H10830

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey Hydrographic/Side Scan Sonar

Field No. AHP-10-8-98

Registry No. H10830

LOCALITY

State Maine

General Locality Portland Harbor

Locality Cushing Island to Pomroy Rock

1998

CHIEF OF PARTY
B.A. Link

NOAA FORM 77-28 (10/72)

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

REGISTER NO.

H-10830

HYDROGRAPHIