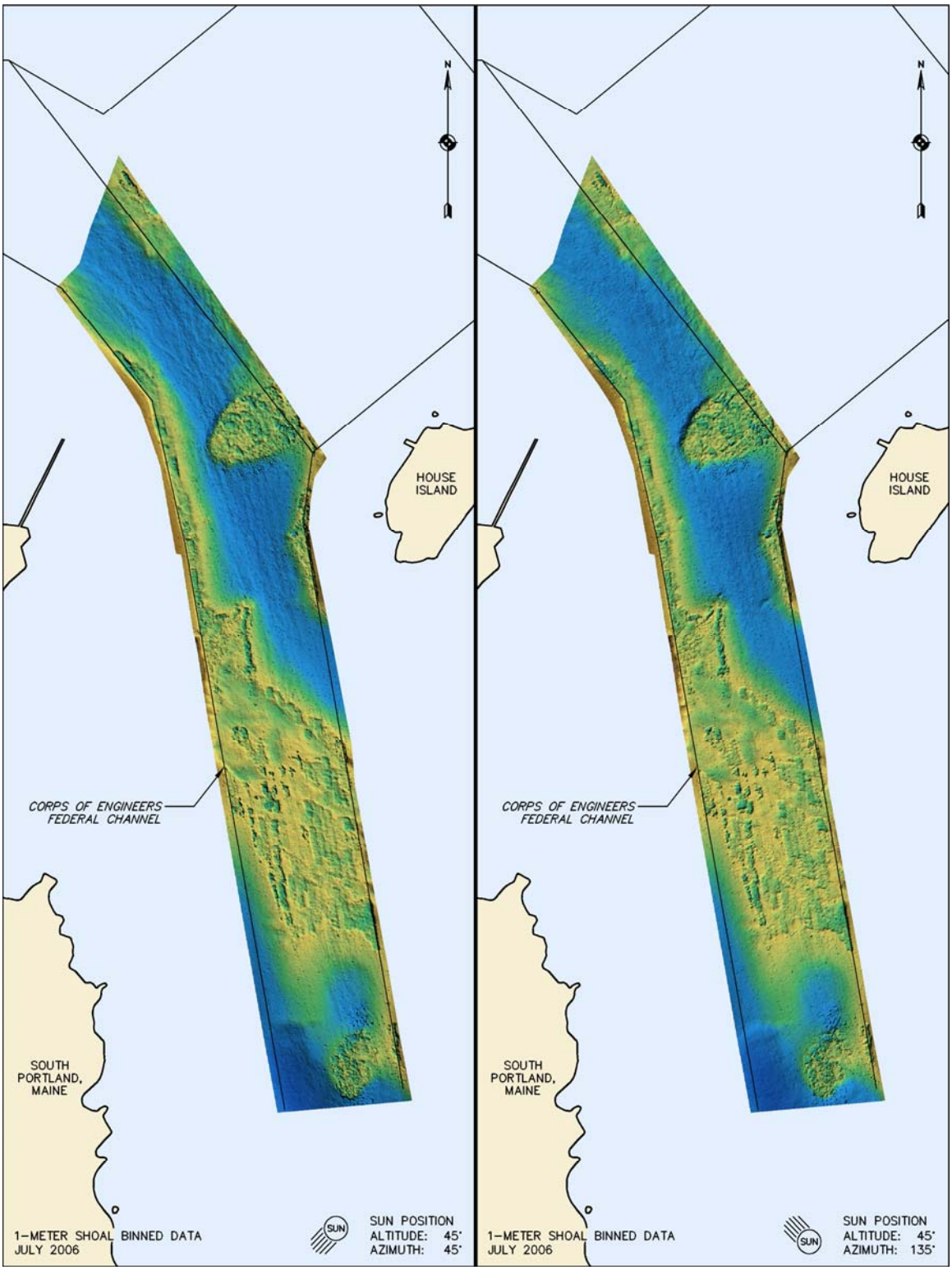


Figure 5 - DTM of the supplemental July survey with 1m shoal binned data illuminated from orthogonal angles.

C. VERTICAL AND HORIZONTAL CONTROL

C.1 Tide Correctors

Tide/water levels for the duration of this project were provided by NOAA based on verified data from NOAA Tide Station 841-8150, Portland, ME. The survey site is located within Zone NA164 as advised by NOAA. A time corrector of 0 minutes and a range ratio of 0.99 was applied to all tide data. The NOAA chart in Figure 6 depicts the survey area, tide zone delimiters and the location of the NOAA tide gauge. ***See Evaluation Report.***

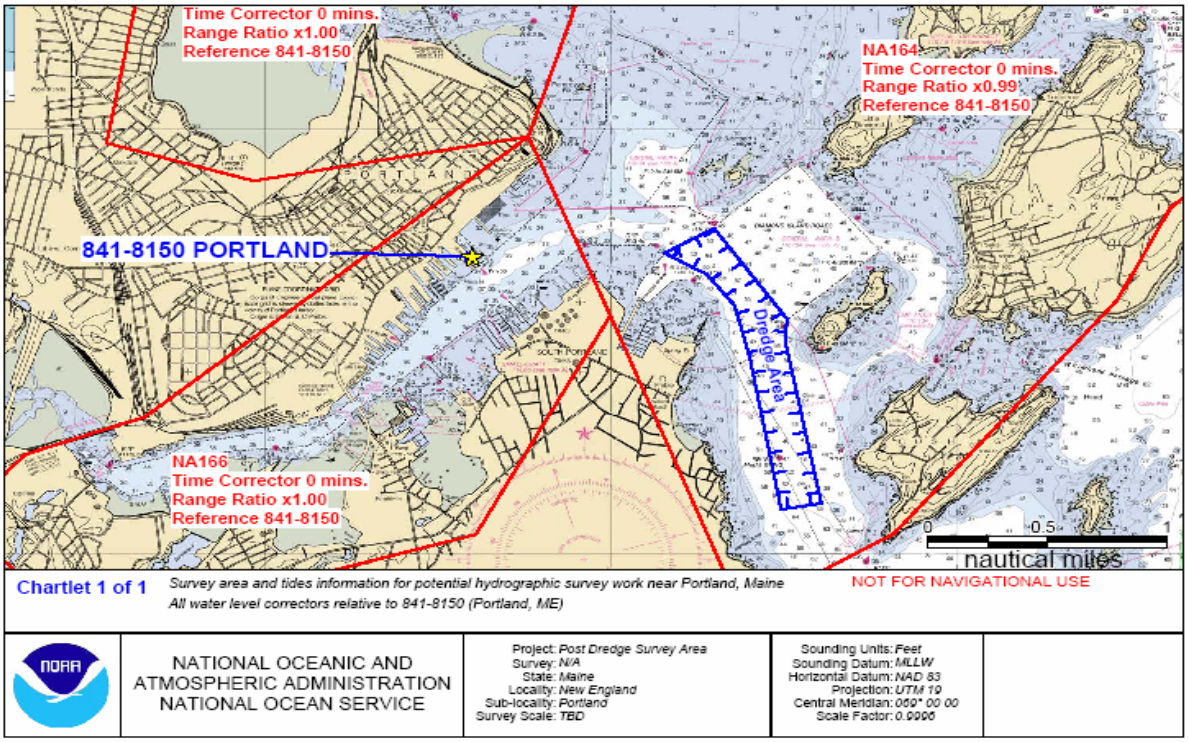


Figure 6 - NOAA chart showing the tide station, tide zone scheme and survey area.

During the period of the survey the NOAA gauge station experienced two temporary outages where tidal data were not recorded. The following table lists the times of the lines aborted in the field and rerun at a later date. Aborted line data are not considered in the final data set. ***Concur.***

Aborted Lines Due to Preliminary Tide Drop Out

Date	Julian Day	Time UTC	Line Number
17-Jun-06	168	20:41	305
17-Jun-06	168	20:47	305
17-Jun-06	168	20:53	306
17-Jun-06	168	21:04	307
17-Jun-06	168	21:10	307
17-Jun-06	168	21:16	307
17-Jun-06	168	21:25	308
17-Jun-06	168	21:32	308
17-Jun-06	168	21:39	309
17-Jun-06	168	21:42	309
21-Jun-06	172	16:49	215
21-Jun-06	172	16:59	216
21-Jun-06	172	17:08	217
21-Jun-06	172	17:13	216
21-Jun-06	172	17:25	217
21-Jun-06	172	17:33	217
21-Jun-06	172	17:37	218
21-Jun-06	172	17:43	218
21-Jun-06	172	18:16	219
21-Jun-06	172	18:28	220
21-Jun-06	172	18:38	221

C.2 Horizontal Control

The horizontal datum for this project is the North American Datum of 1983 (NAD83). All data is referenced to Latitude/Longitude and Universal Transverse Mercator (UTM) Zone 19, in meters.

The horizontal control points used were a drill hole in a vertical hand rail on Pier #2 at the Portland Pipe Line Company, and a PK nail at the end of that same pier. The points are referred to as Control Point 1 (CP1) and Control Point 2 (CP2) respectively. Both points were previously established by Titcomb Associates surveying company. Further details on the control points can be found in the Vertical and Horizontal Control Report (VHCR). ***

Data filed with original field records.

D. RESULTS AND RECOMMENDATIONS

D.1 Chart Comparison

The survey area lies completely within the boundaries of Chart 13292, 37th Edition published August 2004. ***Concur.***

D.1.1 Aids to Navigation

Aids to navigation located within the survey area were investigated. Field observations of location and characteristics of these aids were compared to published locations and characteristics. The published information includes any changes reported through the last Notice to Mariners and observations during the survey period.

Aids to Navigation Changes

Aid to Navigation	LLNR	Chart Label	NTM	Published Position	Observed Position	Action	Comments
Portland Harbor Channel LB 1	7615	Fl G 2.5s	18/05	43° 39' 17" N 70° 13' 31" W		Nominal Range From 4nm to 3nm	Not in Survey Area
Portland Harbor Mid-Channel Lighted Gong Buoy PH	7590	R W "PH" Mo(A) Gong	31/06	43° 38' 24" N 70° 13' 00" W	43° 38' 26.56527" N 70° 13' 01.84049" W	Deleted August 2006	Deleted Post-Survey
Portland Harbor Main Approach Buoy 13	N/A	G "13" Fl G 2.5s	32/06	43° 38' 06" N 70° 12' 59" W		Add	Not in Survey Area
Portland Harbor CG Mooring Buoy	7697		46/05	43° 39' 10" N 70° 12' 53" W		Add	Not in Survey Area
Regulation Station Number	N/A	110.134	38/04	43° 39' 06" N 70° 12' 14" W		Revised	Original #110.132
Regulation Station Number	N/A	110.134	38/04	43° 39' 26.8" N 70° 12' 57.7" W		Revised	Original #110.132
Regulation Station Number	N/A	110.134	38/04	43° 39' 50" N 70° 13' 51" W		Revised	Original #110.132
Portland Harbor Anchorage Lighted Buoy A	N/A	Fl Y 4s	N/A	43° 39' 06" N 70° 13' 00" W	43° 39' 04.05639" N 70° 12' 59.94453" W	Revised	

At the time of this survey it appears that all aids to navigation within the survey area serve their intended purpose. ***See Evaluation Report.***

D.1.2 Charted Depth Comparison

In areas of undisturbed and undredged bottom, the survey data match the charted soundings to within 1 foot. In areas where dredging occurred, the survey data show a generally greater depth, which is to be expected. No major discrepancies were found between the charted soundings and areas of undisturbed bottom. ***See Evaluation Report.***

D.1.3 Target Observations

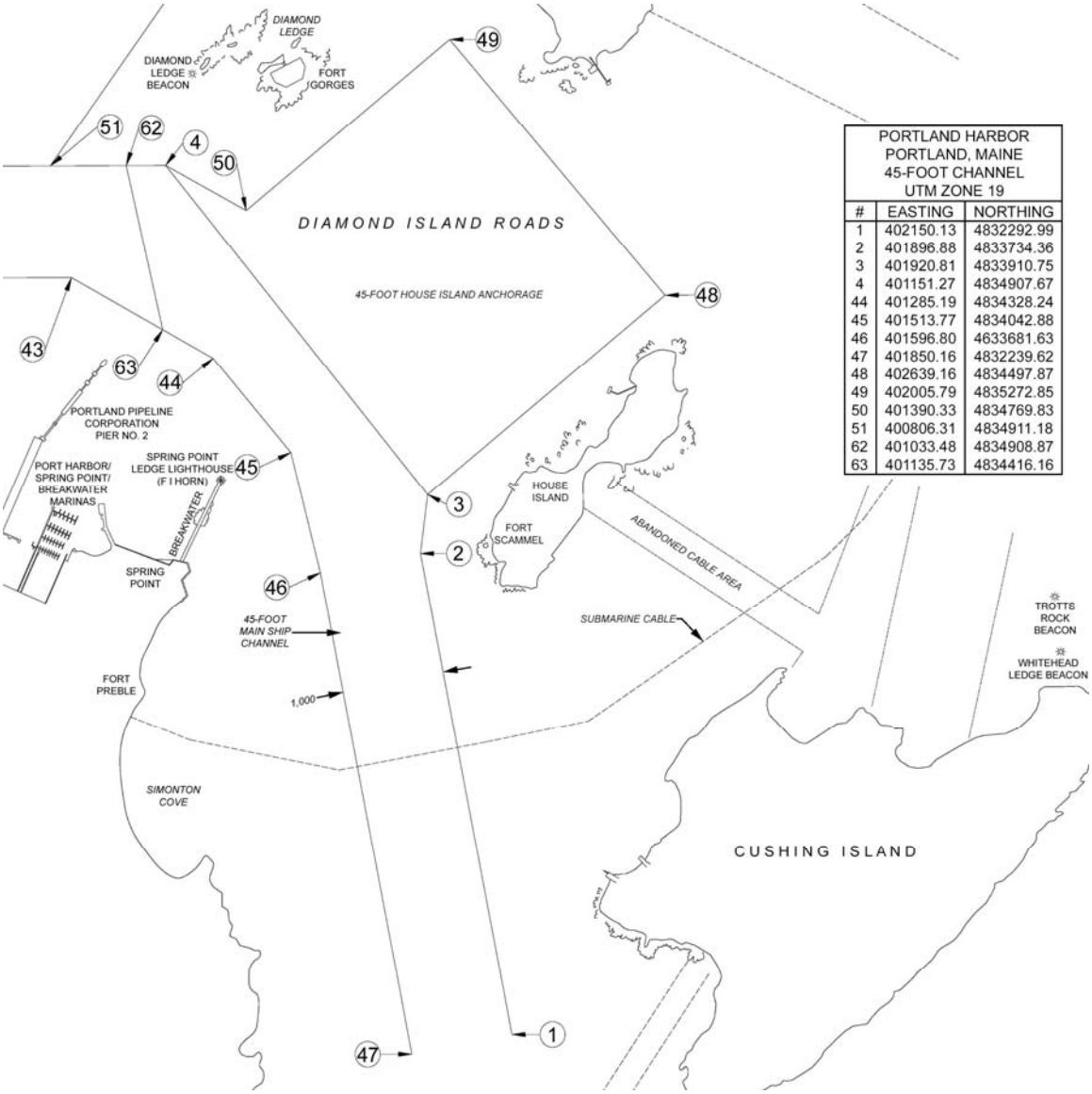
Preliminary survey operations identified numerous contacts that were presumed to be lobster pots based on their shape, size, and orientation along linear paths that closely matched the lobster buoys seen on the surface. The abundance of these contacts required a supplemental July survey to be conducted to determine if these items presented a hazard to navigation above the dredge depth (48 feet MLLW).

Any objects within the Federal Channel shoaler than the dredge depth that were identified in the primary June survey were targeted and compared to the supplemental July survey data to determine if they were still present. Objects that appeared in the primary survey, but not in the supplemental survey were considered to be transient objects (lobster pots). Transient objects shoaler than 48 feet MLLW were then rejected from the primary dataset. A table of rejected objects is included in the DAPR Appendix A.

Any targets that were observed in approximately the same location in both the June and July surveys were then surveyed a third time using the standard item investigation crossing line technique. Targets that were observed in both the primary and supplemental surveys that were not observed in the Item Investigation targets survey were also considered transient and rejected from the primary dataset. ***See Evaluation Report.***

D.1.4 Chart Recommendations

It is recommended that based on the results of Survey W00177, Chart 13292 be updated to reflect the results of this survey. It is also recommended the Federal Channel Limit line depicted between Point 3 and Point 4 on the USACE plan (Figure 7) be added to the chart to differentiate between the newly dredged 48-foot Federal Channel and the Diamond Island Rhodes, General Anchorage B (45-foot House Island Anchorage). ***Concur.***



PORTLAND HARBOR
PORTLAND, MAINE
45-FOOT CHANNEL
UTM ZONE 19

#	EASTING	NORTHING
1	402150.13	4832292.99
2	401896.88	4833734.36
3	401920.81	4833910.75
4	401151.27	4834907.67
44	401285.19	4834328.24
45	401513.77	4834042.88
46	401596.80	4633681.63
47	401850.16	4832239.62
48	402639.16	4834497.87
49	402005.79	4835272.85
50	401390.33	4834769.83
51	400806.31	4834911.18
62	401033.48	4834908.87
63	401135.73	4834416.16

Figure 7 – Federal Channel plan with tabulation of channel turning points provided by the USACE.

D.2 Additional Results

Shoreline verification was not required per the Statement of Work. ***Concur.***

Comparison to prior surveys was not required per the Statement of Work. ***Concur.***

Submarine cable locations and ferry routes were not required per the Statement of Work. ***Concur.***

E. APPROVAL SHEET

APPROVAL SHEET

FOR

W00177

Standard field surveying and processing procedures were followed in producing this survey in accordance with both the Statement of Work, Shallow Water Multibeam Sonar and Side Scan Sonar Survey Services, dated 3/23/06 and NOS Hydrographic Surveys, Specifications and Deliverables dated March 2003 provided for this project. Company, equipment, and software specific procedures were established and followed throughout the survey. These procedures are outlined in the field collection and office processing manuals. All data were continuously reviewed both onboard the vessel and at the processing center for quality and completeness.

The preliminary smooth sheet, Descriptive Report (including appendices and separates), Data Acquisition and Processing Report*, Vertical and Horizontal Control Report*, digital data, plots, and all other supporting documents have been reviewed by me, and are considered complete and adequate for charting purposes, and are approved. I personally supervised every phase of work associated with this survey. All records are forwarded for final review and processing to Atlantic Hydrographic Branch.

**** Data filed with original field records.***

Approved and forwarded,

George G. Reynolds **
Ocean Surveys, Inc.
Chief of Party – W00177

*****Original signature not provided with hard copy version of the Descriptive Report.***

F00524

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: **F00524**

LOCALITY

State: Maine

General Locality: Portland

Sub-locality: Approaches to Portland

2006

CHIEF OF PARTY
LTJG 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

F00524

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:	**Maine**		
General Locality:	**Portland**		
Sub-Locality:	**Approaches to Portland**		
Scale:	**1:10,000**	Date of Survey:	**7/24/06 to 7/26/06**
Instructions Dated:	**08/16/06**	Project Number:	**S-A911-NRT5-06**
Vessel:	**NOAA Survey Boat S-3002**		
Chief of Party:	**LTJG 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**~~ ***Feet*** **at MLLW**		

Remarks:

1) All Times are UTC.
2) This is a Navigable Area Hydrographic Survey.
3) Projection is UTM Zone 19.
4) Comments in Red, Bold, Italic were made by the office processor.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

APPENDICES

**** Filed with original field records.***

DESCRIPTIVE REPORT

to accompany
HYDROGRAPHIC SURVEY S-A911-NRT5-06, F00524
Scale of Survey: 1:10,000
Year of Survey: 2006
NOAA Navigation Response Team 5 (NRT-5)
LTJG Jasper D. Schaer, Team Leader

A. AREA SURVEYED

NRT-5's hydrographic survey was conducted in accordance with Hydrographic Survey Letter Instructions for Field Examination F00524 of project S-A911-NRT5-06, Portland, Maine. Original instructions are dated August 16, 2006*.

Portland, Maine is a priority in the Office of Coast Survey's Hydrographic Survey Priorities (edition 2004) and identified as a critical survey area. Portland Harbor and the approaches from Casco Bay are the most important commercial waterways for Maine. This port receives the greatest amount of cargo by tonnage within the state. Port traffic is primarily carrying petroleum, wood, and seafood products.

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

**** Filed with original field records.***

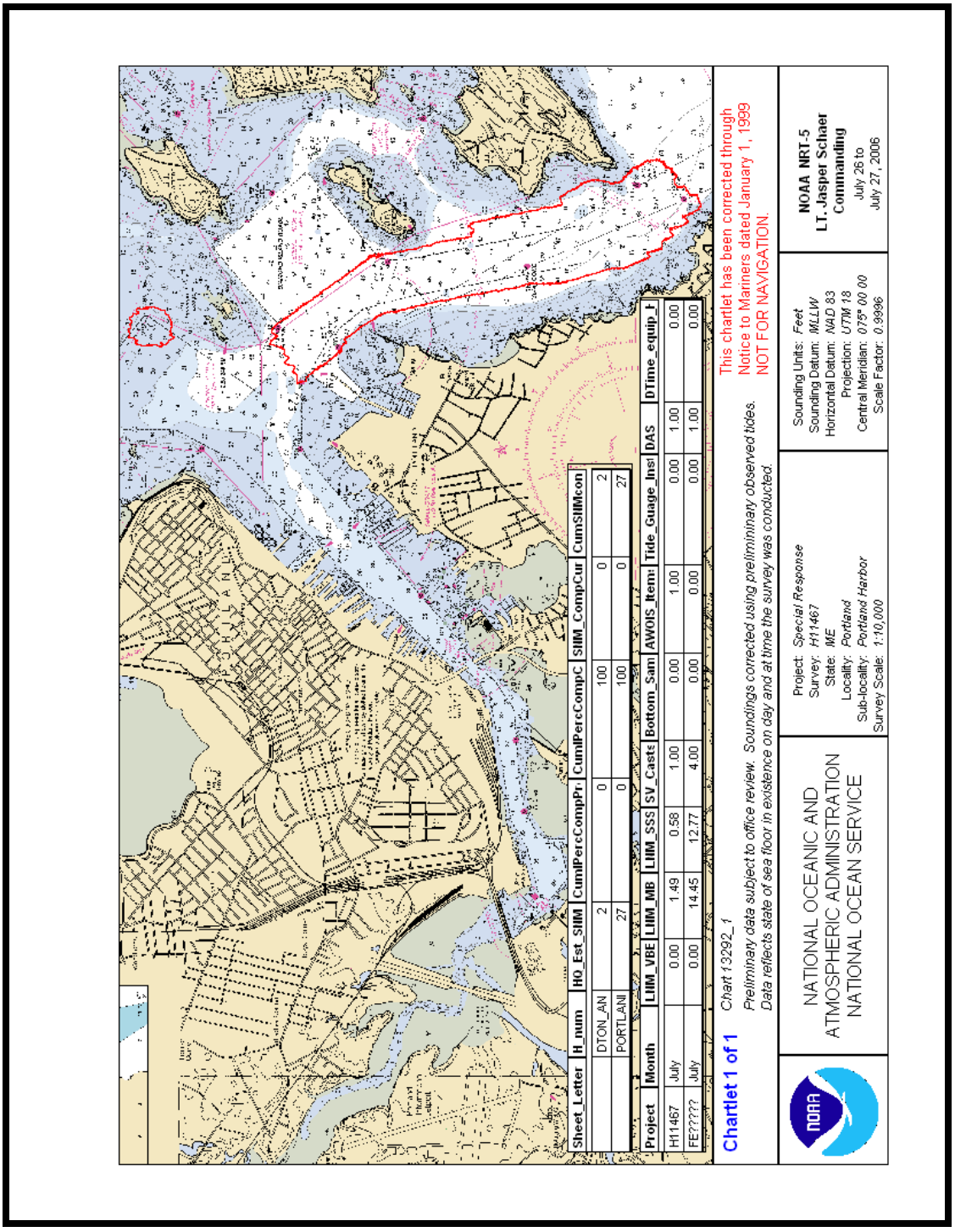


Figure 1: Complete Survey Limits & Data Coverage

B. DATA ACQUISITION AND PROCESSING

EQUIPMENT

All data were acquired by NOAA Hydrographic Survey boat S3002; a 10-meter hydrographic survey vessel with an average transducer draft of 1.3 meters.

NOAA Survey boat S3002 is equipped with a Kongsberg Simrad EM3000 Multi-Beam Echo Sounder (MBES), an Innerspace 455i Single Beam Echo Sounder (SBES), and towed Klein 300 Side Scan Sonar system (SSS).

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

Refer to the Data Acquisition and Processing Report (DAPR-2006)* for detailed equipment and vessel configuration information. **** Not submitted with original field records.***

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 with the operation of the side scan system, however, prior to F00524 operations, NRT-5 personnel replaced the Klein slip-ring located within the winch assembly onboard S3002. The system was tested prior to surveying. All data acquired indicate that the newly installed slip-ring operated consistently without error. ***Concur.***

During acquisition on the final side scan sonar survey line: sonar_data060726161800, a lobster float was snagged by the side scan sonar cable. The survey line was halted and restarted (sonar_data060726162100) from a point previous of the snagging. No indication of damage to the sonar or to the gathered data was observed. All further operations proceeded without incident.

100% SSS bottom coverage was collected for this survey project at a 75 m range scale. ***Concur.***

Single Beam Quality Control

There were no unusual events associated with the acquisition of the SBES data for this project. Due to the presence of high density bathymetry data from MBES, SBES data was not processed or analyzed for F00524. ***Concur.***

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

Multi Beam Quality Control

No unusual events were associated with the acquisition or post-processing of the Multi Beam data for this project. Complete MBES bottom coverage was collected. ***Concur.***

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

Base Surface

CARIS HIPS BASE (Bathymetry Associated with Statistical Error) surfaces, which incorporate each sounding's total error (TPE), were created according to depth intervals. Each finalized BASE surface contains seven layers: depth, uncertainty (using the "greater of the two" options), density, mean standard deviation, shoal, and deep.

Depth of 0-30meters contained in 1 finalized 0.75m resolution Base surface (contained within field sheets of the name):

F00524_p75_final

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

Not submitted with original field records.

Crosslines

5.14 nautical miles of MBES cross-lines (about 16.5% of the total 31.10 nm of the mainscheme MBES data) were acquired. Overall, the cross-lines have excellent agreement with their respective data sets, (see Quality Control report**). ***Concur.***
***** Data filed with original field records.***

Junctions

There are no junctions assigned for comparison for this survey. ***See Evaluation Report.***

Prior Surveys

Not applicable.

CORRECTIONS TO ECHO SOUNDING

All methods or instruments used were as 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. ***Concur.*** ****Not submitted with original field records.***

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 Portland, ME (841-8150) 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
?	0	?	841-8150
?	0	?	841-8150
?	0	?	841-8150

Note: still waiting for tide zoning. ***See Evaluation Report.***

A Request for Approved Tides letter was sent to N/OPS1 on 15 August, 2006. (Appendix IV). Preliminary water levels from the N/OPS1 CO-OPS website were downloaded and applied to all sounding data during CARIS HIPS post-processing. Refer to the DAPR* for a summary of the methods used to determine, evaluate, and apply tide corrections to sounding data. ****Not submitted with original field records.***

HORIZONTAL CONTROL

Horizontal datum used for this survey is the North American Datum of 1983 (NAD 83), projected using UTM zone 19. ***Concur.***

Horizontal positions were 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. ***Concur.***

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

D. RESULTS AND RECOMMENDATIONS

CHART COMPARISON

There are two charts affected by this survey:

Table 2: Affected Charts

Number	Version	Date	Scale
13292	37	08/01/2004	1:20,000
13290	36	07/01/2005	1:40,000

General Agreement with Charted Soundings

Data acquired from the main ship channel approaching Portland Harbor are generally in agreement with charted depths. Discrepancies found are primarily results where survey depths are deeper than charted depths. This is partly due to the dredging operations in the central area of the channel. Areas identified as significant due to depth discrepancy lie in the southeastern and southwestern corners of the survey area:

1. Danford Cove 43°38'04.799" N, 070°13'00.705"W

2. Ship Cove 43°37'40.662"N, 070°12'40.277"W

3. Catfish Rock 43°38'02.110"N, 070°12'32.745"W

4. Charted 36ft 43°38'13.533"N, 070°12'42.554"W

Survey depths gathered were deeper than the charted soundings in the area just above Ship Cove, just north of Portland Head Light. On the southwestern corner of Cushing Island in an area named Catfish Rock, charted contours and depths were not in agreement with the soundings acquired. Near Danford Cove, depths were deeper than charted south of the MOA-PH buoy. Finally, a charted 36ft bathymetric high spot, northeast of Catfish rock, depths were not in agreement with the soundings acquired. (See PSS Feature Report in Appendix I-c) ***See Appendix II and Evaluation Report.***

Other discrepancies and causes for depth discrepancies are believed to be caused by changes in the substrate due to a dynamic environment and/or the advance of Echo Sounding technology over previous collection. ***Concur.***

Dangers to Navigation (DToN's)

There is one DToN for this survey, see Appendix I-a. It was a disproval. ***See Evaluation Report.***

AWOIS Items

No AWOIS items were assigned for F00524, however, one charted AWOIS remains from a previous survey, see Appendix I-b. ***Concur.***

Significant Uncharted Features

There are no significant uncharted features. ***See Evaluation Report.***

Non-AWOIS Charted Features & Notes

There are four non-AWOIS charted features, see Appendix I-c. ***See Appendix II and Evaluation Report.***

ADDITIONAL RESULTS

Prior Surveys

Not applicable. ***Concur.***

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*. ***Concur.***

Bridges and Overhead Cables

No bridges or overhead cables in surveyed area. ***Concur.***

Ferry Routes

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

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 these features. ***Concur.***

Shoreline

No shoreline operations were assigned for F00524. ***Concur.***

E. APPROVAL SHEET

S-A911-NRT5-06
Approaches to Portland, Maine
Portland, ME

Survey Registry No. F00524

Field operations for this basic hydrographic survey and field examination 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 S-A911-NRT5-06, F00524 ***
- S-A911-NRT5-06 HORIZONTAL AND VERTICAL CONTROL REPORT (*To be submitted 12/30/06)**
- OCTOBER 2005-SEPTEMBER 2006 DATA ACQUISITION AND PROCESSING REPORT (*To be submitted 12/30/06)**

Not filed with original field records.
****Data filed with original field records.***

Respectfully Submitted:

Name Bert S Ho
Title Physical Science Technician

Name Vitad Pradith
Title Physical Science Technician

Approved and Forwarded:

Name Jasper D. Schaer, LTJG/NOAA
Title Team Leader

H11467 Field DTON

Registry Number: H11467
State: Maine
Locality: Portland
Sub-locality: Portland Harbor
Project Number: S-A911-NRT5-05
Survey Date: 07/06/2005

Charts Affected

Number	Version	Date	Scale
13292	37th Ed.	08/01/2004	1:20000
13290	35th Ed.	08/01/2003	1:40000
13288	41st Ed.	09/01/2004	1:80000
13260	39th Ed.	06/01/2003	1:378838
13009	31st Ed.	10/01/2004	1:500000
13006	32nd Ed.	02/01/2005	1:675000
13003	48th Ed.	10/01/2004	1:1200000

Features

No.	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	Obstruction	5.59 m	043° 40' 07.320" N	70° 13' 24.043" W	---

1.1) DTON_18ft

DANGER TO NAVIGATION

Survey Summary

Survey Position: 043° 40' 07.320" N, 70° 13' 24.043" W

Least Depth: 5.59 m

Timestamp: 2005-187.15:49:02.888 (07/06/2005)

Survey Line: portland / 3002_mbes / 2005-187 / 081_1543

Profile/Beam: 2422/91

Charts Affected: 13292_1, 13290_1, 13288_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

200% MBES was collected. 100% and 200% were collected at oblique angles, respectively to get full bottom coverage. Area populated with several hundred lobster pots. We were unable to conduct SSS due to navigation hazards in the area. -js

Feature Correlation

Address	Feature	Range	Azimuth	Status
portland/3002_mbes/2005-187/081_1543	2422/91	0.00	000.0	Primary

Hydrographer Recommendations

Hydrographer recommends adding the charted symbol, Obstn, least depth 18.3 ft at the position: 43°40'07.320"N , -070°13'24.043" W.-js Office processing comments: Refer to Evaluation Report and Appendix II of this report for further discussion of this DTON.

Cartographically-Rounded Depth (Affected Charts):

18ft (13292_1, 13290_1, 13288_1)

3fm (13260_1, 13009_1, 13006_1, 13003_1)

S-57 Data

[None]

Feature Images

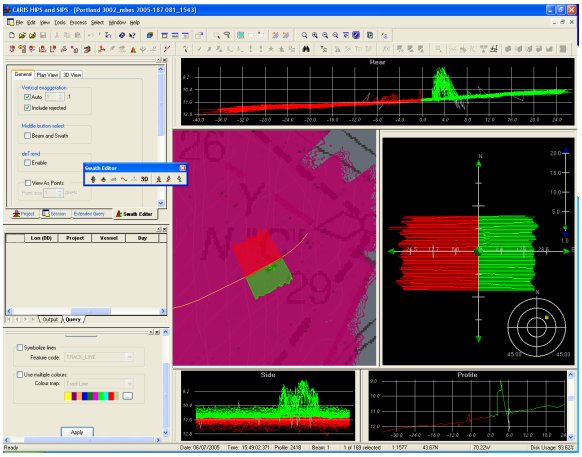


Figure 1.1.1

AHB Danger to Navigation #1

Registry Number: Portland Combined Survey

State: Maine

Locality: Atlantic Ocean

Sub-locality: Approaches to Portland Harbor

Project Number: H11467, W00177, F00524

Survey Date: 08/09/2005

Charts Affected

Number	Version	Date	Scale
13292	37th Ed.	08/01/2004	1:20000
13290	36th Ed.	07/01/2005	1:40000
13288	41st Ed.	09/01/2004	1:80000
13260	39th Ed.	06/01/2003	1:378838
13009	31st Ed.	10/01/2004	1:500000
13006	32nd Ed.	02/01/2005	1:675000
13003	48th Ed.	10/01/2004	1:1200000

Features

No.	Feature Type	Survey Depth	Survey Latitude	Survey Longitude
1.1	Sounding	-0.31 m	043° 39' 32.759" N	70° 14' 49.158" W

1.1) Profile/Beam - 571/1 from portland / 3002_vbes / 2005-221 / 014_1909

DANGER TO NAVIGATION

Survey Summary

Survey Position: 043° 39' 32.759" N, 70° 14' 49.158" W

Least Depth: -0.31 m

Timestamp: 2005-221.19:10:31.923 (08/09/2005)

Survey Line: portland / 3002_vbes / 2005-221 / 014_1909

Profile/Beam: 571/1

Charts Affected: 13292_1, 13290_1, 13288_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

Shoaling was observed by the field party.

Feature Correlation

Address	Feature	Range	Azimuth	Status
portland/3002_vbes/2005-221/014_1909	571/1	0.00	000.0	Primary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

-1ft (13292_1, 13290_1, 13288_1)

0fm (13260_1, 13009_1, 13006_1, 13003_1)

S-57 Data

[None]

Office Notes

Refer to Evaluation Report and Appendix II of this Combined Descriptive Report for further discussion of this Danger to Navigation.

Feature Images

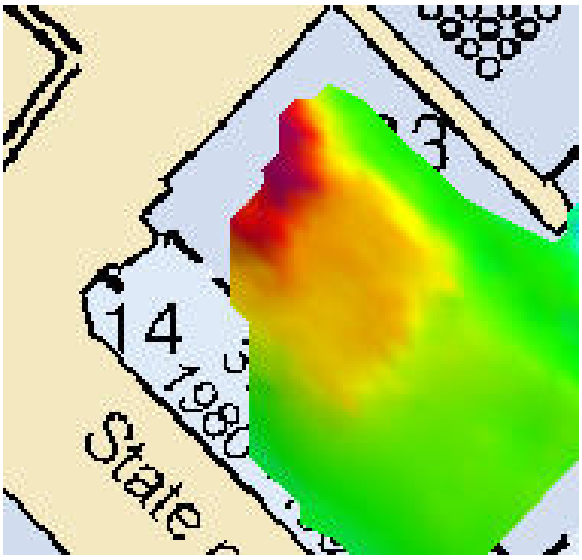


Figure 1.1.1

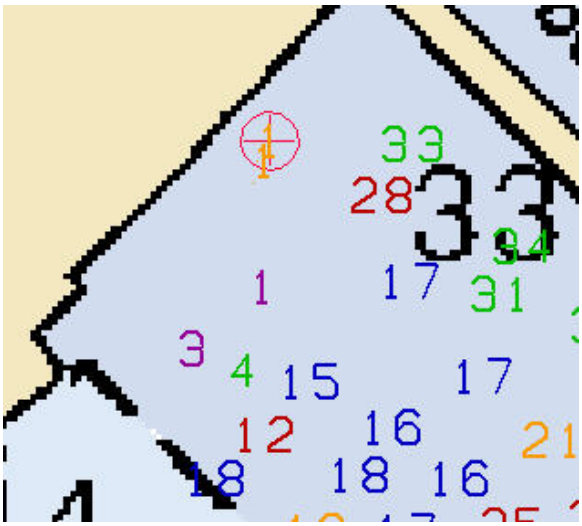


Figure 1.1.2

Monday, November 13th, 2006

To whom it may concern

Chart letter 1340/06 and DD8285 have been processed by the Nautical Data Branch and put into Product Branch C's box. This involves a shoal sounding located at 43°39'32.759"N 070°14'49.158"W in Portland, Maine harbor.

This affects the following charts: 13292 (KAPP 2051)
13290 (KAPP 2052)

This also affects ENC Cell US5ME10M.

This was reported by the Atlantic Hydrographic Branch.

REFERENCES: H-11467

Douglas C. Harpine

Douglas Harpine
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NOAA/NOS
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Additional Information:
Last Name
Harpine
First Name
Douglas
Version
2.1

Helen,
In examining this DTON, it is my opinion that the "1" sounding shown in Figure 1.12 is of more concern than the shoaling along the inside face of this basin. Could you please provide us with a GP? When the completed survey is applied we will be able to address the shoaling with a short segment of low water curve, and the "1" sounding will be supplemented (or replaced) by depth curves as we develop the other hydro in the area.

Please forward this information to Lyn Preston so that it may be amended to the original chart letter.

Thanks

--
Joseph Robinson

Thanks for the quick reply.

Helen Stewart wrote:

> The position of the 1' sounding is 43°39'31.067" N, 70°14'49.209" W. The position
> of the adjacent 3 foot sounding is 43°39'30.414" N, 70°14'50.284" W. The position
> of the 12' sounding, which is probably the boundary of the shoal, is 43°39'29.442"
> N, 70°14'49.193" W.
>
> Best to you,
> Helen

AHB Danger to Navigation #2

Registry Number: Portland Combined Survey

State: Maine

Locality: Atlantic Ocean

Sub-locality: Approaches to Portland Harbor

Project Number: H11467, W00177, F00524

Survey Date: 08/21/2005

This DTON is an obstruction (foul ground) located near Spring Point in Portland, ME.

Charts Affected

Number	Version	Date	Scale
13292	37th Ed.	08/01/2004	1:20000
13290	36th Ed.	07/01/2005	1:40000
13288	41st Ed.	09/01/2004	1:80000
13260	39th Ed.	06/01/2003	1:378838
13009	31st Ed.	10/01/2004	1:500000
13006	32nd Ed.	02/01/2005	1:675000
13003	48th Ed.	10/01/2004	1:1200000

Features

No.	Feature Type	Survey Depth	Survey Latitude	Survey Longitude
1.1	Obstruction	1.52 m	043° 39' 04.372" N	70° 13' 42.094" W

1.1) Profile/Beam - 5923/1 from portland / 3002_vbes / 2005-233 / 020_1822

DANGER TO NAVIGATION

Survey Summary

Survey Position: 043° 39' 04.372" N, 70° 13' 42.094" W

Least Depth: 1.52 m

Timestamp: 2005-233.18:35:55.264 (08/21/2005)

Survey Line: portland / 3002_vbes / 2005-233 / 020_1822

Profile/Beam: 5923/1

Charts Affected: 13292_1, 13290_1, 13288_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

The feature is a foul area in the vicinity of a charted pier extension or floating pier. This pier is charted as an attached pier on chart 13292 and on chart 13290 and as an isolated floating pier on ENC US5ME10 (see images). Survey lines from survey H11467 run directly over the top of this charted pier. Side scan sonar data shows a foul area of pilings and debris in this area. Vertical beam echosounder data shows a least depth of 5 feet.

Feature Correlation

Address	Feature	Range	Azimuth	Status
portland/3002_vbes/2005-233/020_1822	5923/1	0.00	000.0	Primary
portland/3002sss500k/2005-234/sonar_data050822171201	0010	9.61	207.7	Secondary (grouped)
portland/3002sss500k/2005-234/sonar_data050822171201	0005	18.01	196.9	Secondary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

5ft (13292_1, 13290_1, 13288_1)

0 ¾fm (13260_1, 13009_1, 13006_1, 13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: CATOBS - 7:foul ground

CONDTN - 2:ruined

QUASOU - 6:least depth known

TECSOU - 1,2:found by echo-sounder,found by side scan sonar

VALSOU - 1.524 m

WATLEV - 3:always under water/submerged

Office Notes

Refer to Evaluation Report and to Appendix II, Item 4.3 of this Combined Descriptive Report for further discussion of this Danger to Navigation.

Monday, Dec 4th, 2006

To whom it may concern

Chart letter 1446/06 and DD8378 have been processed by the Nautical Data Branch and put into Products Branch C's box. This involves the investigation of a pier in ruins at 43°39'04.372"N 070°13'42.094"W near Spring Point in Portland, Maine.

This affects the following charts: 13292 (KAPP 2051)
13290 (KAPP 2052)

This also affects ENC Cell US5ME10M.

This was reported by Navigation Services Division's NRT2 and the Atlantic Hydrographic Branch.

REFERENCES: H-11467

Dougalas C. Harpine

APPENDIX II

SIGNIFICANT FEATURES

Portland Combined Survey Office Processing Report

Registry Number: 1. H11467; 2. W00177; 3. F00524

State: Maine

Locality: Atlantic Ocean

Sub-locality: Portland Harbor Entrance

Project Number: S-A911-NRT5-05, N/A

Survey Dates: 06/08/2005 - 10/25/2006

Charts Affected

Number	Version	Date	Scale
13292	37th Ed.	08/01/2004	1:20000
13290	36th Ed.	07/01/2005	1:40000
13288	41st Ed.	09/01/2004	1:80000
13260	39th Ed.	06/01/2003	1:378838
13009	31st Ed.	10/01/2004	1:500000
13006	32nd Ed.	02/01/2005	1:675000
13003	48th Ed.	10/01/2004	1:1200000

Features

No.	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	Dolphin	[None]	043° 38' 38.212" N	70° 15' 29.487" W	---
1.2	Dolphin	[None]	043° 38' 40.501" N	70° 15' 25.164" W	---
1.3	Dolphin	[None]	043° 38' 39.117" N	70° 15' 28.405" W	---
1.4	Pile	[None]	043° 39' 03.818" N	70° 13' 45.105" W	---
1.5	Rock	-0.66 m	043° 38' 34.697" N	70° 13' 26.537" W	---
1.6	Stationary structure, floating or fixed	[None]	043° 39' 19.151" N	70° 13' 41.543" W	---
1.7	Stationary structure, floating or fixed	[None]	043° 39' 28.828" N	70° 14' 39.655" W	---
1.8	Stationary structure, floating or fixed	[None]	043° 39' 35.558" N	70° 14' 32.850" W	---
1.9	Stationary structure, floating or fixed	[None]	043° 39' 32.674" N	70° 14' 40.559" W	---
1.10	Green buoy, lighted	[None]	043° 39' 53.281" N	70° 14' 08.751" W	---
1.11	Pipe	[None]	043° 40' 05.441" N	70° 14' 06.576" W	---
1.12	Green buoy	[None]	043° 40' 17.086" N	70° 14' 05.078" W	---

1.13	Red buoy	[None]	043° 40' 20.456" N	70° 13' 42.236" W	---
1.14	Red buoy	[None]	043° 40' 36.617" N	70° 14' 28.761" W	---
1.15	Stationary structure, floating or fixed	[None]	043° 40' 30.370" N	70° 15' 00.937" W	---
1.16	Red buoy, lighted	[None]	043° 40' 32.299" N	70° 14' 54.293" W	---
1.17	Stationary structure, floating or fixed	[None]	043° 38' 43.984" N	70° 15' 27.738" W	---
1.18	Stationary structure, floating or fixed	[None]	043° 38' 41.763" N	70° 15' 25.629" W	---
2.1	Rock	[None]	043° 38' 11.949" N	70° 13' 10.608" W	---
2.2	Obstruction	[None]	043° 39' 35.968" N	70° 14' 37.434" W	---
2.3	Rock	14.60 m	043° 39' 18.631" N	70° 13' 26.732" W	---
2.4	Pile	[None]	043° 39' 02.381" N	70° 13' 43.792" W	---
2.5	Rock	5.56 m	043° 38' 02.960" N	70° 12' 32.026" W	---
2.6	Rock	6.37 m	043° 38' 02.024" N	70° 12' 32.402" W	---
2.7	Rock	9.51 m	043° 38' 04.799" N	70° 13' 00.705" W	---
2.8	Sounding	10.75 m	043° 38' 03.226" N	70° 13' 02.143" W	---
2.9	Obstruction	11.64 m	043° 39' 30.421" N	70° 13' 37.145" W	---
3.1	Wreck	[None]	043° 40' 08.541" N	70° 13' 07.804" W	10551
3.2	Wreck	[None]	043° 40' 07.172" N	70° 13' 15.205" W	11126
3.3	AWOIS	[no data]	[no data]	[no data]	---
3.4	AWOIS	[no data]	[no data]	[no data]	---
3.5	AWOIS	[no data]	[no data]	[no data]	---
3.6	AWOIS	[no data]	[no data]	[no data]	---
3.7	AWOIS	[no data]	[no data]	[no data]	---
3.8	AWOIS	[no data]	[no data]	[no data]	---
3.9	AWOIS	[no data]	[no data]	[no data]	---
3.10	AWOIS	[no data]	[no data]	[no data]	---
4.1	Sounding	5.62 m	043° 40' 07.320" N	70° 13' 24.043" W	---
4.2	Shoal	-0.31 m	043° 39' 32.759" N	70° 14' 49.158" W	---
4.3	Obstruction	1.52 m	043° 39' 04.372" N	70° 13' 42.094" W	---

1.1) Contact/Point - 0001/1 from portland / 3002sss500k / 2005-220 / sonar_data050808171100

Survey Summary

Survey Position: 043° 38' 38.212" N, 70° 15' 29.487" W

Least Depth: [None]

Timestamp: 2006-265.05:30:43 (09/22/2006)

Survey Line: portland / 3002sss500k / 2005-220 / sonar_data050808171100

Contact/Point: 0001/1

Charts Affected: 13292_1, 13290_1, 13288_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

The feature is a charted dolphin.

Feature Correlation

Address	Feature	Range	Azimuth	Status
portland/3002sss500k/2005-220/sonar_data050808171100	0001	0.00	000.0	Primary
ChartGPs - Digitized	2	9.41	279.2	Secondary (grouped)
portland/3002sss500k/2005-220/sonar_data050808171100	0002	11.75	234.0	Secondary (grouped)

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Mooring/warping facility (MORFAC)

Attributes: CATMOR - 1:dolphin

Office Notes

Delete charted dolphin at 43°38'38.164" N, 70°15'29.070" W. Chart a dolphin at 43°38'38.212" N, 070°15'29.487"W.

1.2) Contact/Point - 0004/1 from portland / 3002sss500k / 2005-220 / sonar_data050808171100

Survey Summary

Survey Position: 043° 38' 40.501" N, 70° 15' 25.164" W

Least Depth: [None]

Timestamp: 2006-265.05:31:32 (09/22/2006)

Survey Line: portland / 3002sss500k / 2005-220 / sonar_data050808171100

Contact/Point: 0004/1

Charts Affected: 13292_1, 13290_1, 13288_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

Charted dolphin

Feature Correlation

Address	Feature	Range	Azimuth	Status
portland/3002sss500k/2005-220/sonar_data050808171100	0004	0.00	000.0	Primary
ChartGPs - Digitized	4	5.93	357.7	Secondary (grouped)

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Mooring/warping facility (MORFAC)

Attributes: CATMOR - 1:dolphin

Office Notes

Delete charted dolphin in 43°38'40.310" N, 70°15'25.154" W. Chart a dolphin in position 43°38'40.501" N, 070°15'25.164" W.

1.3) Contact/Point - 0003/1 from portland / 3002sss500k / 2005-220 / sonar_data050808171100

Survey Summary

Survey Position: 043° 38' 39.117" N, 70° 15' 28.405" W

Least Depth: [None]

Timestamp: 2006-265.05:31:02 (09/22/2006)

Survey Line: portland / 3002sss500k / 2005-220 / sonar_data050808171100

Contact/Point: 0003/1

Charts Affected: 13292_1, 13290_1, 13288_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

Charted dolphin

Feature Correlation

Address	Feature	Range	Azimuth	Status
portland/3002sss500k/2005-220/sonar_data050808171100	0003	0.00	000.0	Primary
ChartGPs - Digitized	3	13.22	355.2	Secondary (grouped)

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Mooring/warping facility (MORFAC)

Attributes: CATMOR - 1:dolphin

Office Notes

Delete charted dolphin at 43°38'38.691" N, 070°15'28.356" W. Chart a dolphin at 43°38'39.117" N, 070°15'28.405"W.

1.4) Contact/Point - 0007/1 from portland / 3002sss500k / 2005-234 / sonar_data050822171201

Survey Summary

Survey Position: 043° 39' 03.818" N, 70° 13' 45.105" W

Least Depth: [None]

Timestamp: 2006-298.12:59:31 (10/25/2006)

Survey Line: portland / 3002sss500k / 2005-234 / sonar_data050822171201

Contact/Point: 0007/1

Charts Affected: 13292_1, 13290_1, 13288_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

Charted pile

Feature Correlation

Address	Feature	Range	Azimuth	Status
portland/3002sss500k/2005-234/sonar_data050822171201	0007	0.00	000.0	Primary
ChartGPs - Digitized	5	12.48	288.1	Secondary (grouped)

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Pile (PILPNT)

Office Notes

Delete charted pile at 43°39'03.693" N, 070°13'44.572" W. Chart a pile at 43°39'03.818" N, 070°13'45.105" W.

1.5) Profile/Beam - 892/1 from portland / 3002_vbes / 2005-159 / 003_1400

Survey Summary

Survey Position: 043° 38' 34.697" N, 70° 13' 26.537" W

Least Depth: -0.66 m

Timestamp: 2005-159.14:02:21.406 (06/08/2005)

Survey Line: portland / 3002_vbes / 2005-159 / 003_1400

Profile/Beam: 892/1

Charts Affected: 13292_1, 13290_1, 13288_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

The feature is a charted rock awash.

Feature Correlation

Address	Feature	Range	Azimuth	Status
portland/3002_vbes/2005-159/003_1400	892/1	0.00	000.0	Primary
ChartGPs - Digitized	1	4.65	213.6	Secondary (grouped)
portland/3002sss500k/2005-159/sonar_data050608134800	0003	48.48	253.8	Secondary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

-2ft (13292_1, 13290_1, 13288_1)

0 ¼fm (13260_1, 13009_1, 13006_1, 13003_1)

S-57 Data

Geo object 1: Underwater rock / awash rock (UWTROC)

Attributes: QUASOU - 6:least depth known

TECSOU - 1:found by echo-sounder

VALSOU - -0.658 m

WATLEV - 4:covers and uncovers

Office Notes

Delete charted rock awash at 43°38'34.822" N, 70°13'26.421" W. Chart a dangerous baring rock with a drying height of 2 feet in position 43°38'34.697" N, 70°13'26.537" W.

1.6) Contact/Point - 0001/1 from portland / 3002sss500k / 2005-178 / sonar_data050627140200

Survey Summary

Survey Position: 043° 39' 19.151" N, 70° 13' 41.543" W

Least Depth: [None]

Timestamp: 2006-265.02:00:22 (09/22/2006)

Survey Line: portland / 3002sss500k / 2005-178 / sonar_data050627140200

Contact/Point: 0001/1

Charts Affected: 13292_1, 13290_1, 13288_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

The feature is a charted pier.

Feature Correlation

Address	Feature	Range	Azimuth	Status
portland/3002sss500k/2005-178/sonar_data050627140200	0001	0.00	000.0	Primary
portland/3002sss500k/2005-178/sonar_data050627140200	0002	52.64	039.7	Secondary (grouped)
portland/3002sss500k/2005-178/sonar_data050627140200	0003	88.11	038.3	Secondary (grouped)
portland/3002sss500k/2005-178/sonar_data050627140200	0004	121.20	038.9	Secondary (grouped)
portland/3002sss500k/2005-178/sonar_data050627140200	0005	237.73	038.5	Secondary (grouped)

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Shoreline Construction (SLCONS)

Attributes: CATSLC - 4:pier (jetty)

INFORM - Portland Pipeline Company Pier

WATLEV - 2:always dry

Office Notes

The office processor recommends obtaining current photogrammetry to verify the position of this pier.

1.7) Contact/Point - 0003/1 from portland / 3002sss500k / 2005-178 / sonar_data050627143600

Survey Summary

Survey Position: 043° 39' 28.828" N, 70° 14' 39.655" W

Least Depth: [None]

Timestamp: 2006-265.02:15:49 (09/22/2006)

Survey Line: portland / 3002sss500k / 2005-178 / sonar_data050627143600

Contact/Point: 0003/1

Charts Affected: 13292_1, 13290_1, 13288_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

The feature is a charted lighted platform.

Feature Correlation

Address	Feature	Range	Azimuth	Status
portland/3002sss500k/2005-178/sonar_data050627143600	0003	0.00	000.0	Primary
portland/3002sss500k/2005-178/sonar_data050627145300	0004	12.26	187.7	Secondary

Hydrographer Recommendations

[None]

S-57 Data

[None]

Office Notes

Retain as charted.

1.8) Contact/Point - 0004/1 from portland / 3002sss500k / 2005-178 / sonar_data050627143600

Survey Summary

Survey Position: 043° 39' 35.558" N, 70° 14' 32.850" W

Least Depth: [None]

Timestamp: 2006-265.02:17:36 (09/22/2006)

Survey Line: portland / 3002sss500k / 2005-178 / sonar_data050627143600

Contact/Point: 0004/1

Charts Affected: 13292_1, 13290_1, 13288_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

The feature is a charted mooring platform.

Feature Correlation

Address	Feature	Range	Azimuth	Status
portland/3002sss500k/2005-178/sonar_data050627143600	0004	0.00	000.0	Primary
portland/3002sss500k/2005-178/sonar_data050627145300	0005	18.19	162.3	Secondary

Hydrographer Recommendations

[None]

S-57 Data

[None]

Office Notes

Retain as charted.
Item 1.8, a charted mooring platform is not present as an S-57 feature object in the submitted chart unit BASE Cell File. Due to the timeliness of the survey submission, the feature will not be present nor corrected within the BASE Cell File (chart unit). Refer to Evalution Report Addendum.

1.9) Contact/Point - 0002/1 from portland / 3002sss500k / 2005-178 / sonar_data050627145300

Survey Summary

Survey Position: 043° 39' 32.674" N, 70° 14' 40.559" W

Least Depth: [None]

Timestamp: 2005-218.02:08:01 (08/06/2005)

Survey Line: portland / 3002sss500k / 2005-178 / sonar_data050627145300

Contact/Point: 0002/1

Charts Affected: 13292_1, 13290_1, 13288_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

The feature is a charted mooring platform.

Feature Correlation

Address	Feature	Range	Azimuth	Status
portland/3002sss500k/2005-178/sonar_data050627145300	0002	0.00	000.0	Primary

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Shoreline Construction (SLCONS)

Office Notes

Retain as charted.
Item 1.9, a charted pier is not present as an S-57 feature object in the submitted chart unit BASE Cell File.
Due to the timeliness of the survey submission, the feature will not be present nor corrected within the BASE Cell File (chart unit). Refer to Evalution Report Addendum.

1.10) Contact/Point - 0001/1 from portland / 3002sss500k / 2005-178 / sonar_data050627152000

Survey Summary

Survey Position: 043° 39' 53.281" N, 70° 14' 08.751" W

Least Depth: [None]

Timestamp: 2006-265.02:35:13 (09/22/2006)

Survey Line: portland / 3002sss500k / 2005-178 / sonar_data050627152000

Contact/Point: 0001/1

Charts Affected: 13292_1, 13290_1, 13288_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

Charted Green Buoy #1

Feature Correlation

Address	Feature	Range	Azimuth	Status
portland/3002sss500k/2005-178/sonar_data050627152000	0001	0.00	000.0	Primary

Hydrographer Recommendations

[None]

S-57 Data

[None]

Office Notes

Retain as charted.

1.11) Contact/Point - 0002/1 from portland / 3002sss500k / 2005-178 / sonar_data050627152000

Survey Summary

Survey Position: 043° 40' 05.441" N, 70° 14' 06.576" W

Least Depth: [None]

Timestamp: 2006-265.02:36:16 (09/22/2006)

Survey Line: portland / 3002sss500k / 2005-178 / sonar_data050627152000

Contact/Point: 0002/1

Charts Affected: 13292_1, 13290_1, 13288_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

The feature is a charted sewer outfall.

Feature Correlation

Address	Feature	Range	Azimuth	Status
portland/3002sss500k/2005-178/sonar_data050627152000	0002	0.00	000.0	Primary
portland/3002sss500k/2005-178/sonar_data050627153000	0001	1.25	333.8	Secondary (grouped)
portland/3002sss500k/2005-178/sonar_data050627153000	0002	23.49	179.2	Secondary (grouped)

Hydrographer Recommendations

[None]

S-57 Data

[None]

Office Notes

Retain as charted.

1.12) Contact/Point - 0001/1 from portland / 3002sss500k / 2005-178 / sonar_data050627154100

Survey Summary

Survey Position: 043° 40' 17.086" N, 70° 14' 05.078" W

Least Depth: [None]

Timestamp: 2006-265.02:47:08 (09/22/2006)

Survey Line: portland / 3002sss500k / 2005-178 / sonar_data050627154100

Contact/Point: 0001/1

Charts Affected: 13292_1, 13290_1, 13288_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

The feature is charted Green Buoy "3".

Feature Correlation

Address	Feature	Range	Azimuth	Status
portland/3002sss500k/2005-178/sonar_data050627154100	0001	0.00	000.0	Primary

Hydrographer Recommendations

[None]

S-57 Data

[None]

Office Notes

Retain as charted.

1.13) Contact/Point - 0003/1 from portland / 3002sss500k / 2005-178 / sonar_data050627161100

Survey Summary

Survey Position: 043° 40' 20.456" N, 70° 13' 42.236" W

Least Depth: [None]

Timestamp: 2006-265.02:58:47 (09/22/2006)

Survey Line: portland / 3002sss500k / 2005-178 / sonar_data050627161100

Contact/Point: 0003/1

Charts Affected: 13292_1, 13290_1, 13288_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

Red 4 retain as charted

Feature Correlation

Address	Feature	Range	Azimuth	Status
portland/3002sss500k/2005-178/sonar_data050627161100	0003	0.00	000.0	Primary

Hydrographer Recommendations

[None]

S-57 Data

[None]

Office Notes

Concur.

1.14) Contact/Point - 0002/1 from portland / 3002sss500k / 2005-178 / sonar_data050627161100

Survey Summary

Survey Position: 043° 40' 36.617" N, 70° 14' 28.761" W

Least Depth: [None]

Timestamp: 2006-265.02:57:43 (09/22/2006)

Survey Line: portland / 3002sss500k / 2005-178 / sonar_data050627161100

Contact/Point: 0002/1

Charts Affected: 13292_1, 13290_1, 13288_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

Red Buoy #6 retain as charted

Feature Correlation

Address	Feature	Range	Azimuth	Status
portland/3002sss500k/2005-178/sonar_data050627161100	0002	0.00	000.0	Primary

Hydrographer Recommendations

[None]

S-57 Data

[None]

Office Notes

Concur.

1.15) Contact/Point - 0001/1 from portland / 3002sss500k / 2005-178 / sonar_data050627163800

Survey Summary

Survey Position: 043° 40' 30.370" N, 70° 15' 00.937" W

Least Depth: [None]

Timestamp: 2006-265.03:18:00 (09/22/2006)

Survey Line: portland / 3002sss500k / 2005-178 / sonar_data050627163800

Contact/Point: 0001/1

Charts Affected: 13292_1, 13290_1, 13288_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

The feature is the footing of a charted bridge. This eastward extent of this bridge footing is 20m further west than the charted furthest eastern extent.

Feature Correlation

Address	Feature	Range	Azimuth	Status
portland/3002sss500k/2005-178/sonar_data050627163800	0001	0.00	000.0	Primary

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Pylon/bridge support (PYLONS)

Attributes: CATPYL - 4:bridge pylon/tower

Office Notes

The office processor recommends obtaining current photogrammetry of this position. Defer final charting disposition to Nautical Data Branch, Source Information Unit at Marine Chart Division.

1.16) Contact/Point - 0002/1 from portland / 3002sss500k / 2005-178 / sonar_data050627163800

Survey Summary

Survey Position: 043° 40' 32.299" N, 70° 14' 54.293" W

Least Depth: [None]

Timestamp: 2006-265.03:18:34 (09/22/2006)

Survey Line: portland / 3002sss500k / 2005-178 / sonar_data050627163800

Contact/Point: 0002/1

Charts Affected: 13292_1, 13290_1, 13288_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

Red Buoy #8 retain as charted

Feature Correlation

Address	Feature	Range	Azimuth	Status
portland/3002sss500k/2005-178/sonar_data050627163800	0002	0.00	000.0	Primary

Hydrographer Recommendations

[None]

S-57 Data

[None]

Office Notes

Concur.

1.17) Contact/Point - 0001/1 from portland / 3002sss500k / 2005-220 / sonar_data050808170700

Survey Summary

Survey Position: 043° 38' 43.984" N, 70° 15' 27.738" W

Least Depth: [None]

Timestamp: 2006-265.05:28:08 (09/22/2006)

Survey Line: portland / 3002sss500k / 2005-220 / sonar_data050808170700

Contact/Point: 0001/1

Charts Affected: 13292_1, 13290_1, 13288_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

The feature is a charted bridge footing. This bridge footing is located as charted.

Feature Correlation

Address	Feature	Range	Azimuth	Status
portland/3002sss500k/2005-220/sonar_data050808170700	0001	0.00	000.0	Primary

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Pylon/bridge support (PYLONS)

Attributes: CATPYL - 5:bridge pier

Office Notes

Defer final charting disposition to Nautical Data Branch, Source Information Unit at Marine Chart Division.

1.18) Contact/Point - 0002/1 from portland / 3002sss500k / 2005-220 / sonar_data050808170700

Survey Summary

Survey Position: 043° 38' 41.763" N, 70° 15' 25.629" W

Least Depth: [None]

Timestamp: 2006-265.05:28:18 (09/22/2006)

Survey Line: portland / 3002sss500k / 2005-220 / sonar_data050808170700

Contact/Point: 0002/1

Charts Affected: 13292_1, 13290_1, 13288_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

The feature is a charted bridge footing. This bridge footing is 35 feet from its charted position, reducing the horizontal clearance of the Casco Bay Bridge from charted 196 feet to 160 feet.

Feature Correlation

Address	Feature	Range	Azimuth	Status
portland/3002sss500k/2005-220/sonar_data050808170700	0002	0.00	000.0	Primary

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Pylon/bridge support (PYLONS)

Attributes: CATPYL - 5:bridge pier

Office Notes

Defer final charting disposition to Nautical Data Branch, Source Information Unit at Marine Chart Division.

2.1) Contact/Point - 0001/1 from portland / 3002sss100k / 2005-179 / sonar_data050628154201

Survey Summary

Survey Position: 043° 38' 11.949" N, 70° 13' 10.608" W

Least Depth: [None]

Timestamp: 2006-265.05:03:13 (09/22/2006)

Survey Line: portland / 3002sss100k / 2005-179 / sonar_data050628154201

Contact/Point: 0001/1

Charts Affected: 13292_1, 13290_1, 13288_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

The feature is a rock with unknown least depth. Side scan sonar shadow height is on the order of 2m (in the upslope direction).

Feature Correlation

Address	Feature	Range	Azimuth	Status
portland/3002sss100k/2005-179/sonar_data050628154201	0001	0.00	000.0	Primary
portland/3002sss500k/2005-179/sonar_data050628154201	0005	0.56	339.1	Secondary
portland/3002sss500k/2005-179/sonar_data050628153600	0001	4.93	345.5	Secondary (grouped)

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Underwater rock / awash rock (UWTROC)

Attributes: QUASOU - 2:depth unknown

TECSOU - 2:found by side scan sonar

WATLEV - 3:always under water/submerged

Office Notes

Chart a dangerous rock, least depth unknown, in the present survey location in 43°38'11.949" N, 70°13'10.608" W.

2.2) Contact/Point - 0003/1 from portland / 3002sss500k / 2005-178 / sonar_data050627145300

Survey Summary

Survey Position: 043° 39' 35.968" N, 70° 14' 37.434" W

Least Depth: [None]

Timestamp: 2005-218.02:08:34 (08/06/2005)

Survey Line: portland / 3002sss500k / 2005-178 / sonar_data050627145300

Contact/Point: 0003/1

Charts Affected: 13292_1, 13290_1, 13288_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

The feature is a large group of piles and debris that appears to be pier ruins. Although vertical beam echosounder depths indicate a least depth shoaler than 13 feet at MLLW, the field party did not investigate this area to determine least depth. The least depth of this foul with piles area is not known.

Feature Correlation

Address	Feature	Range	Azimuth	Status
portland/3002sss500k/2005-178/sonar_data050627145300	0003	0.00	000.0	Primary
portland/3002sss500k/2005-178/sonar_data050627145300	0001	66.57	241.2	Secondary (grouped)

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: CATOBS - 7:foul ground

TECSOU - 2:found by side scan sonar

WATLEV - 3:always under water/submerged

Office Notes

Chart a dangerous obstruction (fouling with piles), least depth unknown, in 43°39'35.968" N, 70°14'37.434" W.

Feature Images

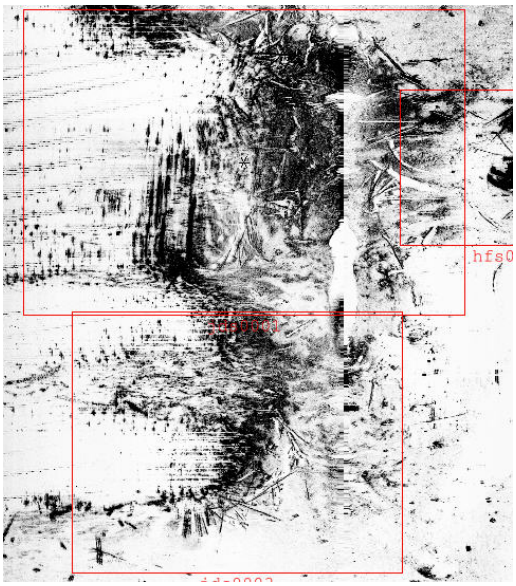


Figure 2.2.1

2.3) Profile/Beam - 238/53 from w00177-noaa_06es042-ppl-june / rv_echo / 2006-176-areaab / 2006ec1761723_127

Survey Summary

Survey Position: 043° 39' 18.631" N, 70° 13' 26.732" W

Least Depth: 14.60 m

Timestamp: 2006-176.17:23:29.099 (06/25/2006)

Survey Line: w00177-noaa_06es042-ppl-june / rv_echo / 2006-176-areaab / 2006ec1761723_127

Profile/Beam: 238/53

Charts Affected: 13292_1, 13290_1, 13288_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

The feature is a rock on the channel edge.

Feature Correlation

Address	Feature	Range	Azimuth	Status
w00177-noaa_06es042-ppl-june/rv_echo/2006-176-areaab/2006ec1761723_127	238/53	0.00	000.0	Primary
w00177-noaa_06es042-ppl-june/rv_echo/2006-176-areaab/2006ec1761712_126	1712/170	7.63	228.6	Secondary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

48ft (13292_1, 13290_1, 13288_1)

8fm (13260_1, 13009_1, 13006_1, 13003_1)

S-57 Data

Geo object 1: Underwater rock / awash rock (UWTROC)

Attributes: VALSOU - 14.604 m

WATLEV - 3:always under water/submerged

Office Notes

Chart a rock with least depth 48 feet in the present survey location in 43°39'18.631" N, 70°13'26.732" W.

2.4) Contact/Point - 0006/1 from portland / 3002sss500k / 2005-234 / sonar_data050822171201

Survey Summary

Survey Position: 043° 39' 02.381" N, 70° 13' 43.792" W

Least Depth: [None]

Timestamp: 2006-298.12:58:34 (10/25/2006)

Survey Line: portland / 3002sss500k / 2005-234 / sonar_data050822171201

Contact/Point: 0006/1

Charts Affected: 13292_1, 13290_1, 13288_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

The feature appears to be a pile. This pile was imaged by KLEIN 3000 side scan sonar. The shadow extends to the edge of the sonar trace, suggesting that this pile is exposed at MLLW.

Feature Correlation

Address	Feature	Range	Azimuth	Status
portland/3002sss500k/2005-234/sonar_data050822171201	0006	0.00	000.0	Primary

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Pile (PILPNT)

Office Notes

Chart a pile at 43°39'02.381" N, 70°13'43.792" W.

2.5) Profile/Beam - 1581/110 from portland / 3002_mbes / 2006-206 / 505_1423

Survey Summary

Survey Position: 043° 38' 02.960" N, 70° 12' 32.026" W

Least Depth: 5.56 m

Timestamp: 2006-206.14:26:52.728 (07/25/2006)

Survey Line: portland / 3002_mbes / 2006-206 / 505_1423

Profile/Beam: 1581/110

Charts Affected: 13292_1, 13290_1, 13288_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

The feature is a rock imaged with SIMRAD EM3000 MBES and corrected to MLLW using approved water levels and final tide zoning.

Feature Correlation

Address	Feature	Range	Azimuth	Status
portland/3002_mbes/2006-206/505_1423	1581/110	0.00	000.0	Primary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

18ft (13292_1, 13290_1, 13288_1)

3fm (13260_1, 13009_1, 13006_1, 13003_1)

S-57 Data

Geo object 1: Underwater rock / awash rock (UWTROC)

Attributes: VALSOU - 5.564 m

WATLEV - 3:always under water/submerged

Office Notes

Chart a dangerous rock, least depth 18 feet, in the present survey location in 43°38'02.960" N, 70°12'32.026" W.

2.6) Profile/Beam - 1708/109 from portland / 3002_mbes / 2006-206 / 505_1423

Survey Summary

Survey Position: 043° 38' 02.024" N, 70° 12' 32.402" W

Least Depth: 6.37 m

Timestamp: 2006-206.14:27:07.903 (07/25/2006)

Survey Line: portland / 3002_mbes / 2006-206 / 505_1423

Profile/Beam: 1708/109

Charts Affected: 13292_1, 13290_1, 13288_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

Complete MBES and 100% SSS coverage. See rock outcrop in both sonars. -JS

Feature Correlation

Address	Feature	Range	Azimuth	Status
portland/3002_mbes/2006-206/505_1423	1708/109	0.00	000.0	Primary
portland/3002_mbes/2006-206/505_1423	1700/123	8.07	109.3	Secondary (grouped)
portland/3002sss500k/2006-207/sonar_data060726155600	0001	12.74	197.2	Secondary

Hydrographer Recommendations

Hydrographer recommends to recontour this area and better position the 21ft sounding at 43-38-02.110 N, 70-12-32.745 W.

Cartographically-Rounded Depth (Affected Charts):

21ft (13292_1, 13290_1, 13288_1)

3 ½fm (13260_1, 13009_1, 13006_1, 13003_1)

S-57 Data

Geo object 1: Underwater rock / awash rock (UWTROC)

Attributes: VALSOU - 6.370 m

WATLEV - 3:always under water/submerged

Office Notes

Do not concur. Office processing found a rock with a least depth of 20.898 feet. Chart a dangerous rock, least depth 21 feet, in the present survey location in 43°38'02.024" N, 70°12'32.402" W.

2.7) Profile/Beam - 861/118 from portland / 3002_mbes / 2006-206 / 525_1556

Survey Summary

Survey Position: 043° 38' 04.799" N, 70° 13' 00.705" W

Least Depth: 9.51 m

Timestamp: 2006-206.15:58:22.229 (07/25/2006)

Survey Line: portland / 3002_mbes / 2006-206 / 525_1556

Profile/Beam: 861/118

Charts Affected: 13292_1, 13290_1, 13288_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

Area covered by 100% SSS and complete MBES coverage. Did not survey beyond this area, too close to the rocks and lobster pots.

Feature Correlation

Address	Feature	Range	Azimuth	Status
portland/3002_mbes/2006-206/525_1556	861/118	0.00	000.0	Primary
portland/3002sss500k/2005-159/sonar_data050608134800	0002	6.48	215.0	Secondary (grouped)
portland/3002sss500k/2006-207/sonar_data060726142200	0002	17.39	073.1	Secondary (grouped)

Hydrographer Recommendations

Hydrographer recommends to recontour the 32ft charted at 43-38-04.799"N, 70-13-00.705W.

Cartographically-Rounded Depth (Affected Charts):

31ft (13292_1, 13290_1, 13288_1)

5 ¼fm (13260_1, 13009_1, 13006_1, 13003_1)

S-57 Data

Geo object 1: Underwater rock / awash rock (UWTROC)

Attributes: VALSOU - 9.510 m

WATLEV - 3:always under water/submerged

Office Notes

Do not concur. Office verification found a rock with least depth 31 feet. Chart a dangerous rock, least depth 31 feet, in the present survey location in 43°38'04.799" N, 70°13'00.705" W.

2.8) Profile/Beam - 773/10 from portland / 3002_mbes / 2006-206 / 525_1556

Survey Summary

Survey Position: 043° 38' 03.226" N, 70° 13' 02.143" W

Least Depth: 10.75 m

Timestamp: 2006-206.15:58:09.657 (07/25/2006)

Survey Line: portland / 3002_mbes / 2006-206 / 525_1556

Profile/Beam: 773/10

Charts Affected: 13292_1, 13290_1, 13288_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

Area covered by 100% SSS and complete MBES coverage. Did not survey further in shore because rocky slope was too steep in area and had lots of lobster pot.-JS

Feature Correlation

Address	Feature	Range	Azimuth	Status
portland/3002_mbes/2006-206/525_1556	773/10	0.00	000.0	Primary
portland/3002sss500k/2005-179/sonar_data050628154201	0002	2.33	125.4	Secondary
portland/3002sss500k/2005-159/sonar_data050608134800	0005	3.80	047.5	Secondary
portland/3002sss500k/2005-179/sonar_data050628153600	0004	11.21	040.7	Secondary

Hydrographer Recommendations

Hydrographer recommends to recontour and reposition the 30ft at 43-38-03.131"N, 070-13-02.325"W.

S-57 Data

[None]

Office Notes

Do not concur. There is not complete bathymetric coverage over this 30-foot sounding (Chart 13292, 37th Edition, Aug /04) in Latitude 43°38'03.226" N, Longitude 70°13'02.143" W. Chart present survey soundings in common areas.

2.9) Profile/Beam - 58/114 from portland / 3002_mbes / 2006-206 / 554_1801

Survey Summary

Survey Position: 043° 39' 30.421" N, 70° 13' 37.145" W

Least Depth: 11.64 m

Timestamp: 2006-206.18:01:53.199 (07/25/2006)

Survey Line: portland / 3002_mbes / 2006-206 / 554_1801

Profile/Beam: 58/114

Charts Affected: 13292_1, 13290_1, 13288_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

The feature is an obstruction of unknown type, imaged with KLEIN 3000 side scan sonar. Soundings were acquired with SIMRAD EM3000 MBES and corrected to MLLW using approved water levels and final tide zoning.

Feature Correlation

Address	Feature	Range	Azimuth	Status
portland/3002_mbes/2006-206/554_1801	58/114	0.00	000.0	Primary
portland/3002sss500k/2006-207/sonar_data060726153800	0001	3.64	223.0	Secondary
portland/3002sss500k/2006-207/sonar_data060726150200	0003	3.98	271.6	Secondary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

38ft (13292_1, 13290_1, 13288_1)

6 ¼fm (13260_1, 13009_1, 13006_1, 13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: VALSOU - 11.640 m

WATLEV - 3:always under water/submerged

Office Notes

Chart a dangerous obstruction, least depth 38 feet, in the present survey location in 43°39'30.421" N, 70°13'37.145" W. Information regarding this obstruction was forwarded to Mr. Ed O'Donnell of the Portland Army Corps of Engineers on January 10, 2007. The Portland USACE intends to survey this object and forward the survey findings to Marine Chart Division. Defer final charting recommendations to MCD Update Services Branch.

3.1) Contact/Point - 0002/1 from portland / 3002sss500k / 2005-220 / sonar_data050808174501

Primary Feature for AWOIS Item #10551

Search Position: 043° 40' 08.620" N, 70° 13' 08.200" W

Historical Depth: [None]

Search Radius: 50

Search Technique: VS,SD

Technique Notes: [None]

History Notes:

UNKNOWN SOURCE; FIRST CHARTED ON CHART 13292 (325) IN 1930 AS A DANGEROUS SUBMERGED WRECK. REVISED TO A VISIBLE WRECK SYMBOL IN 1941. REVISED TO A DASHED AREA WITH LEGEND "WRECK" IN 1943. CL1739/97-- USPS; WRECK REPORTED TO "COVER AND UNCOVER". COVERED AT HIGH TIDE. REPORTED TO BE THE WRECK OF THE SIX-MASTED SCHOONER "WINSLOW". CORRESPONDENT IS MR. ALLEN J. BINGHAM, 9 ACORN LANE, SCARBOROUGH, ME 04074. (207-883-7059). E-MAIL BINGATT@WORLDNET.ATT.NET. (ENT 3/6/00, SJV) H10963/00-- OPR-A329-RU; WRECK LOCATED VISUALY AT MLLW. CENTER OF WRECK IN LAT. 43-40-08.6N, LONG. 70-13-08.2W. WRECK BARES 3 FEET AT MLLW. EVALUATOR RECOMMENDS DELETING CHARTED DANGEROUS SUBMERGED WRECK, PA, AND CHARTING A VISIBLE WRECK AS SURVEYED. (UP 9/25/01, SJV)

Survey Summary

Survey Position: 043° 40' 08.541" N, 70° 13' 07.804" W

Least Depth: [None]

Timestamp: 2006-268.11:44:13 (09/25/2006)

Survey Line: portland / 3002sss500k / 2005-220 / sonar_data050808174501

Contact/Point: 0002/1

Charts Affected: 13292_1, 13290_1, 13288_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

full search. wreck found with SSS and vbes. least depth ~9ft-bsh did not see the wreck visible at low tide, sw digital traces in VBES and sss-JS

Feature Correlation

Address	Feature	Range	Azimuth	Status
portland/3002sss500k/2005-220/sonar_data050808174501	0002	0.00	000.0	Primary
Portland Awois	AWOIS # 10551	9.14	105.4	Secondary

portland/3002sss500k/2005-220/sonar_data050808175200	0001	44.74	146.1	Secondary (grouped)
portland/3002sss500k/2005-220/sonar_data050808175200	0002	45.28	146.0	Secondary (grouped)

Hydrographer Recommendations

Hydrographer recommends AWOIS #10551 to change symbol to submergged, with a least depth 9 feet at 43 40 09.849 N, -070 13 08.685 W. Wreck no longer visible above surface at low tide.

S-57 Data

Geo object 1: Wreck (WRECKS)

Attributes: CATWRK - 2:dangerous wreck

WATLEV - 3:always under water/submerged

Office Notes

Concur with clarification. There is insufficient bathymetry data to assign a least depth to this wreck. Delete charted visible wreck at 43°40'08.620" N, 70°13'08.200" W. Chart a dangerous wreck, least depth unknown at 43°40'08.541" N, 70°13'07.804" W.

3.2) Contact/Point - 0003/1 from portland / 3002sss500k / 2005-220 / sonar_data050808175200

Primary Feature for AWOIS Item #11126

Search Position: 043° 40' 07.220" N, 70° 13' 14.870" W

Historical Depth: 4.88 m

Search Radius: 50

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

Technique Notes: [None]

History Notes:

H10963/00-- OPR-A329; UNCHARTED SUBMERGED WRECK LOCATED DURING SIDE SCAN SONAR OPS. DIVERS DESCRIBE A SQUARE WOODEN BARGE MOSTLY BURIED IN THE SAND. LD OF 16 FEET IN LAT. 43-40-07.22N, LONG. 70-13-14.87W. EVALUATOR RECOMMENDS CHARTING A 16WK AS SURVEYED. (ENT 9/26/01, SJV)

Survey Summary

Survey Position: 043° 40' 07.172" N, 70° 13' 15.205" W

Least Depth: [None]

Timestamp: 2006-268.11:45:15 (09/25/2006)

Survey Line: portland / 3002sss500k / 2005-220 / sonar_data050808175200

Contact/Point: 0003/1

Charts Affected: 13292_1, 13290_1, 13288_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

Full search. Found remnants of wreck to Northeast, located on SSS-BSH

Feature Correlation

Address	Feature	Range	Azimuth	Status
portland/3002sss500k/2005-220/sonar_data050808175200	0003	0.00	000.0	Primary
portland/3002sss500k/2005-220/sonar_data050808174501	0001	4.01	050.5	Secondary
Portland Awois	AWOIS # 11126	7.61	258.8	Secondary

Hydrographer Recommendations

Hydrographer recommends AWOIS#11126 to remain as charted.

S-57 Data

Geo object 1:	Wreck (WRECKS)
Attributes:	CATWRK - 2:dangerous wreck
	WATLEV - 3:always under water/submerged

Office Notes

Concur with clarification. The position of this wreck has been confirmed by side scan sonar. The field did not conduct a bathymetry search to determine the least depth of this feature. Delete charted Wk 16 in position 43°40'07.220" N, 70°13'14.870" W. Chart a dangerous wreck, least depth 16 feet, in position 43°40'07.172" N, 70°13'15.205" W.

3.3) AWOIS #2235 - OBSTRUCTION

No Primary Survey Feature for this AWOIS Item

Search Position: 043° 38' 40.290" N, 70° 12' 32.170" W

Historical Depth: [None]

Search Radius: 0

Search Technique: [None]

Technique Notes: [None]

History Notes:

HISTORY NM DATED 8/49 DESCRIPTION 24 NO.8899; POSITION ACCURACY WITHIN 1 MILE.

Survey Summary

Charts Affected: 13292_1, 13290_1, 13288_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

outside survey area and 18ft curve, did not investigate-js

Feature Correlation

Address	Feature	Range	Azimuth	Status
Portland Awois	AWOIS # 2235	0.00	000.0	Primary

Hydrographer Recommendations

[None]

S-57 Data

[None]

Office Notes

AWOIS Item #2235 is not currently charted (Chart 13292, 37th Ed, Aug /04) in Latitude 43°38'40.290"N , Longitude 70°12'32.170"W. No change in charting is recommended unless other source information proves otherwise.

3.4) AWOIS #2236 - CULLEN

No Primary Survey Feature for this AWOIS Item

Search Position: 043° 39' 49.290" N, 70° 14' 05.170" W

Historical Depth: [None]

Search Radius: 0

Search Technique: [None]

Technique Notes: [None]

History Notes:

HISTORY NM DATED 8/42 DESCRIPTION 24 NO.8898; BARGE; SUNK 1940; POSITION ACCURACY WITHIN 1 MILE; REPORTED REMOVED(SOURCE UNK).

Survey Summary

Charts Affected: 13292_1, 13290_1, 13288_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

Information only. 200% MBES, wreck not found, most likely removed as reported. -BSH Area of investigation was surrounded by mooring vessel, covered with SSS, and wreck was not there.-JS

Feature Correlation

Address	Feature	Range	Azimuth	Status
Portland Awois	AWOIS # 2236	0.00	000.0	Primary

Hydrographer Recommendations

Update AWOIS# 2236 database.

S-57 Data

[None]

Office Notes

Concur with clarification. AWOIS Item #2236 is not currently charted (Chart 13292, 37th Ed, Aug /04). No change in charting is recommended unless other source information proves otherwise. Update AWOIS database to show AWOIS #2236 as disproved.

3.5) AWOIS #2238 - BIWABIK

No Primary Survey Feature for this AWOIS Item

Search Position: 043° 40' 12.290" N, 70° 13' 50.170" W

Historical Depth: [None]

Search Radius: 0

Search Technique: [None]

Technique Notes: [None]

History Notes:

HISTORY NM DATED 7/34 DESCRIPTION 24 NO.8897; BARGE; SUNK 1933; POSITION ACCURACY WITHIN 1 MILE; SUBSEQUENTLY REPORTED REMOVED (SOURCE UNKNOWN)

Survey Summary

Charts Affected: 13292_1, 13290_1, 13288_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

Information only. 200%mbes coverage, no evidence of awois item. -BSH

Feature Correlation

Address	Feature	Range	Azimuth	Status
Portland Awois	AWOIS # 2238	0.00	000.0	Primary

Hydrographer Recommendations

Update AWOIS#2238 database.

S-57 Data

[None]

Office Notes

Concur with clarification. AWOIS Item #2238 is not currently charted (Chart 13292, 37th Ed, Aug /04). No change in charting is recommended unless other source information proves otherwise. Update AWOIS #2238 as disproved.

3.6) AWOIS #13059 - VANDAL

No Primary Survey Feature for this AWOIS Item

Search Position: 043° 39' 18.300" N, 70° 14' 52.170" W

Historical Depth: [None]

Search Radius: 100

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

Technique Notes: [None]

History Notes:

LNM 13/72-- FISHING VESSEL, VANDAL, SUNK AT THE HEAD OF CUSTOM HOUSE PIER WITH TWO MAST PROTRUDING 35 FT ABOVE MHW. VESSEL MARKED WITH A QUICK FLASHING RED LIGHT ON MAST ABOUT 25 FT ABOVE MHW. LOCATED WITH POSITION APPROXIMATE AT LAT. 43/39/18.30N - LONG. 70/14/52.17W (NAD 83). CHARTED AS SUBMEREGED WRECK, LABELED: MAST PA. (ENTERED 4/05 CEH)

Survey Summary

Charts Affected: 13292_1, 13290_1, 13288_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

Full search. wreck indistinguishable in SSS record, ruins and debris appear in SSS, no mast were found. -bh

Feature Correlation

Address	Feature	Range	Azimuth	Status
Portland Awois	AWOIS # 13059	0.00	000.0	Primary

Hydrographer Recommendations

Hydrographer recommend AWOIS #13059 to remain as charted, however, no masts were found in the SSS record. Recommend to change Dangerous WK symbol with mast to sunken wreck symbol. Not dangerous to surface navigation.

S-57 Data

[None]

Office Notes

Do not concur. No wreckage or evidence of wreckage was identified during office processing. Delete AWOIS Item #13059 charted dangerous sunken wreck, and text "Masts PA" in Latitude 43°39'18.300" N, Longitude 70°14'52.170" W. Chart present survey soundings in common areas. Classify AWOIS #13059 as disproved.

3.7) AWOIS #13060 - S/C TUBBY TOO

No Primary Survey Feature for this AWOIS Item

Search Position: 043° 39' 00.300" N, 70° 14' 46.170" W

Historical Depth: [None]

Search Radius: 150

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

Technique Notes: STAY AWAY FROM CHARTED LIMITS OF PIERS IN RUINS.

History Notes:

LNM 39/73-- THE S/C TUBBY TOO SUNK IN POSITION APPROXIMATE LAT 43/39/00.30N - LONG. 70/14/46.17W (NAD 83) AND IS COVERED AT LOW TIDE. CHARTED AS SUBMERGED WRECK WITH PA. (ENTERED 4/05 CEH)

Survey Summary

Charts Affected: 13292_1, 13290_1, 13288_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

Full search item not found with single beam, believed to not be there, SSS survey was impossible in location, located within boat mooring-JS

Feature Correlation

Address	Feature	Range	Azimuth	Status
Portland Awois	AWOIS # 13060	0.00	000.0	Primary

Hydrographer Recommendations

Hydrographer recommends to leave AWOIS #13060 on chart but use submerged wreck symbol.

S-57 Data

[None]

Office Notes

Concur with clarification, AWOIS Item #13060 is currently charted (Chart 13292, 37th., Aug. /04) as a dangerous sunken wreck "PA", least depth unknown in Latitude 43° 39' 00.300" N, Longitude 70° 14' 46.170" W. Retain as charted.

3.8) AWOIS #13061 - OBSTRUCTION

No Primary Survey Feature for this AWOIS Item

Search Position: 043° 39' 05.500" N, 70° 13' 40.150" W

Historical Depth: [None]

Search Radius: 100

Search Technique: S2,MB,ES

Technique Notes: [None]

History Notes:

NM 41/1957-- U.S. HYDRO OFFICE'S NOTICE TO MARINERS DELETED 17 FT SOUNDING FROM CHART AND ADDED OBSTRUCTION. (ENTERED 4/05 CEH)

Survey Summary

Charts Affected: 13292_1, 13290_1, 13288_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

ruins of old pier found in SSS record.-bh ruins close to obstn-js

Feature Correlation

Address	Feature	Range	Azimuth	Status
Portland Awois	AWOIS # 13061	0.00	000.0	Primary

Hydrographer Recommendations

Hydrographer recommends awois #13061 remain as charted.

S-57 Data

[None]

Office Notes

Concur with clarification. Several small objects were found within the danger circle of the charted obstruction. The office processor was unable to distinguish between small objects in the side scan sonar trace, and there is insufficient bathymetry data to determine which object has the shoalest depth. Retain AWOIS #13061 as charted.

3.9) AWOIS #13062 - OBSTRUCTION

No Primary Survey Feature for this AWOIS Item

Search Position: 043° 39' 22.740" N, 70° 12' 48.960" W

Historical Depth: [None]

Search Radius: 200

Search Technique: S2,MB,ES,D1,SD

Technique Notes: [None]

History Notes:

LNM 53/02-- 12/31/02; THERE IS AN 11 TON ANCHOR ON BOTTOM OF ANCHORAGE "B" IN PORTLAND HARBOR IN POSITION LAT. 43/39.379N- LONG. 70/12.816W. (ENTERED 4/05 CEH)

Survey Summary

Charts Affected: 13292_1, 13290_1, 13288_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

No obstruction found in 200% SSS record, 200% MBES record, or single beam trace.-bh USACE field team used sss and sbes and did not find it either-js Area was dredged by company hired by portland pipeline. Preposed depth was not reached. Dredge company is suppose to resume work in the winter after lobster season.-js

Feature Correlation

Address	Feature	Range	Azimuth	Status
Portland Awois	AWOIS # 13062	0.00	000.0	Primary

Hydrographer Recommendations

Hydrographer recommends to remove awois# 13062.

S-57 Data

[None]

Office Notes

Concur. Delete AWOIS Item #13062 dangerous obstruction in Latitude 43°39’22.740”N, Longitude 70°12’48.960”W. Chart present survey soundings in common areas.

3.10) AWOIS #13063 - OBSTRUCTION

No Primary Survey Feature for this AWOIS Item

Search Position: 043° 38' 42.000" N, 70° 12' 54.000" W

Historical Depth: [None]

Search Radius: 300

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

Technique Notes: [None]

History Notes:

NM 29/04--7/17/04; NGA'S WEEKLY NOTICE TO MARINERS ADDED AN OBSTRUCTION IN POSITION APPROXIMATE AT LAT. 43/38/42.0N- LONG. 70/12/54.0W. (ENTERED 4/05 CEH)

Survey Summary

Charts Affected: 13292_1, 13290_1, 13288_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

No obstruction found in 200% SSS record, 200% MBES record, or single beam trace.-bh USACE field team used sss and sbes and did not find it either-js Area was dredged by company hired by portland pipeline. Preposed depth was not reached. Dredge company is suppose to resume work in the winter after lobster season.-js

Feature Correlation

Address	Feature	Range	Azimuth	Status
Portland Awois	AWOIS # 13063	0.00	000.0	Primary

Hydrographer Recommendations

Hydrographer recommends to removew awois# 13063 from chart.

S-57 Data

[None]

Office Notes

Concur. Delete AWOIS Item #13063 dangerous obstruction "PA" in Latitude 43°39’22.740”N, Longitude 70°12’48.960”W. Chart present survey soundings in common areas. Classify AWOIS #13063 as disproved.

4.1) Profile/Beam - 2422/91 from portland / 3002_mbes / 2005-187 / 081_1543

DANGER TO NAVIGATION

Survey Summary

Survey Position: 043° 40' 07.320" N, 70° 13' 24.043" W

Least Depth: 5.62 m

Timestamp: 2005-187.15:49:02.888 (07/06/2005)

Survey Line: portland / 3002_mbes / 2005-187 / 081_1543

Profile/Beam: 2422/91

Charts Affected: 13292_1, 13290_1, 13288_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

200% MBES was collected. 100% and 200% were collected at oblique angles, respectively to get full bottom coverage. Area populated with several hundred lobster pots. We were unable to conduct SSS due to navigation hazards in the area. -js

Feature Correlation

Address	Feature	Range	Azimuth	Status
portland/3002_mbes/2005-187/081_1543	2422/91	0.00	000.0	Primary
portland/3002sss500k/2006-207/sonar_data060726161800	0001	10.29	214.5	Secondary
portland/3002sss500k/2006-207/sonar_data060726161600	0001	22.94	144.3	Secondary

Hydrographer Recommendations

Hydrographer recommeds adding the charted symbol, Obstn, least depth 18.3 ft at the position: 43 40 07.320" N, -070 13 24.043"W. -js

Cartographically-Rounded Depth (Affected Charts):

18ft (13292_1, 13290_1, 13288_1)

3fm (13260_1, 13009_1, 13006_1, 13003_1)

S-57 Data

[None]

Office Notes

Do not concur. Further investigation of this feature by NRT-5 during survey F00524 determined the original bathymetry to contain erroneous data. No feature was found during additional fieldwork. It is recommended the obstruction not be charted as per Anti-DTON submission dated September 1, 2006. Currently not shown on chart 13292, 37th., Aug. /04 and smaller scale charts. Chart present survey soundings in common areas.

Refer to Evaluation Report for more discussion of this feature.

4.2) Profile/Beam - 571/1 from portland / 3002_vbes / 2005-221 / 014_1909

DANGER TO NAVIGATION

Survey Summary

Survey Position: 043° 39' 32.759" N, 70° 14' 49.158" W

Least Depth: -0.31 m

Timestamp: 2005-221.19:10:31.923 (08/09/2005)

Survey Line: portland / 3002_vbes / 2005-221 / 014_1909

Profile/Beam: 571/1

Charts Affected: 13292_1, 13290_1, 13288_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

Evidence of shoaling was found by the office processor.

Feature Correlation

Address	Feature	Range	Azimuth	Status
portland/3002_vbes/2005-221/014_1909	571/1	0.00	000.0	Primary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

-1ft (13292_1, 13290_1, 13288_1)

0fm (13260_1, 13009_1, 13006_1, 13003_1)

S-57 Data

[None]

Office Notes

A large shoal area is presently shown on chart 13292, 37th., Aug. /04 as one foot sounding in approximate Latitude 43°39'30.88" N, Longitude 070°14'49.13" W and intertidal area in the vicinity of Latitude 43°39'32.76" N, Longitude 070°14'49.16" W . Retain as charted. Chart additional present survey soundings in common areas.

Feature Images

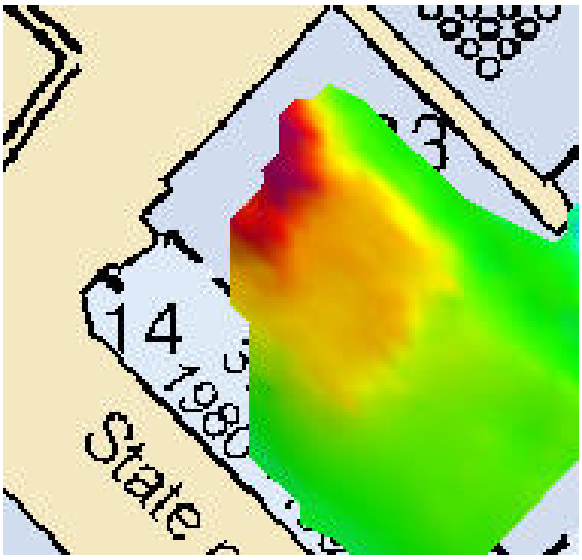


Figure 4.2.1

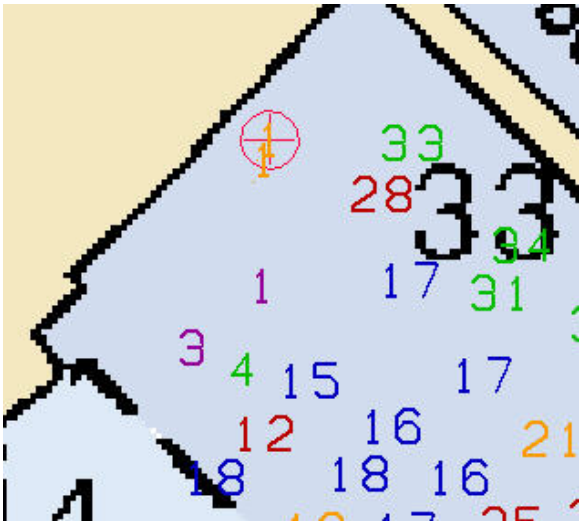


Figure 4.2.2

4.3) Profile/Beam - 5923/1 from portland / 3002_vbes / 2005-233 / 020_1822

DANGER TO NAVIGATION

Survey Summary

Survey Position: 043° 39' 04.372" N, 70° 13' 42.094" W

Least Depth: 1.52 m

Timestamp: 2005-233.18:35:55.264 (08/21/2005)

Survey Line: portland / 3002_vbes / 2005-233 / 020_1822

Profile/Beam: 5923/1

Charts Affected: 13292_1, 13290_1, 13288_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

The feature is a foul area in the vicinity of a charted pier extension or floating pier. This pier is charted as an attached pier on chart 13292 and on chart 13290 and as an isolated floating pier on ENC US5ME10 (see images). This pier was found to have been removed by the field party. Side scan sonar data shows a foul area of pilings and debris in this area. Vertical beam echosounder data shows a least depth of 5 feet.

Feature Correlation

Address	Feature	Range	Azimuth	Status
portland/3002_vbes/2005-233/020_1822	5923/1	0.00	000.0	Primary
portland/3002sss500k/2005-234/sonar_data050822171201	0010	9.61	207.7	Secondary (grouped)
portland/3002sss500k/2005-234/sonar_data050822171201	0005	18.01	196.9	Secondary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

5ft (13292_1, 13290_1, 13288_1)

0 ¾fm (13260_1, 13009_1, 13006_1, 13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: CATOBS - 7:foul ground

CONDTN - 2:ruined

QUASOU - 6:least depth known

TECSOU - 1,2:found by echo-sounder,found by side scan sonar

VALSOU - 1.524 m

WATLEV - 3:always under water/submerged

Office Notes

As per DTON submission, a dangerous obstruction, least depth five feet in Latitude 43°39'04.370" N, Longitude 070°13'42.090" W is shown on chart 13292, 37th., Aug. /04 and charted pier extension in the vicinity of Latitude 43-39-05.559 N, Longitude 70-13-39.761 W has been deleted from chart 13292, 37th., Aug. /04. Retain as charted. It is also recommended that the area be delineated as a foul area with text “Ruins” charted in the vicinity.

Feature Images

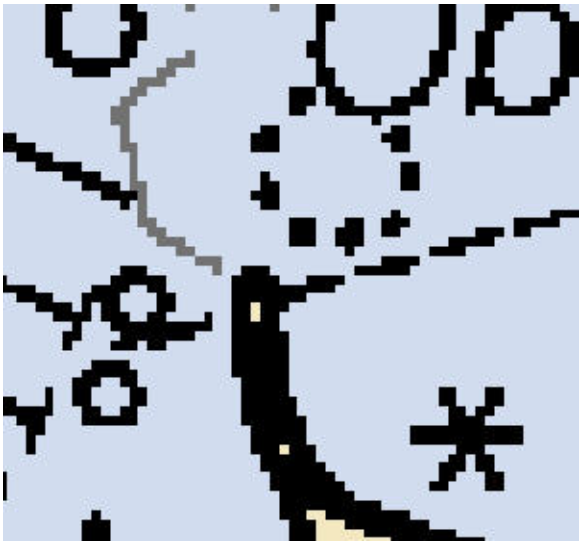


Figure 4.3.1

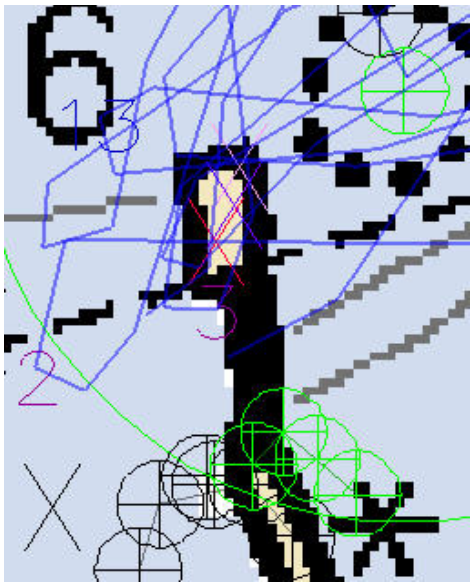


Figure 4.3.2

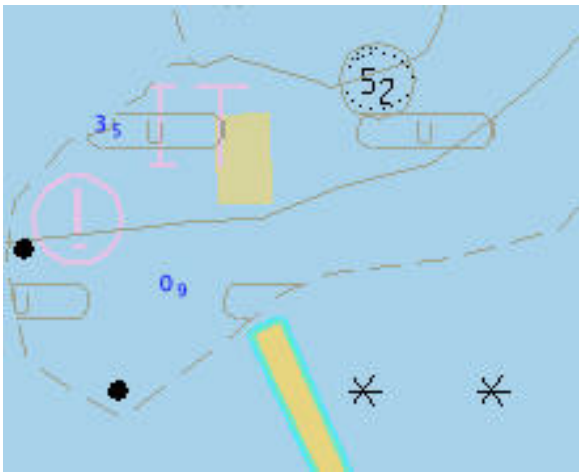


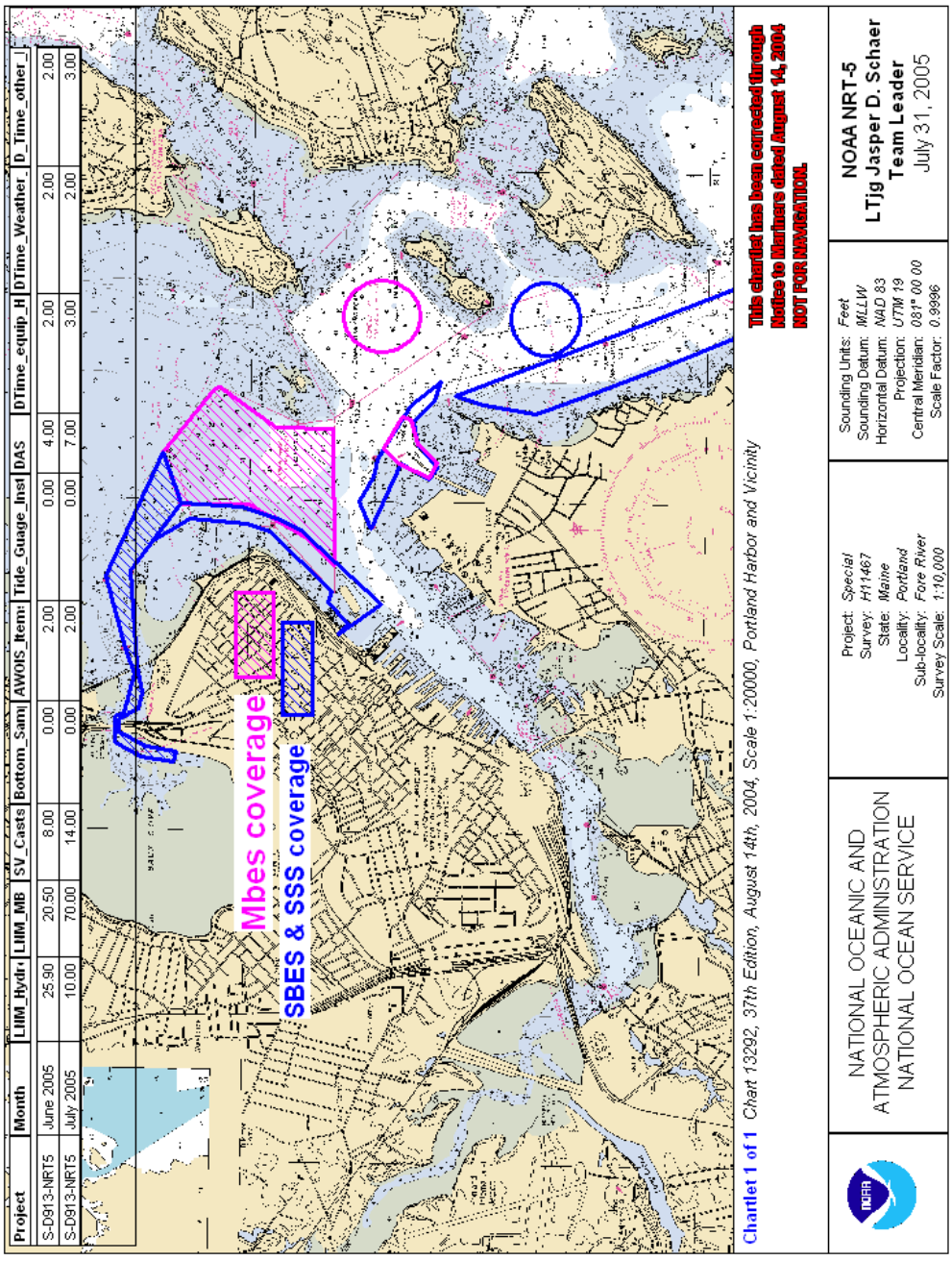
Figure 4.3.3

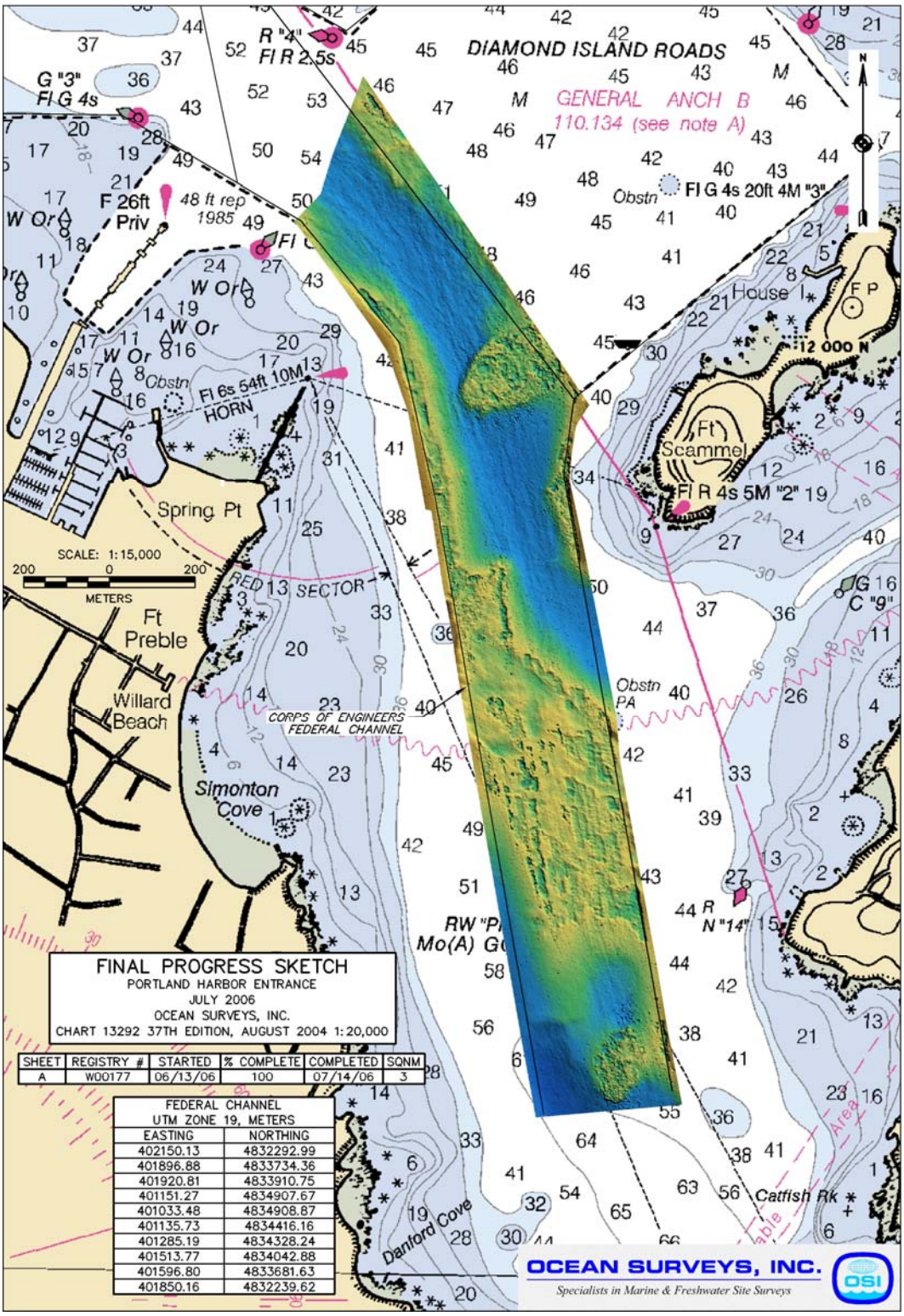
Figure 4.3.4

APPENDIX III

PROGRESS SKETCHES

APPENDIX III: PROGRESS SKETCH



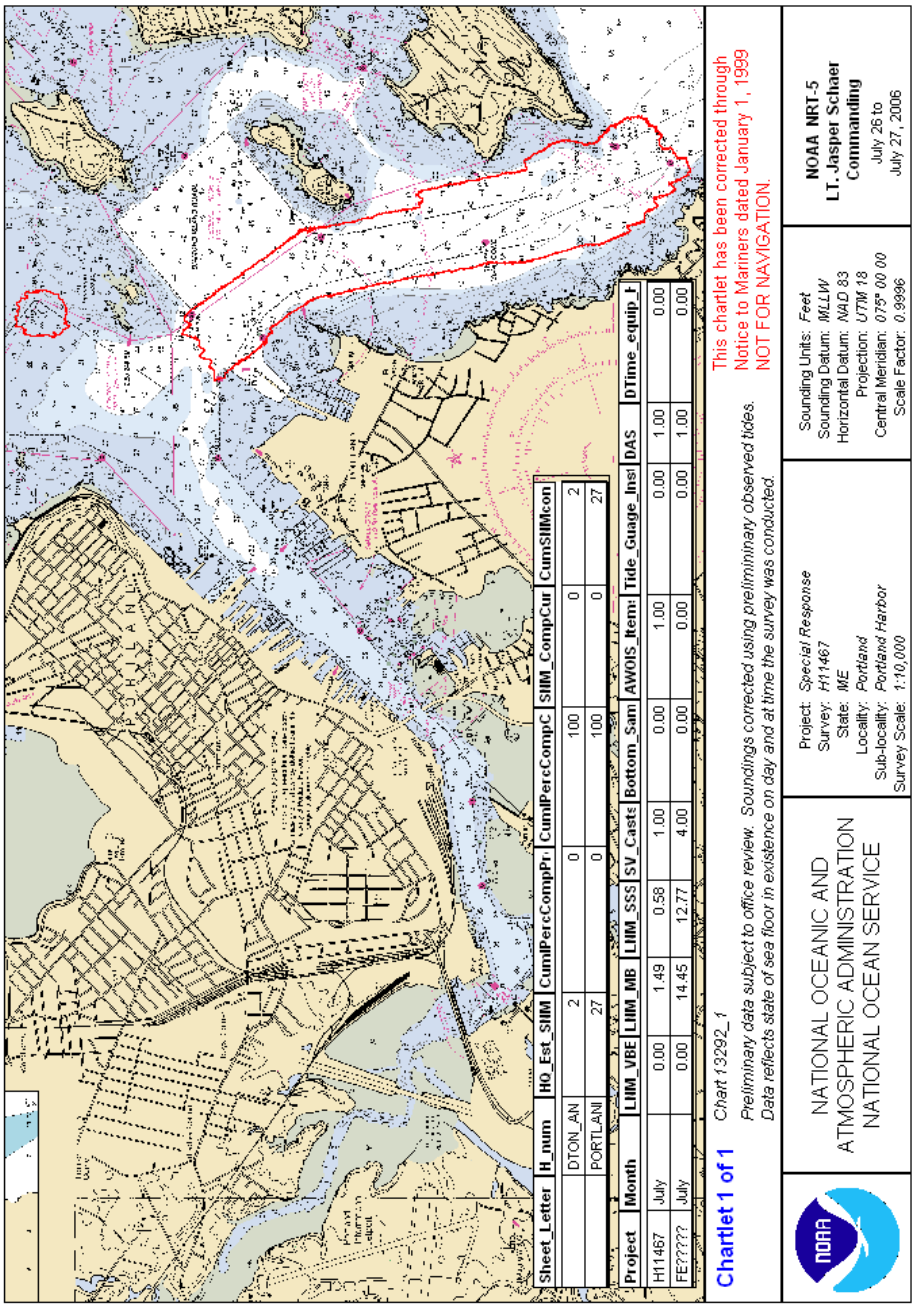


SHEET	REGISTRY #	STARTED	% COMPLETE	COMPLETED	SQNM
A	W00177	06/13/06	100	07/14/06	3

FEDERAL CHANNEL
UTM ZONE 19, METERS

EASTING	NORTHING
402150.13	4832292.99
401896.88	4833734.36
401920.81	4833910.75
401151.27	4834907.67
401033.48	4834908.87
401135.73	4834416.16
401285.19	4834328.24
401513.77	4834042.88
401596.80	4833681.63
401850.16	4832239.62

APPENDIX III: PROGRESS SKETCH



Sheet_Letter	H_num	HO_Est_SIM	CumlPercCompPr	CumlPercCompC	SIM_CompCur	CumSIMcon
	DTON_AN	2	0	100	0	2
	PORTLAN	27	0	100	0	27

Project	Month	LIIM_VBE	LIIM_MB	LIIM_SSS	SV_Casts	Bottom_Sam	AWOIS_Item:	Tide_Guage_Inst	DAS	DTime_equip_f
H11467	July	0.00	1.49	0.58	1.00	0.00	1.00	0.00	1.00	0.00
FE????	July	0.00	14.45	12.77	4.00	0.00	0.00	0.00	1.00	0.00

Chartlet 1 of 1

Chart 13292_1

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.

This chartlet has been corrected through Notice to Mariners dated January 1, 1999

NOT FOR NAVIGATION.

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE

Project: *Special Response*
Survey: *H11467*
State: *ME*
Locality: *Portland*
Sub-locality: *Portland Harbor*
Survey Scale: *1:10,000*

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

NOAA NRT-5
LT. Jasper Schaer
Commanding
July 26 to
July 27, 2006

APPENDIX IV: TIDES AND WATER LEVELS

1) H11467 Field Tide Note

-No tide note for this project.

2) Smooth Tide Request

3) Times of Hydrography

4) Final Tide Note

August 26, 2005

MEMORANDUM FOR: Chief, Requirements and Development Division, N/OPS1

FROM: LTjg Jasper D Schaer, NOAA NRT5

SUBJECT: Request for Approved Tides/Water Levels

Please provide the following data:

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

Transmit data to:

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

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

Project No.:	S-A911-NRT5-05
Registry No.:	H11467
State:	MAINE
Locality:	PORTLAND
Sublocality:	Portland Harbor

Attachments containing:
1) an Abstract of Times of Hydrography,
2) digital MID MIF files of the track lines from pydro on CD/diskette

cc: N/CS33

Year_DOY	Min Time	Max Time
2005_153	15:38:01	16:04:40
2005_159	13:06:25	14:07:36
2005_174	13:03:58	14:43:38
2005_178	13:25:24	17:16:41
2005_179	13:58:21	18:56:10
2005_180	12:57:03	13:50:47
2005_182	12:44:32	14:20:56
2005_186	16:09:14	18:40:18
2005_187	12:36:48	16:04:23
2005_188	13:23:59	13:43:27
2005_199	14:17:00	15:00:47
2005_200	14:45:39	20:32:14
2005_201	13:44:02	17:27:09
2005_202	12:57:37	13:33:48
2005_220	17:07:39	19:31:11
2005_221	18:16:29	18:49:03
2005_228	13:08:54	14:56:14
2005_233	17:44:57	20:18:44
2005_234	16:55:06	18:05:37

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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE : March 21, 2006

HYDROGRAPHIC BRANCH: Atlantic
HYDROGRAPHIC PROJECT: S-A911-NRT5-2005
HYDROGRAPHIC SHEET: H11467

LOCALITY: Portland Harbor, ME
TIME PERIOD: June 2 - August 22, 2005

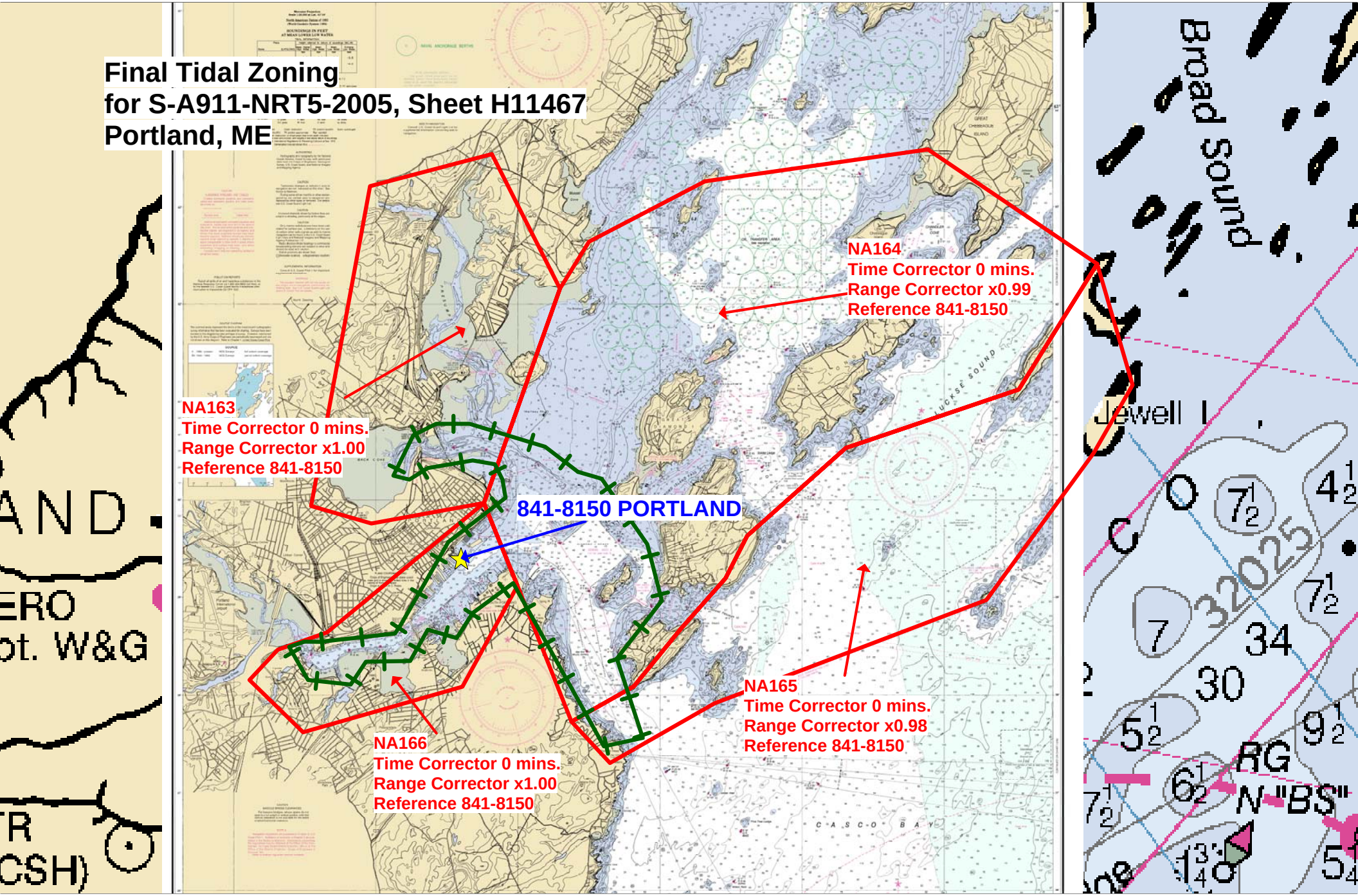
TIDE STATION USED: 841-8150 Portland, ME
Lat. 43 39.40'N Long. 0706 14.9' W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 2.886 meters

REMARKS: RECOMMENDED ZONING
Use zone(s) identified as: NA163, NA164, NA165, & NA166

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).

Fa _____
CHIEF, PRODUCTS AND SERVICES DIVISION


Final Tidal Zoning
for S-A911-NRT5-2005, Sheet H11467
Portland, ME
NA163
Time Corrector 0 mins.
Range Corrector x1.00
Reference 841-8150
NA164
Time Corrector 0 mins.
Range Corrector x0.99
Reference 841-8150
841-8150 PORTLAND
NA165
Time Corrector 0 mins.
Range Corrector x0.98
Reference 841-8150
NA166
Time Corrector 0 mins.
Range Corrector x1.00
Reference 841-8150
Broad Sound
Jewell I
32025
34
30
RG

Abstract of Times of Hydrography

The following table is the Abstract of Times of Hydrography. This table lists the days in which data were collected that pertain to the final accepted data set. Days which were used for setup, testing, and in which all data were aborted due to conditions are not listed.

Julian Day	Start (UTC)	End (UTC)
168	10:56	22:25
169	15:28	21:07
170	18:21	20:39
173	12:50	20:41
174	12:29	19:47
175	14:15	16:26
176	12:07	17:47
178	11:47	17:27
179	13:41	19:55
180	16:08	20:35
186	15:58	23:09
187	11:02	20:42
188	11:09	20:56
189	10:57	20:11
190	11:22	19:56
191	11:05	13:31
192	14:05	16:14
193	12:18	18:58

APPENDIX IV: TIDES AND WATER LEVELS

1) F00524 Field Tide Note

2) Smooth Tide Request

3) Times of Hydrography

4) Final Tide Note
-No final tide note

Final tide zone node point locations for OPR-A911-NRT5-2006, F00524

Format: Tide Station (in recommended order of use)
Average Time Correction (in minutes)
Range Correction
Longitude in decimal degrees (negative value denotes Longitude West),
Latitude in decimal degrees

	Tide Station Order	AVG Time Correction	Range Correction
Zone NA165	841-8150	0	0.98
-70.097261 43.706875			
-70.088942 43.686221			
-70.098101 43.674621			
-70.123272 43.649576			
-70.187072 43.631958			
-70.211667 43.621766			
-70.220707 43.628617			
-70.206079 43.634832			
-70.184552 43.653272			
-70.179458 43.660522			
-70.156299 43.675503			
-70.115673 43.685466			
-70.097261 43.706875			
Zone NA164	841-8150	0	0.99
-70.137011 43.726374			
-70.097261 43.706875			
-70.115673 43.685466			
-70.156299 43.675503			
-70.179458 43.660522			
-70.184552 43.653272			
-70.206079 43.634832			
-70.220707 43.628617			
-70.233388 43.652014			
-70.241261 43.666111			
-70.222745 43.708294			
-70.189385 43.720941			
-70.137011 43.726374			

August 15, 2006

MEMORANDUM FOR:	Chief, Requirements and Development Division, N/OPS1
FROM:	LTJG Jasper Schaer, Navigation Response Team 5
SUBJECT:	Request for Approved Tides/Water Levels

Please provide the following data:

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

Transmit data to:

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

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

Project No.:	S-A911-NRT5-06
Registry No.:	Not Available
State:	Maine
Locality:	Casco Bay
Sublocality:	Portland Harbor

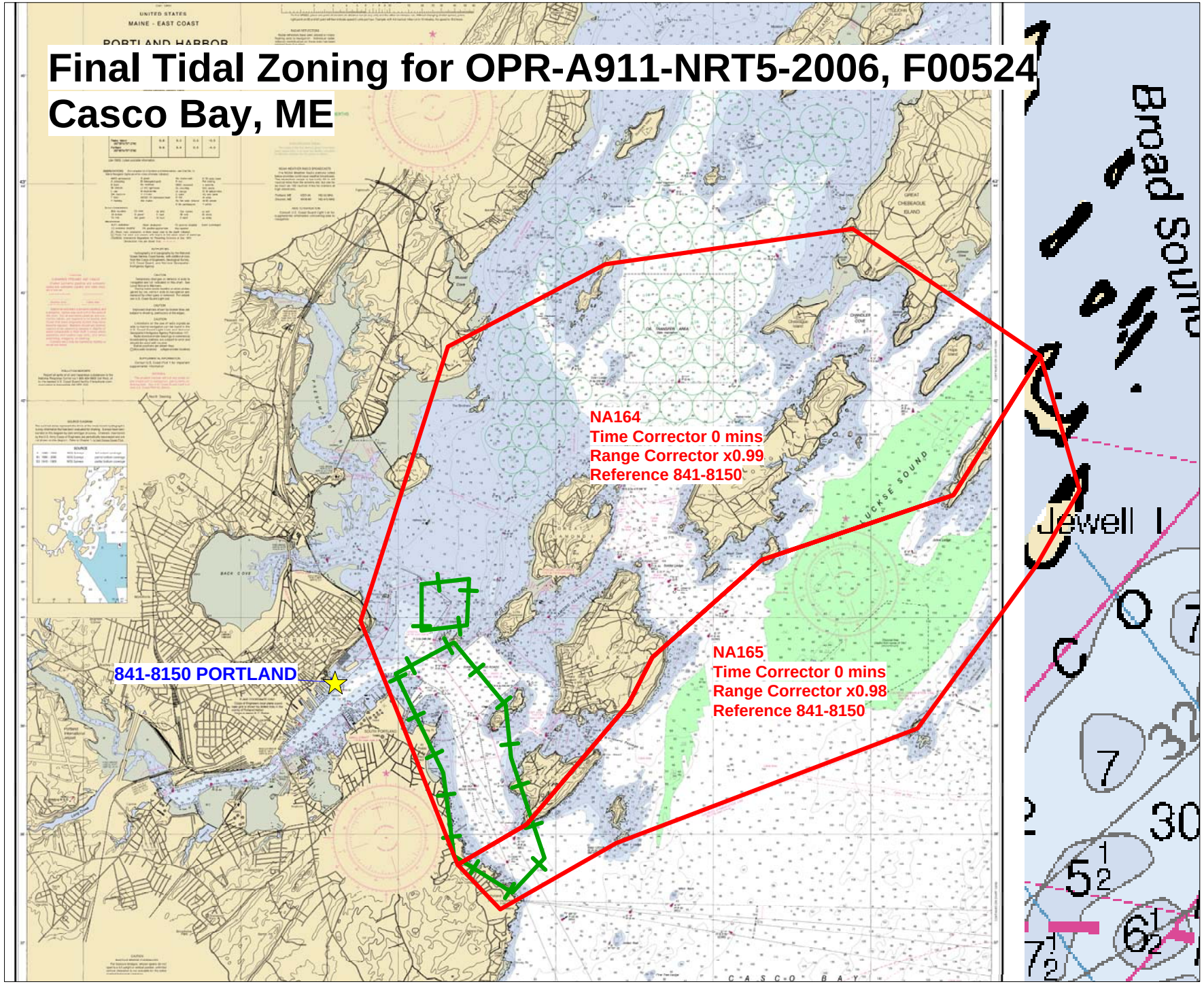
Attachments containing:
1) an Abstract of Times of Hydrography,
2) digital MID MIF files of the track lines from pydro on CD/diskette

cc: N/CS33

Year_DOY	Min Time	Max Time
2006_205	17:50:48	18:36:06
2006_206	13:01:15	19:21:07

Time of Hydrography for F00524

Year_DOY	Min Time	Max Time
2006_205	17:50:48	18:36:06
2006_206	13:01:15	19:21:07


Final Tidal Zoning for OPR-A911-NRT5-2006, F00524
Casco Bay, ME
NA164
Time Corrector 0 mins
Range Corrector x0.99
Reference 841-8150
NA165
Time Corrector 0 mins
Range Corrector x0.98
Reference 841-8150
841-8150 PORTLAND
Broad Sound
Jewell I
CASCO BAY

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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE : August 17, 2006

HYDROGRAPHIC BRANCH: Atlantic
HYDROGRAPHIC PROJECT: OPR-A911-NRT5-2006
HYDROGRAPHIC SHEET: F00524

LOCALITY: Portland Harbor, Casco Bay, ME
TIME PERIOD: July 24 - 25, 2006

TIDE STATION USED: 841-8150 Portland, Casco Bay, ME
Lat. 43° 39.4'N Long. 70° 14.8' W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 2.886 meters

REMARKS: RECOMMENDED ZONING
Use zone(s) identified as: NA164 and NA165

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).

For _____
CHIEF, PRODUCTS AND SERVICES DIVISION

APPENDIX V: SUPPLEMENTAL RECORDS & CORRESPONDENCES

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

No coast pilot report were submitted for this survey.

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.

-----Original Message-----
From: Bradley, Daniel J NAE [mailto:Daniel.J.Bradley@nae02.usace.army.mil]
Sent: Tuesday, August 29, 2006 2:53 PM
To: George Reynolds
Cc: Walker, William H NAE
Subject: RE: Portland Harbor Channel Coordinates

Hi Greg,

Per your request; The federal channel coordinates of the 45-foot entrance channel and anchorage. If you've any question please call.

Daniel Bradley

From: George Reynolds [mailto:ggr@oceansurveys.com]
Sent: Tuesday, August 29, 2006 12:22 PM
To: Bradley, Daniel J NAE
Subject: Portland Harbor Channel Coordinates

Dan,

As I mentioned during our telephone conversation a few minutes ago, we are currently working on a project in Portland Harbor, Maine. To support our survey, we would like a copy of the Channel coordinates of the 45 ft entrance channel along with the 45 ft anchorage.

Thank you for your consideration of this request.

Regards
George

George Reynolds
Ocean Surveys, Inc.
91 Sheffield St
Old Saybrook, CT 06475
Phone 860 388 4631 x 112
Fax 860 388 5879
Web Site http://oceansurveys.com/

PORTLAND HARBOR, ME

This is in response to your request for information regarding Horizontal and/or Vertical data.

Any bench mark used refer to ☐ NGVD

☐ MLW

☐ MLLW

☐ ASSUMED DATUM

The descriptions provided are not necessarily the latest.

The Horizontal and Vertical data was established exclusively for Corps of Engineers Hydrographic & Topographic Surveys in designated area. It is third order or less in accuracy. The information furnished was not intended for general use.

These channel coordinates were established using horizontal control which is third order or less in accuracy and which has not been tied into State or National Geodetic control system.

Coordinates are based on ☐ ASSUMED DATUM

☒ NAD 1927 MAINE WEST ZONE (1802) TRANSFER MERCATOR GRID SYSTEM

☐ NAD 1983

PORTLAND HARBOR
PORTLAND, MAINE
35 & 45-FOOT CHANNELS
STATE PLANE NAD 1927

#	Easting	Northing
1	487574.05	292960.83
2	486676.61	297678.83
3	486747.01	298258.76
4	484175.88	301494.55
5	480515.00	301480.40
6	477559.89	298535.10
7	477208.40	297860.98
8	475908.24	296554.39
9	475765.50	296016.55
10	475683.15	295932.78
11	475610.26	295886.28
12	475533.10	295864.69
13	475426.91	295762.88
14	475139.50	295526.91
15	474676.27	295285.26
16	473661.49	295084.49
17	471457.47	294736.53
18	470759.04	294328.88
19	469522.56	294011.96
20	469277.77	294155.18
21	468809.55	294628.89
22	468606.11	294564.46
23	468888.10	294279.17
24	468809.88	294201.85
25	469064.43	293944.31
26	469959.55	293194.99
27	470659.60	293374.41
28	471214.71	294058.97
29	471765.05	294380.20
30	472788.24	294541.72
31	474553.36	294652.41
32	475312.27	295166.65
33	475576.96	295494.06
34	475665.99	295652.59
35	475745.87	295731.84
36	475819.03	295778.01
37	475896.15	295800.13
38	476321.84	296059.79
39	479348.47	298674.24
40	479462.73	298640.86
41	481351.91	300272.79
42	481660.07	300387.84
43	483251.88	300391.11
44	484642.05	299599.40
45	485405.24	298673.56
46	485694.35	297491.98
47	486592.18	292771.91
48	489077.15	300218.40
49	486963.06	302732.20
50	484966.70	301053.26
51	483043.77	301490.18
52	485224.77	304606.38
53	483495.65	305953.80
54	480293.99	307367.03
55	479990.73	306991.36
56	480519.35	306940.04
57	481405.00	306549.11
58	481762.31	306145.12
59	482069.48	305213.99
60	482062.02	303741.50
61	481258.81	302221.97
62	483789.32	301493.06
63	484147.55	299881.02

-----Original Message-----
From: Stan L. Given [mailto:stan.given@pmpl.com]
Sent: Thursday, July 13, 2006 4:00 PM
To: ggr@oceansurveys.com
Subject: Survey Report

George,

This is the report from Titcomb Assoc on the land based survey.

Stanwood L. Given
Engineer
Portland Pipe Line Corporation
Phone 207-767-0419
Cell 207-233-3702
Fax 207-767-0455
Stan.Given@PMPL.com

Titcomb Associates: Portland Pipe Line
Land Survey Report -June 26, 2006

Project:
To establish two control points on the Portland Pipe Line Pier facility; to relate these and existing brass disk (20.14 MLW) on pier to a NOAA benchmark.

Specifications:
All points to be established to an accuracy of Third Order, horizontal; tied to Second Order or better National Geodetic Survey monuments; and tied to the NOAA benchmark set located around Portland Harbor to an accuracy of Third Order, vertical.

Equipment:
Trimble 4600 single frequency receivers
Wild NA-2 level
Leica TCA1100L total station

Published Control Points:
1) NGS disk at Fort Preble in South Portland, Maine, stamped “Preble 162 1941" (NAD 83 horizontal and NAVD 88 vertical values published).
2) NGS disk on the northerly side of Commercial Street in Portland, Maine, stamped “Tidal 31 Sta 84" (NAVD 88 vertical value published).
3) NOAA tidal bench mark near Maine State Pier in Portland, Maine, stamped “8150 A 1978" (mean low low water and mean high water values published).

Procedure:

1) Five Trimble GPS receivers were set up and run simultaneously for a minimum of four hours on the following points:

a) NOAA tidal bench mark

b) NGS disk “Preble 162 1941"

c) PK nail set in existing concrete at the northeasterly end of Portland Pipe Line Pier (PPL Control Point 2)

d) PK nail found in the parking area near Marina Drive

e) Drill hole set in exposed vertical steel flush with concrete surface of first concrete dock

2) Leica total station was used to determine horizontal coordinates for PPL control point 1 (dimple in vertical hand rail) and brass disk “20.14" (redundant observations).

3) Wild NA-2 level was used to establish vertical values for PPL control point 1 (dimple in vertical hand rail) and brass disk “20.14" (closed loop with vertical error of 0.0').

4) Wild NA-2 level was also used to establish a vertical value (NAVD 88) on the NOAA bench mark (closed loop with vertical error of 0.0').

Analysis:

Horizontal and vertical values were obtained for the five GPS points using least squares analysis. A network of seven loops within the five points achieved a convergent solution, with 15 degrees of freedom.

Results:

The following coordinates and elevations were obtained:

Control Point 1 (dimple in vertical hand rail)

N 298780.0232
E 2935822.7617
Elev. 14.90' (NAVD 88)
Ht. above MLLW 20.16'
Ht. above MHW 10.69'

Control Point 2 (PK nail near end of last dock)

N 299605.5760
E 2936479.7640
Elev. 15.11' (NAVD 88)
Ht. above MLLW 20.37'
Ht. above MHW 10.90'

Brass disk “20.14"

N 298812.7952
E 2935865.0164
Elev. 14.99' (NAVD 88)
Ht. above MLLW 20.25'
Ht. above MHW 10.78'

-----Original Message-----
From: Stan L. Given [mailto:stan.given@pmpl.com]
Sent: Monday, May 01, 2006 4:18 PM
To: Doug Baird
Cc: Ken P. Brown; ggr@oceansurveys.com
Subject: NOAA Review

Doug,

Just wanted to thank you again for your timely review and confirming phone
call today regarding our proposed "Statement of Work" and "Technical Specification" for the survey of Portland Approach Channel. Based on your
positive indication we will proceed with our survey efforts and when completed we will submit the completed survey package to your office.

As you advised, the "Obstruction PA" indicated in Attachment #5 of the 'Statement of Work" has already been resolved by your office and we will
delete the reference from our documentation.

Thank you,
Stan Given

Stanwood L. Given
Engineer
Portland Pipe Line Corporation
Phone 207-767-0419
Cell 207-233-3702
Fax 207-767-0455
Stan.Given@PMPL.com

APPENDIX V: SUPPLEMENTAL RECORDS & CORRESPONDENCES

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

No coast pilot report were submitted for this survey. ***Concur.***

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

No bottom samples were acquired during this survey. ***Concur.***

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

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

Subject:
[Fwd: FOIA 2006-00489: Survey Data in Portland, ME]
Date:
Tue, 24 Oct 2006 11:10:42 -0400
From:
Jeffrey Ferguson <Jeffrey.Ferguson@noaa.gov>
To:
Helen Stewart <Helen.Stewart@noaa.gov>

FYI... background on the whole story....

-------- Original Message --------
Subject:
FOIA 2006-00489: Survey Data in Portland, ME
Date:
Tue, 22 Aug 2006 00:31:17 -0400
From:
Gerd Glang <Gerd.Glang@noaa.gov>
To:
steven barnum <Steven.Barnum@noaa.gov>
CC:
Jeffrey Ferguson <Jeffrey.Ferguson@noaa.gov>,Doug Baird <Doug.Baird@noaa.gov>, Howard Danley <Howard.Danley@noaa.gov>,Alexandra Heliotis <Alexandra.Heliotis@noaa.gov>,John Lowell <John.Lowell@noaa.gov>, Tod Schattgen <Tod.Schattgen@noaa.gov>
References:
<20060821203903046.00000002832@OCS-L-SBARNUM>

Re. Portland Harbor Surveys:

Just a week before we received this FOIA, we learned that Portland Harbor, which is a Federal Project, had been surveyed for a third time in the past two months: once by OSI, once by USACE, and again by NRT5 . NRT5 also did a survey of the adjacent anchorage and several other areas around Portland in 2005.

We first heard from Portland Pipeline Company (PPLC) in about March. They want to bring in ships with a draft of 48' to their terminal, and they need the chart to reflect this before the Pilots will agree to do so. The Federal Project depth is 45'. The chart shows soundings, not tabulated depths, within the limits of the Federal Project. The soundings originated most recently from USACE surveys, and RU 1998 MB data.

PPLC was paying for the dredging and associated survey work to deepen the project. They asked USACE if they would re-survey the project in order to get updated (deeper) soundings on the chart. USACE deferred, not wanting to show anything deeper than project depth. PPLC then came to us, I think through NSD or MCD originally (I think they contacted Jim Gardner at first). After I discussed with RickF, we determined that NRT5 was not available. HSD was not planning any re-survey work either.

PPLC, anxious to get the chart revised, then proposed OSI do the survey work, and asked if we would chart their data. Doug and I discussed this, and agreed we would review the OSI survey and treat it as outside source - if the data were adequate, we would submit it to MCD. Meanwhile, I asked PPLC, and then Andy Beaver, to facilitate a letter to us from the Pilots documenting their requirement for the chart to show the latest data.

OSI had done NOAA surveys in 2001 under a previous contract. They are familiar with our Specs and Deliverables. OSI proposed a full NOAA-standard survey (w/ 200% multibeam coverage). We provided a W- registry number, as well as preliminary tide zoning from CO-OPS. We passed them a contact name at CO-OPS to deal with any smooth tide requests. We were allowed to review OSI's proposal as well. It took awhile, and I followed up with PPLC at least twice to check on the status of the work, but it seems OSI finally executed the survey in June and July.

On July 10, Steve Soherr and Howard were in Portland for a Harbor Safety Committee meeting. Steve was aware of the OSI work and had checked with me beforehand. I asked him to find out if OSI had done the work (and I put a call in to PPLC again as well), and to poke the Pilots to get us a letter. Unfortunately, I don't think Steve had a chance to mention our request for a letter from them. But he did come away from the meeting with an understanding that USACE was NOT planning to survey.

On July 27, I received an e-mail from Jake. NRT5 was in Portland again, and after visiting the Pilots, were told by the Pilots they would like the harbor surveyed by NOAA to update the chart. Jake concurred with Jasper's plan, and NRT5 surveyed the project area again (I was on travel, and my reply to Jake re. OSI work was a day late).

Almost immediately afterwards, Steve Soherr learned that USACE had been out surveying the same area (I think Jasper even saw them on the water at the same time he was out).

Early August we finally received a letter from Portland Pilots...

We've also learned that MCD plans to produce a new edition of the applicable chart (13292) in 2007. To facilitate some coordination, I've asked Tod at AHB to collect all 4 surveys and create one H-cell for submission to MCD by January, in order to meet the chart compilation and print schedule. I also asked Lyn to hold off on applying the USACE data until she receives input from AHB. AHB is to use the USACE data for comparison purposes... the chart needs to represent the most recent survey work, and MCD is best served with a single product for application to the chart. Any DtoN items will need to be expedited. And any conflicts among the surveys will need to be resolved.

And then the FOIA arrived. According to the lawyers requesting the info, they represent the dredge company who did work for Portland Pipeline Company. That's about all we learned after Jeff phoned them. The FOIA is perhaps related to an issue between PPLC and the dredge company. I vaguely recall Ken Brown from PPLC telling me that they needed to have some more dredge work done to remove a few high spots left behind after work originally done in 2005.

Jeff is working on the FOIA response now - we just tonight received a beautiful graphic from Steve which shows composite coverage of all the recent work. It's attached as a pdf...not sure you can view this on your Treo.

Our intent for the FOIA is to identify what surveys have been done in Portland. However, since we have not received any of the 2006 data yet (except for preliminary field plots), and have not QC'd any of the work (2005 or 2006), we do no intend to provide any data at this point.

Summary of Recent Surveys:

June 2005	NRT5	H11467	Received at AHB, Not yet reviewed
June/July 2006	OSI	W00177	Not received; Query to PPLC on status by HSD

July 2006 USACE Preliminary Paper Plot at NSD; Digital data requested
July/August 2006 NRT5 F00524 Preliminary Paper Plot at NSD; NRB requested NRT5 expedite data processing and DR submission to AHB

Whew...sorry for the long story. I've told it so many times - your question prompted me to write it down.

G2

CDRGerdGlang, NOAA

Chief, Hydrographic Surveys Division

NOAA Office of Coast Survey

301-713-2700, x124

steven barnum wrote:

> What's the background on the Portland approach survey FOIA?

Helen,

It is my understanding that the Corps data will be used for comparison purposed only and that the only data that would get incorporated from their surveys would be any values that are shoaler than present in the other data sets. I had asked Gerd about this a week or so ago and believe that this was his thinking. I've cc'd him to give him a chance to correct me here if I've mis-spoken.

Tks,

Steve

Helen Stewart wrote:

Okay, again for the purposes of clarity, the Portland channel is federally maintained with a controlling depth of 45 feet.

Also, to clarify, the USACOE surveys submitted to AHB are for chart comparison and data comparison only, and are not intended to be used as source in the final H-Cell product (even though the survey dates of these surveys are in late July, and therefore are the most recent source). True or False?

This project will be interesting. I intend to use CARIS BASE Editor to "stitch" together multiple datasets...NRT singlebeam, NRT multibeam, OSI multibeam and (if need be) ACOE data. This will enable me to easily preserve the source in the various datasets and to set rules of precedence (e.g. denser data takes precedence over sparser). I think this will provide the best product in the end. At this point I have completed 30-day reviews of the OSI and 2005 NRT-5 data (Tod the sign-off sheet for OSI data is on your desk). The feature review for both reviewed datasets is nearly complete. Once I have the last set of NRT data, and a bit more guidance on the ACOE data, I can start into product generation.

Jasper, can you send me a preliminary project outline, just a tiff of where you have data for F00524? Doesn't need to be huge, just enough that I know where it fits in to the puzzle here.

Helen

Jeffrey Ferguson wrote:

Helen,

Steve may correct me, but I think the "official" controlling depth is 45ft. I believe some private interests (Portland Pipeline) paid to have the channel dredged deeper, then contracted with OSI to get the deeper depths on the chart.

So it doesn't suprise me that the COE is sticking to the 45ft, however, OSI is quoting the company that hired them, that wants the charted depths to show 48ft.

Jeff

Helen Stewart wrote:

Good morning,

I need some clarification:

1. Is the approach channel federally maintained, or is the depth just a tabulated depth?

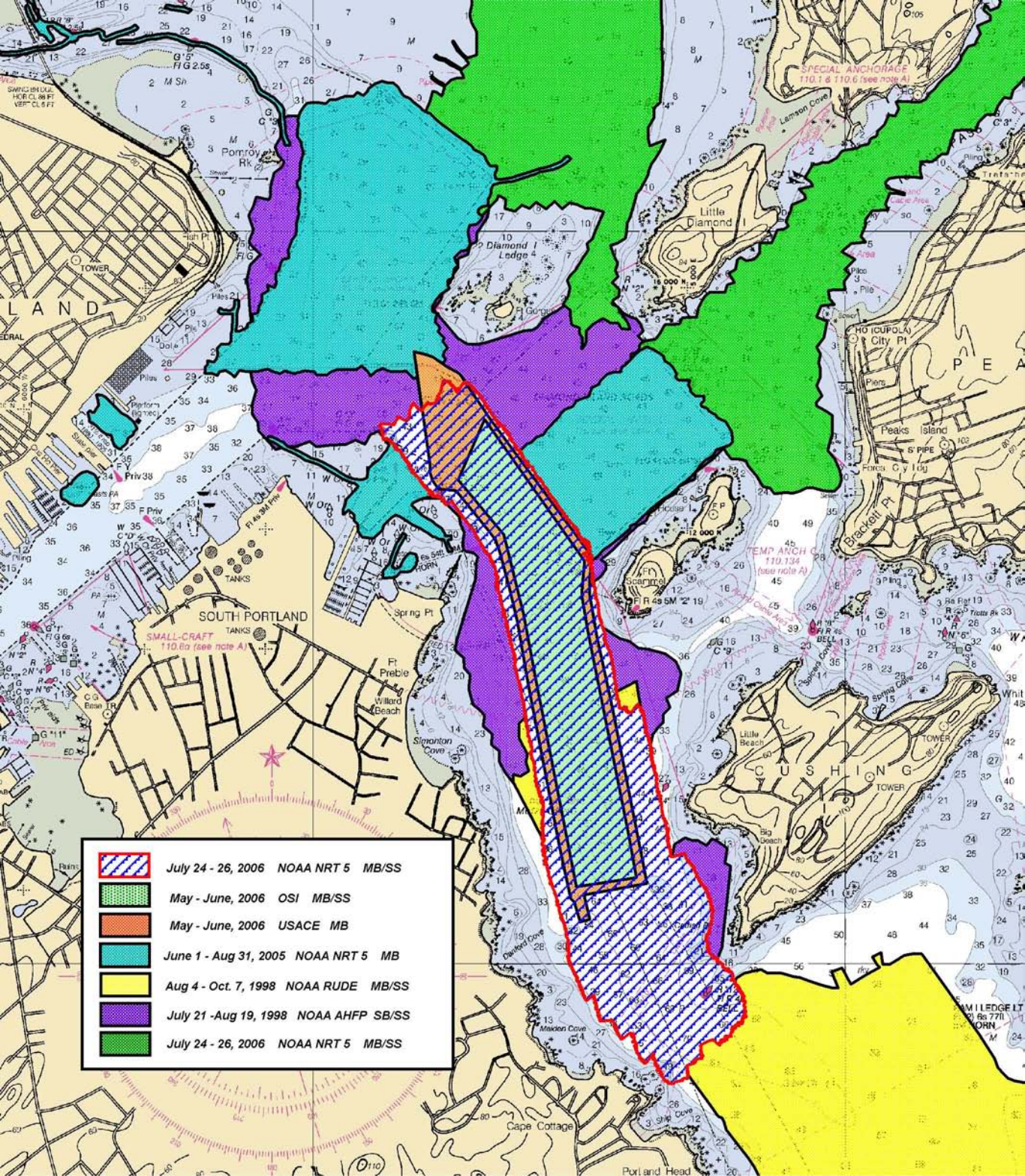
2. The OSI descriptive report states that the approach channel starting at Cushing Island has a controlling depth of 48'. In the USACOE data submitted to AHB (email "Preliminary Files for Portland Harbour, Portland, ME dated Oct 18, 2006), the email from William Walker states "Attached are the Data Files for the Federal Navigation Project for Portland Harbour 45-Foot Channel." Is the controlling depth 45 feet or 48 feet?

Thank you,
Helen

Steve Soherr
Cartographic Advisor
NOAA - Office of Coast Survey
Navigation Services Division
<steve.soherr@noaa.gov>
1315 East West Highway Building 3 N/CS5 Station 6361
Silver Spring
MD
20910-3282
USA
Fax: (301)713-9312
Work: (301)713-2730 x174

Additional Information:
Last Name
Soherr
First Name
Steve
Version
2.1

Ø=#


July 24 - 26, 2006 NOAA NRT 5 MB/SS
May - June, 2006 OSI MB/SS
May - June, 2006 USACE MB
June 1 - Aug 31, 2005 NOAA NRT 5 MB
Aug 4 - Oct. 7, 1998 NOAA RUDE MB/SS
July 21 -Aug 19, 1998 NOAA AHFP SB/SS
July 24 - 26, 2006 NOAA NRT 5 MB/SS
SOUTH PORTLAND
Little Diamond
Peaks Island
Cape Cottage
Portland Head

Resending this to all the key players.

G2

-------- Original Message --------
Subject:
[Fwd: Subject: Preliminary Files for Portland Harbor, Portland,Me - Condition Survey June-2006]
Date:
Fri, 25 Aug 2006 14:54:03 -0400
From:
Steve Soherr <Steve.Soherr@noaa.gov>
Organization:
NOS - Navigational Services Division
To:
tod schattgen <Tod.Schattgen@noaa.gov>
CC:
Gerd Glang <Gerd.Glang@noaa.gov>, Jake Yoos <Jake.Yoos@noaa.gov>, Jeffrey Ferguson <Jeffrey.Ferguson@noaa.gov>,
Jasper Schaer <jasper.schaer@noaa.gov>

Hey Tod, hope things are going well.

Per Gerd Glang's request, I am sending you the latest New England Corps Data for Portland, ME. in a digital format. My understanding is that this data, along with the NRT's 2006 data (which should be arriving to your shop in the next few weeks I think), along with the Ocean Surveys Incorporated data (arriving by late September we hope..) will be reviewed at your shop and combined into a single product for MCD.

As Bill Walker notes in his original email to me below, there are several different formats provided - pdf, dgn, and delimited xyz files. All are referenced to Maine State Plane - West Zone NAD27 Datum. Also, please note that this data is labeled preliminary, though they do not forsee any changes to the final dataset that will be arriving in the form of hardcopy surveys to MCD in the next 2 weeks.

I went ahead and took the xyz files, converted them to NAD83 LL and imported them into Excel. Then, I created Map Info tables from the excel files. I've included both the excel files and the Map Info files in the attached zip file. In summary, the Excel files, and Map Info Tabs were created here and are in NAD83. The dgns, and txt files are in NAD27 Maine State Plane, West Zone. Feet...

Let me know if you have any questions.

Thanks!

Steve

-------- Original Message -------- Subject: Subject: Preliminary Files for Portland Harbor, Portland,Me - Condition Survey June-2006 Date: Tue, 22 Aug 2006 16:49:08 -0400 From: "Walker, William H NAE" To: Steve.Soherr@noaa.gov

CC: "Murray, Maureen T NAE" ,"Bradley, Daniel J
NAE" ,"Johnston, Stephen A NAE" ------_=_NextPart_002_01C6C62C.6A4141A8
Content-Type: text/plain; charset="us-ascii"
Content-Transfer-Encoding: quoted-printable Hello Steve here are the files you
requested... I'll check back w/you to = make sure you received them
and you can access this information.=20 =20 Attached are the Data Files for the
Federal Navigation Project for = Portland Harbor - 45-Foot
Channel. See ftp link provided here=20
ftp://ftp.usace.army.mil/pub/nae/Surveys/PortlandHarbor/=20 =20 PorPlt06-1.xyz -Both
xyz files
representing a sorted shoal biased data = file used for plotting a scale dependant
plot. PorPlt06-2.xyz -=20 =20 Porr01.pdf -Preliminary Results of
Survey. Porv101.dgn -Dgn Microstation v8 sheet file for sheet 1 of 2 = (merged).
Porv102.dgn -Dgn Microstation v8 sheet file for sheet 2 of 2 =
(merged). Porv101.pdf -Pdf Acrobat file for sheet 1 of 2 Porv102.pdf -Pdf Acrobat
file for sheet 2 of 2 porhsp7x.dgn -Project File for Portland
Harbor=20 Porvspc06.dgn -Dgn Microstation v8 file Representing a sorted shoal =
biased data file used for plotting a scale dependant plot.=20 =20
1. Coordinates shown are based on the Transverse Mercator Grid System for the State
of Maine (West Zone 1802) and NAD 1927. 2. Soundings
are in feet and tenths and refer to the plane of Mean Lower Low Water (MLLW)
1983-2001 Tidal Epoch.=20 3. Soundings are referenced as
elevations; Negative Numbers below the datum plane of MLLW. =20 Although I foresee
nothing changing, all the files listed here are = considered
preliminary (having no signatures). The official signed drawings should = be mailed
out with a results of survey report within a few days. =20 =20 =20
=20 Any additional questions regarding the information can be directed to me = at
the number listed below. =20 =20 Thanks, Bill=20 =20 =20
William H. Walker=20 Civil Engineering Technician=20 Engineering / Survey Section
=20 =20 696 Virginia Road Concord, MA 01742-2751 =20
Fax: 978-318-9707 Phone: 978-318-8815 =20 =20 =20
------_=_NextPart_002_01C6C62C.6A4141A8 Content-Type: text/html;
charset="us-ascii" Content-Transfer-Encoding: quoted-printable

Hello Steve here are the files you requested… = I’ll check back w/you to make sure
you received them and you can access this information.

Attached are the Data Files for the Federal = Navigation Project for PortlandHarbor
- 45-Foot = Channel. See ftp link provided here ftp://f=
tp.usace.army.mil/pub/nae/Surveys/PortlandHarbor/

PorPlt06-1.xyz   -Both xyz files representing a = sorted shoal biased data file used
for plotting a scale dependant = plot.

PorPlt06-2.xyz   - =

Porr01.pdf   &n= bsp; -Preliminary Results of Survey.

Porv101.dgn   -Dgn = Microstation v8 sheet file for sheet 1 of 2 (merged).

Porv102.dgn   -Dgn = Microstation v8 sheet file for sheet 2 of 2 (merged).

Porv101.pdf   -Pdf = Acrobat file for sheet 1 of 2

Porv102.pdf   -Pdf = Acrobat file for sheet 2 of 2

porhsp7x.dgn   -Project File for =Portland =Harbor =

Porvspc06.dgn   -Dgn Microstation v8 file = Representing a sorted shoal biased data
file used for plotting a scale dependant = plot.

   3.Coordinates shown are = based on the Transverse Mercator Grid System for the
State of Maine (West Zone 1802) and NAD = 1927.

4.Soundings are in feet = and tenths and refer to the plane of Mean Lower Low Water (MLLW) = 1983-2001 Tidal Epoch.
5.Soundings are = referenced as elevations; Negative Numbers below the datum plane of = MLLW.

Although I foresee nothing changing, all the files = listed here are considered preliminary (having no signatures). The = official signed drawings should be mailed out with a results of survey report within a = few days.

Any additional questions regarding the information = can be directed to me at the number listed below.

Thanks, Bill =

William H. Walker =<= /span>

Civil Engineer= ing Technician

Engineering / = Survey Section
=

696 Virginia = Road

Concord, MA01742-2751

Fax: 978-318-9707

Phone: 978-318-8815

------_=_NextPart_002_01C6C62C.6A4141A8--
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CDR Gerd Glang, NOAA

Chief, Hydrographic Surveys Division

NOAA Office of Coast Survey

301-713-2700, x124

REPORT OF CHANNEL CONDITIONS
400 FEET WIDE OR GREATER
(ER 1130-2-316)

DATE:

T0: **DRAFT**

FROM: **U.S. Army Corps of Engineers**
New England District
696 Virginia Road
Concord, MA. 01742-2751

RIVER/HARBOR NAME AND STATE: Portland Harbor, Portland, ME.

Dwg. No. 2631, Sheets 1-2 of 2, Dated 23 August 2006

NAME OF CHANNEL	DATE OF SURVEY	AUTHORIZED PROJECT			MINIMUM DEPTHS IN CHANNEL ENTERING FROM SEAWARD			
		WIDTH (feet)	LENGTH Nautical (miles)	MLLW DEPTH (feet)	LEFT OUTSIDE QUARTER (feet)	MID-CHANNEL LEFT INSIDE QUARTER (feet)	MID-CHANNEL RIGHT INSIDE QUARTER (feet)	RIGHT OUTSIDE QUARTER (feet)
CONDITION SURVEY **45-Foot Channel** From about 1,495' seaward of Buoy R & W GONG PH upstream about 8,820' to limit of 45-foot channel	06/06	1000 to 1200 to 800 to 1650	1.45	45.0	45.0	45.0	45.0	(1) 44.5

GENERAL NOTE: The information shown on this sheet(s) represents the results of surveys made on the dates indicated and can only be considered as indicating the general conditions existing at that time.

FOOT NOTES:
(1). Isolated shoaling to 44.5' located within the last 20' of upstream end of the 45-foot channel limit.

NOAA Chart 13292

8 7 6 5 4 3 2 1

F E D C B A

E484000 E486000 E488000

N 302000 N 300000 N 298000

30-FOOT ANCHORAGE

DIAMOND ISLAND LEDGE

DIAMOND LEDGE BEACON

FORT GORGES

LITTLE DIAMOND ISLAND

DIAMOND ISLAND PASS

N

45-FOOT HOUSE ISLAND ANCHORAGE

PRELIMINARY

L420'

FIR-4

1,400'

FIG-3

35-FOOT CHANNEL

PORTLAND HARBOR

FIG-1

45-FOOT MAIN SHIP CHANNEL

PORTLAND PIPELINE CORP. PIER NO. 2

PRELIMINARY

FLOOD

EBB

SPRING POINT LEDGE LIGHTHOUSE (FI HORN)

SPRING POINT BREAKWATER

PORT HARBOR MARINE SPRING POINT & BREAKWATER MARINA

SOUTHERN MAINE TECHNICAL COLLEGE PIER

MATCH LINE SHEET 1 OF 2

PLAN
SCALE: 1" = 200'

PRELIMINARY

DIAMOND ISLAND ROADS

HOUSE ISLAND

FORT SCAMMEL

NOTE:
For General Notes see sheet 1 of 2

SAFETY PAYS

GRAPHIC SCALE:
1" = 200'
200 0 200 400

US Army Corps of Engineers
New England District

Symbol	Description	Date	Appr	Symbol	Description	Date	Appr

Rev	Date	Design file:	Drawing code:	File name PORV102-302
			2631	Plot date: 08/23/06
				Plot scale: 1" = 200'

Surveyed By:
Jeffrey W. Preston
Hydrographic Crew

Plotted By:
Stephen W. Kelley

Asst. Chief, Survey Section

Chief, Survey Section

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

PORTLAND HARBOR
PORTLAND, MAINE
CONDITION SURVEY

45-FOOT CHANNEL

Reference number:
V-102
2

Quality Control Report for file : C:\QC\pcs_10m_xlines

Elevation Range is : -19.993(m) -0.756(m)

Total number of 3D points used: 2187

Starting Time: Not applicable
Ending Time: Not applicable

Tidal reduction: Not applicable

User#	Total	Max(+)	Max(-)	Mean	Std.	3dm(%)	5dm(%)	1%(%)	1.6%(%)
1	2187	5.611	-2.916	0.083	0.8640	64.6	76.2	21.8	32.6

Classification report 1 of 3

IHO statistics a/b are : 0.250 0.008

User#	Total	# fail	% fail	# pass	% pass
1	2187	857	39.19	1330	60.81

Classification report 2 of 3

IHO statistics a/b are : 0.500 0.013

User#	Total	# fail	% fail	# pass	% pass
1	2187	513	23.46	1674	76.54

Classification report 3 of 3

IHO statistics a/b are : 1.000 0.023

User#	Total	# fail	% fail	# pass	% pass
1	2187	252	11.52	1935	88.48

ATLANTIC HYDROGRAPHIC BRANCH
EVALUATION REPORT FOR PORTLAND, ME COMBINED SURVEY

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

B. DATA ACQUISITION AND PROCESSING

B.1 EQUIPMENT

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

MapInfo Professional version 8.5
HSTP PYDRO version 6.8.0
CARIS HIPS/SIPS version 6.0 SP1
CARIS Bathy DataBASE Version 2.0 Beta
CARIS Bathy DataBASE Server Version 1.0 Beta
CARIS HOM ENC Version 3.3 SP1
CARIS GIS version 4.4
DKART Inspector Version 5.0 SP1, Build 732

B.2 PROCESSING

SIDE SCAN SONAR QUALITY CONTROL

Side scan sonar data was not acquired to the west of the charted swing bridge at 43°40’30.29” N, 70°15’00.957” W and inshore of a charted magenta “anchorage area” line between 43°39’52.965” N, 70°14’09.844” W and 43°39’37.116” N, 70°14’33.562” W. The field party did not explain why no side scan sonar was acquired in these regions.

CROSSLINES

The amount of crosslines acquired for survey H11467 met NOAA specification for hydrographic surveys. A CARIS crossline-to-mainscheme QC report was not conducted by the field party for the regions where vertical-beam echosounder (VBES) is the primary source of bathymetry. A CARIS QC report comparing VBES checklines to VBES mainscheme found that 77% of shoal-biased, binned VBES soundings met IHO Order 1 specification. The region of greatest discrepancy between mainscheme and

crossline VBES data is in the northern region of survey H11467, acquired in a channel with large shoals to either side. In these regions, the beam width of the VBES pulse is sufficiently wide to record a shoaler sounding off nadir, causing both shoal-biasing in the data and potential position inaccuracies. It is AHB's opinion this data is adequate for charting. The QC report is attached in Appendix V to the Descriptive Reports (filed with original field records).

A CARIS QC report was not required for MBES regions of the survey as BASE Surface QC methods were used.

JUNCTIONS

No junction analysis was performed by the field for the overlapping section of H11467 and F00524. As no other data were available to the field parties for surveys H11467 and W00177, no junction analyses between these surveys and F00524 were performed by the field. Junction analysis between H11467, W00177, and F00524 was performed at AHB. In general, surveys agreed within 2 feet. No major discrepancies were noted.

OFFICE PROCESSING

The Portland Combined Survey is comprised of the following hydrographic surveys:

- NOAA Survey H11467, conducted by NRT-5 in 2005;
- Portland Pipeline Company Survey W00177, conducted by Ocean Surveys Incorporated (OSI) in 2006;
- U.S. Army Corps of Engineers Drawing #2631, conducted by USACE in June 2006;
- NOAA Survey F00524, conducted by NRT-5 in 2006.

Bathymetry data from surveys H11467, W00177, and F00524 were combined into one bathymetric dataset covering the approach to Portland, Maine. This dataset is hereafter referred to as the Portland Combined Survey. After being reviewed and certified as meeting NOAA specifications for hydrographic surveys, NOAA NRT and OSI contract data was loaded into CARIS HIPS for processing. All data were examined for blunders and systematic errors. Following data review, an uncertainty-weighted BASE surface was generated for each discrete MBES survey area. Finalized BASE Surfaces were

generated at 1m resolution with data points filtered to meet IHO Order 1 standards. VBES data were exported to CARIS .HOB files as a 10m resolution swath angle-weighted surface. The following table lists all grids created for the Portland Combined Survey:

	NAME	SURVEY	REGION	RESOLUTION
1	F00524_1m_South	F00524	*Channel*	1m
2	Portland_F00524_North	F00524	*NE of Diamond Ledge*	1m
3	Portland_MBES_11467	H11467	*Diamond Island Roads, PPC Pier, Diamond Island to Pomroy Rock*	1m
4	Portland_Channel_OSI	W00177	*Channel*	1m
5	VBES_No_Interp	H11467	*All VBES*	10m
6	VBES_10m_final	H11467	*Finalized VBES*	10m
7	Combined_all_MBES	ALL	*All MBES, combined and finalized*	1m

As described in the Descriptive Report for survey W00177, only bathymetry data from June 2005 was used to generate a finalized BASE Surface for bathymetric product generation. All BASE Surfaces and .HOB files are projected in UTM NAD 83 zone 19.

All grids were imported to BASE Editor and used to created the combined finalized BASE surface PCS_Combined_All.HNS. The combined surface was created in CARIS BASE editor using the following CARIS default rules to determine precedence:

1. Shoalest depth of any contributing surface at a node is selected as the depth of that node.

2. The depth point with lowest uncertainty of any contributing surface at a node is selected as the depth of that node (e.g. a nodal depth from an MBES survey with TPE will take precedence over a nodal depth from an interpolated VBES grid).

Figure 1 below shows the source diagram for the combined surface Portland_all_comb:

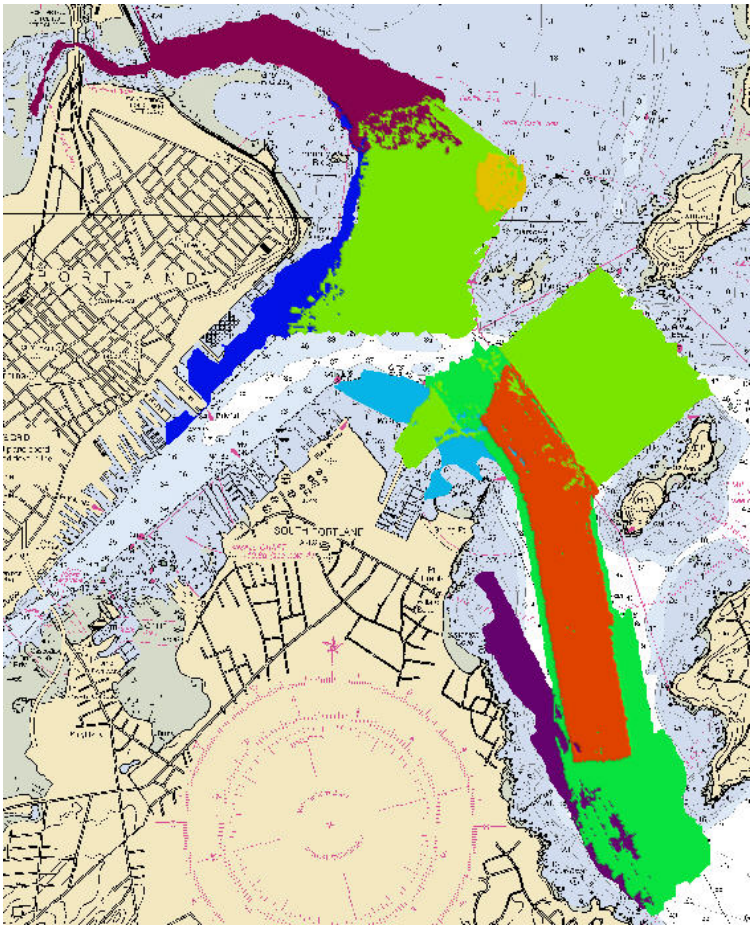


Figure 1: Contributing Surfaces to `10m_all_sources_comb.HNS`. Maroon, Royal Blue, Aqua, and dark purple are VBES data from survey H11467. Dark gold and medium green are MBES grids from survey F00504. Chartreuse is MBES from survey H11467. Bright orange is MBES from survey W00177.

One product surface (PCS_gen_20k_400mball_20mdef_for_contours.HNS) was generated for creation of depth contours and depth areas at the scale of the largest-scale chart covering the area (1:20,000). Contours were generated at the NOAA standard (meter to foot, plus 0.75)depth intervals. This surface was not used for extraction of soundings.

A separate combined surface, (PCS_gen_10k_100mball_nodef_soundings.HNS) was generated for survey scale sounding set extraction. This surface was created at 10m resolution and generalized to survey scale of 1:10,000. Soundings were extracted from the sounding surface model to a HOB file using parameters of 5mm at 1:10,000 scale.

BASE Editor soundings and contours were imported to CARIS HOM and used to generate a NOAA H-Cell at 1:20,000 scale (largest

scale chart over the area). Feature objects were imported using the CARIS HOM Object Import Utility. Contour and depth area objects were created at NOAA (foot-plus-0.75) metric equivalent values and converted to NOAA standard metric equivalent depths using the CARIS NOAA_Modify_Attributes routine in HOM. Soundings were suppressed to 5 mm at 1:20,000 scale.

The source attribution field SORIND for all surveyed feature objects, soundings, depth contours, and depth areas is attributed to the combined survey product PCS_Combined_All.HNS, with the SORIND field being attributed as “US, US, graph, Portland_Combined_Survey.” AWOIS items not disproved are attributed as “US, US, graph, ENC US5ME10.” In the case of one AWOIS item where the position was verified by the field but the least depth was not, the SORIND field is attributed as “US, US, graph, Portland_Combined_Survey.” This item is addressed in detail in Item 3.1, Appendix II to the Descriptive Reports.

U.S. Army Corps of Engineers (USACE) Drawing 2631 was submitted as a pair of .DGN smooth sheets and a pair of smooth sheet density sounding sets in text format. Soundings were delivered as a shoal-biased binned dataset. Water levels obtained from a tide gauge in the vicinity of the South Portland Public Boat Launching Facility were applied to raw data. The USACE XYZ text files were submitted with depths in feet in NA 27 (Maine State Plane). These file were translated and converted in MapInfo to depths in meters, UTM NAD 83. USACE data were compared to both the BASE Editor generated combined finalized surface and to a shoal-biased binned dataset generated in Pydro. A comparison between the USACE shoal-biased binned dataset and the Portland Combined Survey shoal-biased binned dataset showed that depths between the two surveys were comparable, with the Portland Combined dataset being equal to or shoaler than the USACE dataset. A comparison between the USACE dataset and the Portland Combined Survey BASE Surface depths dataset showed that depths were generally equal to or not more than one foot deeper than USACE depths. This depth difference is attributed to the inherent difference between an uncertainty-weighted gridded terrain model and a shoal-biased binned dataset.

The Portland approach channel has a project depth of 45’ referenced to MLLW. This channel is not presently charted as

a tabulated-depth channel, so the area within the channel limits is shown in the S-57 H-Cell file. A separate channel, located between a presently charted swing bridge at 43°40'30.370" N, 70°15'00.937" W and a fixed bridge at 43°40'34.067" N, 70°15'22.777" W has a charted tabulated depth of 13 feet (May 2000). Survey depths in this channel are not shown in the final S-57 H-Cell file.

C. VERTICAL AND HORIZONTAL CONTROL

The following water levels were applied:

- Approved water levels from NOAA station 841-8150 with final tide zoning delivered from CO-OPS were applied to Survey H11467 at AHB.
- Approved water levels from NOAA station 841-8150 were applied to Survey W00177 by OSI.
- Approved water levels from NOAA station 841-8150 with final tide zoning delivered from CO-OPS were applied to Survey F00524 at AHB.

The mean high water value used for this survey is 2.8m above MLLW (-2.886m). The Mean High Water value is referenced from the Final Tide Note provided by NOAA OCS COOPS.

Horizontal control used for this survey during data acquisition is based upon the North American Datum of 1983 (NAD 83), UTM projection zone 19. Office ENC processing of this survey required translating the datum to meet S-57 ENC requirements. During CARIS HOM processing the horizontal geodetic datum was translated to Latitude and Longitude (LLDG) World Geodetic System-84 (WGS-84) prior to exporting the CARIS map to S-57 exchange format (.000 file). The S-57 ENC format serves as the exchange file submitted to Marine Chart Division.

D. RESULTS AND RECOMMENDATIONS

D.1 CHART COMPARISON

13292 (37th Edition, Aug /04)
Corrected through NM Aug 14/04
Corrected through LNM Aug 03/04

13290 (36th Edition, Jul /05)
Corrected through NM Jul. 9/05
Corrected through LNM Jun. 28/05

ENC Comparison **US5ME10M**
Portland Harbor and Vicinity A
Application and Issue Date 2006-10-18
Chart 13292

HYDROGRAPHY

D.1.1 Charted Soundings and Items

The charted hydrography originates with prior surveys and requires no further consideration. The hydrographer makes qualitative chart comparisons in section D.1, and some quantitative chart comparison in section D.2. Attention is drawn to the following features:

A charted **dolphin** in 43°39′ 41.10″ N, 70°14′ 30.75″ W was not addressed by the field party. There is no data to confirm the position of this dolphin. The office processor recommends retaining this dolphin as charted. Source indication is the ENC.

A charted **pile** in 43°39′ 42.75″ N, 70°14′ 28.50″ W was not addressed by the field party. There is no data to confirm the position of this pile. The office processor recommends retaining this pile as charted. Source indication is the chart.

A cluster of three charted **piles** in the vicinity of 43°39′ 50.56″ N, 70°14′ 21.11″ W was not addressed by the field party. There is no data to confirm the positions of these piles. The office processor recommends retaining these piles as charted.

A charted **pile** located in 43°40′ 33.25″ N, 70°15′ 17.80″ W was not addressed by the field party. There is no data to confirm the position of this pile. The office processor recommends retaining this pile as charted.

A charted **mooring buoy** located in 43°39′10.160″ N, 70°12′53.051″ W was not verified by the field party. The office processor recommends retaining this mooring buoy as charted.

A pair of charted **dolphins** near the base of the charted swing bridge, in the vicinity of 43°40′28.526″ N, 70°15′01.173″ W was not verified by the field party. The office processor recommends retaining these dolphins as charted. These dolphins are outside the bathymetric data coverage and are not digitized in the H-Cell.

A charted **rock awash** in position 43°37’41.86” N, 70°12’43.30” W was not addressed by the field party. Although a VBES line was acquired less than 5m from the charted position of this rock, there is no side scan sonar to verify the position of this rock and no mention of this rock was made in the acquisition logs. The office processor recommends retaining this rock awash as charted. This rock is located outside the survey data coverage and is not shown in the H-Cell.

In the vicinity of 43°39'20.414"N, 70°13'36.405"W (Portland Pipeline Company pier), the notation “48 ft rep 1985” is presently charted on all applicable charts. Present survey depths in the area range from 48 feet to 61 feet. The office processor recommends deleting the charted “48 ft rep 1985” and charting present survey soundings in common areas.

Chart comparison found **evidence of shoaling** in the vicinity of 43°40'35.911" N, 70°14'15.257" W. Present survey depths are 10 feet or less in an area with presently charted depths from 14-16 feet. The officer processor recommends charting present survey soundings in common areas.

Chart comparison found **evidence of shoaling** in the vicinity of 43°40'27.788" N, 70°14'02.430" W, approximately 500m northeast of charted Pomroy Rock. The 18 and 24 foot contours have migrated to the south and west, with depth discrepancies of up to 6 feet. The office processor recommends charting present survey soundings in common areas.

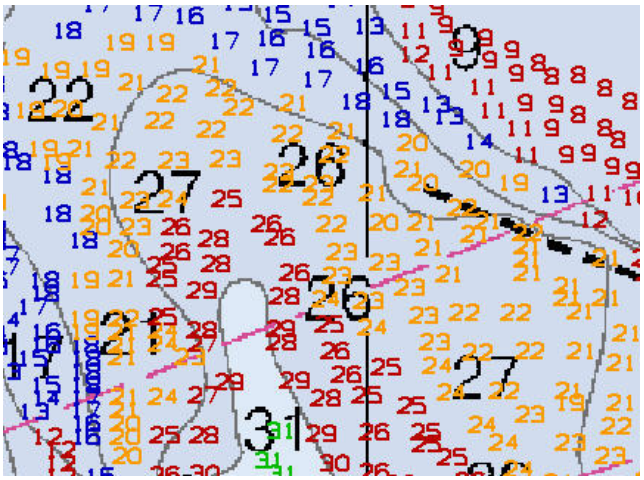


Figure 2: Shoaling 500m northeast of Pomroy Rock

Chart comparison found **evidence of shoaling** in a charted slip to the north of the State Pier. This slip has a charted notation stating “31 ½ ft rep 1980-1995.” A VBES

reconnaissance of this slip found that the slip is 30m narrower than the presently charted limits in the vicinity of 43°39'27.286" N, 70°14'49.549" W. Defer final charting disposition to Marine Chart Division, Nautical Data Branch, Source Information Unit.

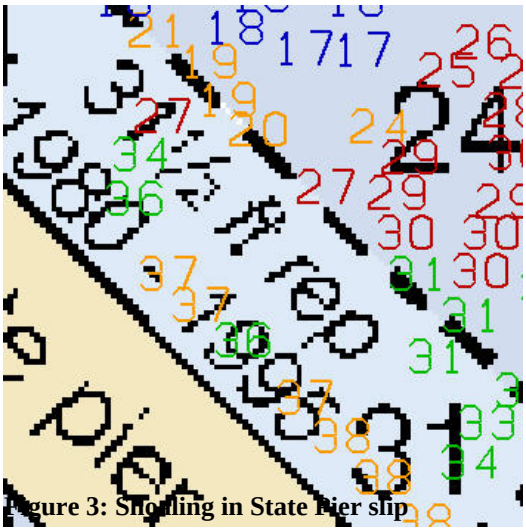


Figure 3: Shoaling in State Pier slip

Chart comparison found **evidence of shoaling** in the vicinity of Spring Point. Present survey depths in a mooring area in position 43°39'04.530" N, 70°13'43.510" W range from 2 to 12 feet in an area with presently charted depths from 3 to 16 feet. The office processor recommends charting present survey soundings in common areas. For further information regarding the Spring Point area, refer to the Dangers to Navigation section below and to Appendix II of the Descriptive Report.

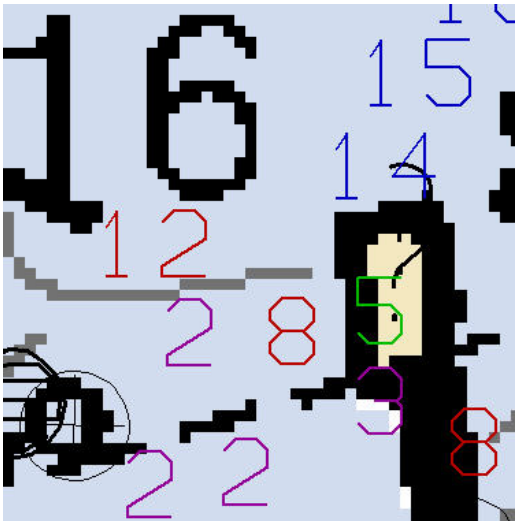


Figure 4: Shoaling in the vicinity of Spring Point

Except as noted above, the present survey is adequate to supersede the charted hydrography within the common area.

D.2 RESULTS

DANGERS TO NAVIGATION (DTON)

One Danger to Navigation was submitted with survey H11467. This DTON was later surveyed by NRT-5 during survey F00524 and found to have been a burst of noise.

Two DTONs were located by the office processor for survey H11467. Chart comparison found **evidence of shoaling** in the vicinity of the State Pier. Refer to Item 4.2 in Appendix II of the Descriptive Report for more details. The hydrographer recommends charting present survey soundings in common areas.

Pier ruins were located in the vicinity of Spring Point. A charted pier was found by the field party to have been removed. A side scan sonar search found a large area of debris, including several objects resembling submerged piles, in the area. This feature is represented as an area shoreline construction (SLCONS, ruins) feature in CARIS HOM. A side scan sonar mosaic of the area was exported to TIF/TFW format and used to delineate the ruins area in CARIS HOM. Refer to Item 4.3 in Appendix II of the Descriptive Report for further information on this Danger to Navigation.

No DTONs were submitted with survey W00177. No DTONs were located by the office processor for survey W00177.

No DTONs were submitted with survey F00524. No DTONs were located by the office processor for survey F00524.

AIDS TO NAVIGATION

All aids to navigation located by the field were in their charted location and serving their intended purpose. The office processor has no recommendations on these aids to navigation.

SHORELINE

Shoreline positions acquired by the field party were submitted directly to Marine Chart Division. It is recommended that charting disposition of shoreline features not verified by echosounder or side-scan sonar be deferred to Marine Chart Division, Update Services Branch.

Review of side scan sonar data found **fouling with piles** centered in location 43°39’36.96” N, 70°14’34.82” W. These ruins appear to be connected to a large area of charted piles at 43°39’37.83” N, 70°14’37.20” W. The office processor recommends charting a foul area with piles as shown in Figures 5 and 6 below and moving the charted notation “Piles” to the south and east. This area is in the H-Cell as an obstruction area object (OBSTRN, foul ground), with the limits of the area object being the limits of side scan sonar coverage. The obstruction area object is shown in Figure 5 as a red hashed area.

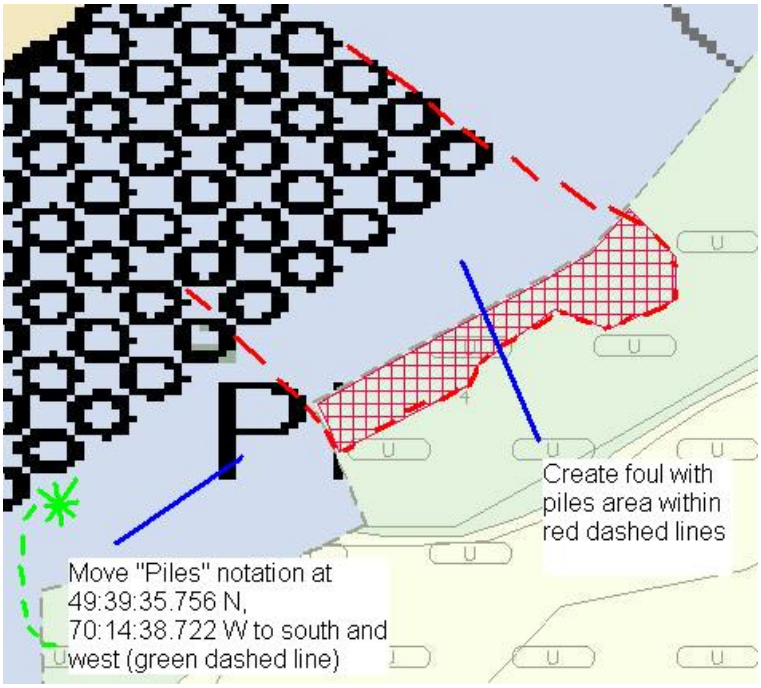


Figure 5: Charting Recommendations for Foul Area

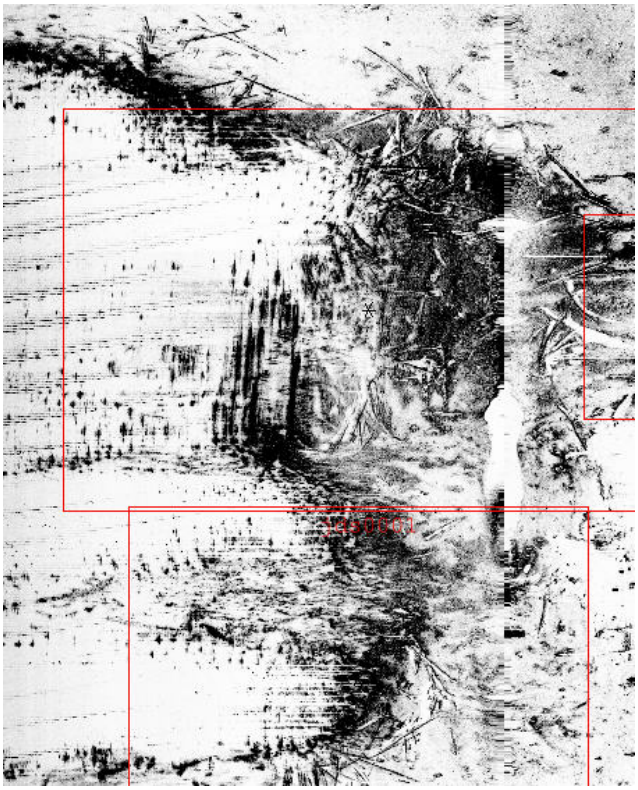


Figure 6: Fouling with piles, side scan sonar

COMPARISON WITH PRIOR SURVEYS

A comparison with prior surveys was not done during office processing in accordance with section 4. of the memorandum titled "Changes to Hydrographic Survey Processing", dated May 24, 1995.

ADEQUACY OF SURVEY

The present survey is adequate to supersede the charted hydrography within all common areas except the red-circled areas shown in Figure 7. In these areas, bathymetry coverage is adequate but object detection specifications were not met as coverage was acquired with VBES only. The hydrographer recommends retaining all charted features in this area that are not otherwise discussed in this report. Otherwise, this is an adequate navigable area survey. Except as noted elsewhere in this report, no additional field work is recommended by the office processor.

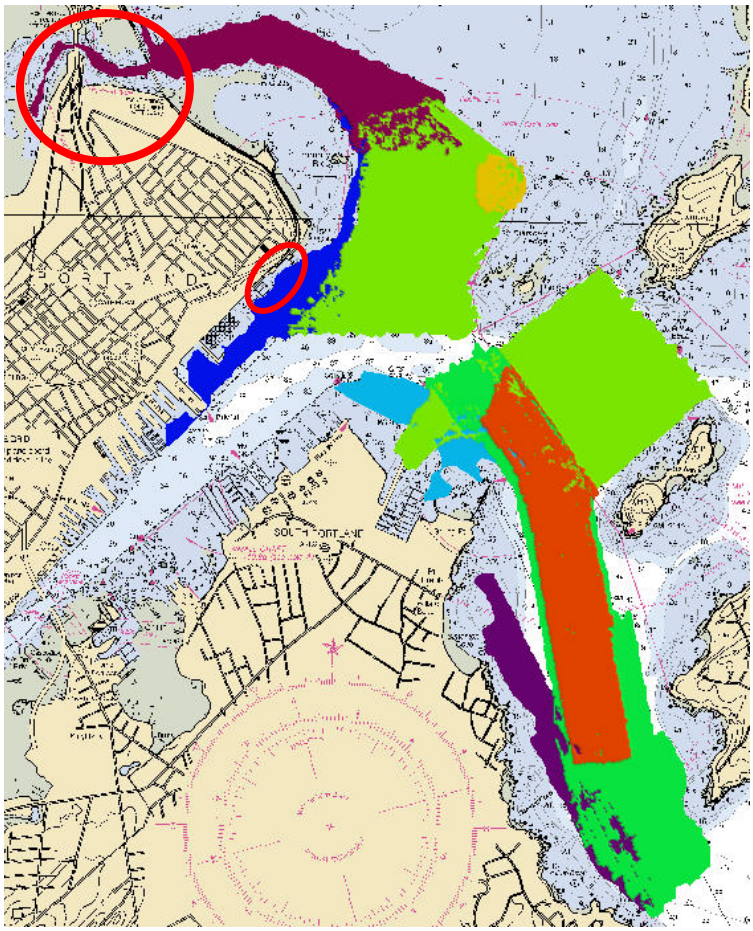


Figure 7: Inadequate Object Detection Regions

MISCELLANEOUS

ENC products were created by Atlantic Hydrographic Branch personnel, Norfolk, Virginia, using CARIS HOM v3.3. ENC products and electronic data will be forwarded to Marine Chart Division, Silver Spring, Maryland.

The NOAA H-Cell is an interim product that is not required to meet IHO S-57 specifications. Certain feature objects may have classifications that do not meet S-57 rules.

Chart compilation was done by Atlantic Hydrographic Branch personnel, in Norfolk, Virginia. Compilation data will be forwarded to Marine Chart Division, Silver Spring, Maryland. The following NOS charts were used for compilation of the present survey:

13292 (37th Edition, Aug /04)
Corrected through NM Aug 14/04
Corrected through LNM Aug 03/04

13290 (36th Edition, Jul /05)
Corrected through NM Jul. 9/05
Corrected through LNM Jun. 28/05

ENC **US5ME10M**
Portland Harbor and Vicinity A
Application and Issue Date 2006-10-18
Chart 13292

APPROVAL SHEET

Portland Combined Survey (H11467, W00177, F00524)

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. The survey records and digital data comply with NOS requirements except where noted in the Evaluation Report.

Date: Jan 8, 2007

Helen Stewart
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.

Date: 1/8/07

Bryan Chauveau
Physical Scientist
Atlantic Hydrographic Branch

Date: 1-8-07

Edward Owens
Physical Scientist
Atlantic Hydrographic Branch

Date: 01/08/07

Castle Eugene Parker
Physical Scientist
Atlantic Hydrographic Branch

APPROVAL SHEET
Portland Combined Survey (H11467, W00177, F00524)

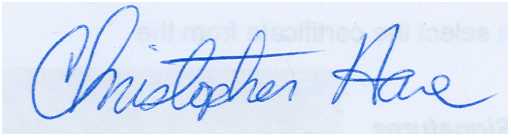
I have reviewed the ENC exchange file (*.000), accompanying data, and reports. This survey and accompanying digital data meet or exceed NOS requirements and standards for products in support of nautical charting except where noted in the Evaluation Report.

CDR P. Tod Schattgen

Digitally signed by CDR P. Tod Schattgen
DN: cn=CDR P. Tod Schattgen, c=US, o=NOAA Office of Coast Survey, ou=Atlantic Hydrographic Branch, email=tod.schattgen@noaa.gov
Date: 2007.01.12 09:08:05 -05'00'

Approved: _____ Date: _____

P. Tod Schattgen
Commander, NOAA
Chief, Atlantic Hydrographic Branch



Christopher Hare
AWOIS Check and resigning new DR
2007.03.13 08:09:31 -04'00'

ATLANTIC HYDROGRAPHIC BRANCH
ADDENDUM TO EVALUTION REPORT FOR H11467

This Addendum to the Evaluation Report for H11467 was written to supplement and clarify the original Evaluation Report and submitted BASE cell file.

The Atlantic Hydrographic Branch provides the soundings below to supplement the previously submitted products for survey H11467, in order to better cartographic portray the area near the Portland Pipeline Company's facility.

Depth (m)	Depth (ft.)	Lat (DMS)	Lon (DMS)
14.565	47.785	43-39-19.624N	070-13-40.221W
14.718	48.287	43-39-18.303N	070-13-33.244W
14.938	49.009	43-39-21.036N	070-13-38.566W
14.922	48.957	43-39-21.763N	070-13-42.043W
17.366	56.975	43-39-17.272N	070-13-40.030W
17.453	57.261	43-39-14.768N	070-13-42.825W
17.332	56.864	43-39-12.490N	070-13-45.710W
17.322	56.831	43-39-14.536N	070-13-49.848W
17.305	56.775	43-39-16.802N	070-13-48.488W
17.416	57.139	43-39-17.658N	070-13-45.531W

Soundings are referenced to MLLW and positions are NAD83.

The specifics of where these soundings originated in the survey data are documented on page 2 of this addendum.

The H-Cell which the Atlantic Hydrographic Branch submitted contained an obstruction which was not documented in the Descriptive Report or the Evaluation and Analysis report. The documentation of this feature is page 3 of this addendum.

Approved: _____ Date: 12 February 2007
Commander P. Tod Schattgen, NOAA
Chief, Atlantic Hydrographic Branch

Table of Supplemental Soundings for H11467 Addendum

Line	Profile	Beam	Depth (m)	Depth (ft.)	Lat (DMS)	Lon (DMS)	Project	Vessel	Day	Time	Tide (m)	Dp TPE (m)	Hz TPE (m)	Record
007_1308	853	61	14.565	47.785	43-39-19.624N	070-13-40.221W	Portland	3002_mbes	2005-174	10:34.4	0.808	0.243	1.127	3
017_1322	196	93	14.637	48.022	43-39-18.062N	070-13-32.130W	Portland	3002_mbes	2005-174	22:42.7	0.999	0.243	1.051	1
053_1446	2273	31	14.938	49.009	43-39-21.036N	070-13-38.566W	Portland	3002_mbes	2005-228	52:45.3	1.736	0.245	1.082	1
053_1446	1699	99	14.922	48.957	43-39-21.763N	070-13-42.043W	Portland	3002_mbes	2005-228	51:17.0	1.75	0.244	1.032	1
010_1312	521	88	16.933	55.554	43-39-17.252N	070-13-40.111W	Portland	3002_mbes	2005-174	13:41.6	0.857	0.243	1.163	3
010_1312	711	86	17.453	57.261	43-39-14.768N	070-13-42.825W	Portland	3002_mbes	2005-174	14:11.6	0.864	0.243	1.172	20
010_1312	909	106	17.332	56.864	43-39-12.490N	070-13-45.710W	Portland	3002_mbes	2005-174	14:40.5	0.872	0.246	1.182	35
002_1347	713	35	16.925	55.528	43-39-14.555N	070-13-49.823W	Portland	3002_mbes	2005-174	49:58.7	1.419	0.244	1.134	40
001_1350	261	83	17.305	56.775	43-39-16.802N	070-13-48.488W	Portland	3002_mbes	2005-174	51:36.4	1.446	0.243	1.178	13
004_1344	365	37	17.416	57.139	43-39-17.658N	070-13-45.531W	Portland	3002_mbes	2005-174	45:17.5	1.35	0.244	1.181	7

Portland Combined Feature Report Addendum

Registry Number: H11467; F00524; W00177

State: Maine

Locality: Portland

Sub-locality: Approaches to Portmand

Project Number: S-A911-NRT5-05; S-A911-NRT5-06

Survey Date: 06/17/2006

Charts Affected

Number	Version	Date	Scale
13292	37th Ed.	08/01/2004	1:20000
13290	36th Ed.	07/01/2005	1:40000
13288	41st Ed.	09/01/2004	1:80000
13260	39th Ed.	06/01/2003	1:378838
13009	31st Ed.	10/01/2004	1:500000
13006	32nd Ed.	02/01/2005	1:675000
13003	48th Ed.	10/01/2004	1:1200000

Features

No.	Name	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	47ft Obstn Addendum 1246/150	Obstruction	14.31 m	043:38:23.591 N	70:12:49.048 W	---

Christopher Hare
AWOIS Check and resigning new DR
2007.03.13 08:53:26 -04'00'

Generated by Pydro v6.12.0 (r1879) on Mon Feb 12 15:54:08 2007 [UTC]

1.1) 47ft Obstn Addendum 1246/150

Survey Summary

Survey Position: 043:38:23.591 N, 70:12:49.048 W

Least Depth: 14.31 m

Timestamp: 2006-168.19:22:30.552 (06/17/2006)

Survey Line: w00177-noaa_06es042-ppl-june / rv_echo / 2006-168-areae / 2006ec1681919_300

Profile/Beam: 1246/150

Charts Affected: 13292_1, 13290_1, 13288_1, 13260_1, 13009_1, 13006_1, 13003_1

Remarks:

The feature is an object of unknown type.

Feature Correlation

Address	Feature	Range	Azimuth	Status
w00177-noaa_06es042-ppl-june/rv_echo/2006-168-areae/2006ec1681919_300	1246/150	0.00	000.0	Primary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

47ft (13292_1, 13290_1, 13288_1)

7 ¾fm (13260_1, 13009_1, 13006_1, 13003_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: VALSOU - 14.314 m

WATLEV - 3:always under water/submerged

Office Notes

Chart an obstruction, least depth 47 feet, in location 43°38'23.591" N, 70°12'49.048" W.

ATLANTIC HYDROGRAPHIC BRANCH
EVALUATION REPORT ADDENDUM FOR PORTLAND, ME COMBINED SURVEY

This Evaluation Report Addendum has been written to supplement and/or clarify the original Evaluation Report. Sections in this report refer to the corresponding sections of Atlantic Hydrographic Branch's Evaluation Report.

B. DATA ACQUISITION AND PROCESSING

B.2 PROCESSING

OFFICE PROCESSING

Due to the expedient nature of processing the Portland Combined Survey for submission to MCD, some inconsistencies remain within AHB's Base Cell File deliverable. Several of the retained charted features were copied from the current version of the ENC. The ENC served as source of the spatial location of the retained charted features. The attribute of SORIND does not maintain parity with the ENC which references the chart as the source indication. The delivered Base Cell File's SORIND attribute for the retained charted features indicate the source as the ENC US5ME10M instead of Chart 13292. The use of the ENC and Chart 13292 for SORIND is inconsistent with these retained features. This is a known deliverable product inconsistency contrary to the *Office of Coast Survey H-cell Specifications,* Version 1.1, dated March 21, 2006.

During the final survey review it was noted that the Base Cell File contains several depth areas that are not populated with chart scale selected soundings. Although the Chart Unit Base Cell File attributes the depth areas minimum and maximum depth values, additional sounding selections will be required during raster chart production. It will be incumbent for MCD cartographers to select a survey scale sounding to populate the depth area during the raster chart production. The depth areas that are missing chart scale sounding selections are listed below:

Sounding Selection Required for Raster Production

	Latitude N	Longitude W
1.	43°39′18.10″	070°14′52.74″
2.	43°39′32.81″	070°14′34.88″
3.	43°39′36.10″	070°14′28.54″
4.	43°39′27.89″	070°14′41.21″
5.	43°39′30.26″	070°14′48.54″
6.	43°39′33.36″	070°14′39.09″
7.	43°39′36.30″	070°14′28.91″
8.	43°39′14.33″	070°13′40.42″
9.	43°39′43.80″	070°12′46.59″
10.	43°38′04.89″	070°13′00.67″

D. RESULTS AND RECOMMENDATIONS

D.1 CHART COMPARISON

13292 (37th Edition, Aug /04)
Corrected through NM Aug 14/04
Corrected through LNM Aug 03/04

13290 (36th Edition, Jul /05)
Corrected through NM Jul. 9/05
Corrected through LNM Jun. 28/05

ENC Comparison US5ME10M
Portland Harbor and Vicinity A
Application and Issue Date 2006-140-18
Chart 13292

HYDROGRAPHY

D.2 RESULTS

Attention is drawn to the following features:

Item 1.5: 2-ft Rock 43°38'34.697" N, 70°13'26.537" W
It should be noted that the height documented in the feature report for Item 1.5 as a 2-ft rock is correct. In the final stages of AHB's quality assurance review it was noted that the Value of Sounding (VALSOU) for this feature is incorrectly attributed in the Chart Unit Base Cell File. The chart unit

deliverable is incorrectly attributed as -2.3 ft; the VALSOU should be correctly attributed as -2.0 ft. This is an error; due to the nature of expedient processing and submission to MCD the value of the sounding will not be corrected within the Chart Unit Base Cell File.

Item 1.8: Mooring Platform (MORFAC)
043°39'35.558"N, 70°14'32.850"W
It should be noted that the mooring platform discussed in Item 1.8 documentation is recommended to be retained as currently charted. However, the S-57 feature object is not present in the Chart Unit Base Cell File delivered to MCD.

Item 1.9: Pier (SLCONS)
043°39'32.674"N, 70°14'40.559"W
It should be noted that the pier discussed in Item 1.9 documentation is recommended to be retained as currently charted. However, the S-57 feature object is not present in the Chart Unit Base Cell File delivered to MCD.

Castle Eugene Parker

Digitally signed by Castle Eugene Parker
DN: cn=Castle Eugene Parker, c=US, o=NOAA, ou=Atlantic Hydrographic Branch, email=castle.e.parker@noaa.gov
Reason: I am approving this document
Date: 2007.01.09 08:03:28 -05'00'

_____ Date: _____

Castle Eugene Parker
Physical Scientist
Atlantic Hydrographic Branch

CDR P. Tod Schattgen

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Date: 2007.01.11 17:06:50 -05'00'

Approved: _____ Date: _____

Commander P. Tod Schattgen, NOAA
Chief, Atlantic Hydrographic Branch

ATLANTIC HYDROGRAPHIC BRANCH
EVALUATION REPORT ADDENDUM #2 FOR PORTLAND, ME COMBINED SURVEY
H11467, W00177, F00524 (2005-2006)

Evaluation Report Addendum #2 has been written to supplement and/or clarify the original Evaluation Report and submitted BASE Cell File. Sections in this report refer to the corresponding sections of the Descriptive Reports.

B. DATA ACQUISITION AND PROCESSING

B.2 PROCESSING

OFFICE PROCESSING

U.S. Army Corps of Engineers (USACOE) Drawing 2631 was submitted as a Microstation DGN smooth sheet in Acrobat PDF file format along with shoal-biased smooth sheet density soundings in ASCII XYZ format.

The Portland Combined Survey (H11467, W00177, F00524) has denser multibeam coverage, includes data collected after the USACOE survey was conducted and is considered more complete. Therefore, the Portland Combined Survey shall have precedence over U.S. Army Corps of Engineers Drawing #2631 in all common areas.

D. RESULTS AND RECOMMENDATIONS

ADEQUACY OF SURVEY

The present survey is adequate to supersede the charted hydrography within all common areas except the red-circled areas shown in Figure7 of the Evaluation Report. In these areas, bathymetry coverage is adequate but object detection specifications were not met. The hydrographer recommends retaining all charted features in this area that are not otherwise discussed in this report.

Helen Stewart
2007.03.09
10:17:45 -05'00'

Date: 03/01/07

Helen Stewart
Physical Scientist
Atlantic Hydrographic Branch

Approved:

_____ Date: 03/01/07

Castle Eugene Parker
Physical Scientist
Atlantic Hydrographic Branch
for
P. Tod Schattgen
Commander, NOAA
Chief, Atlantic Hydrographic Branch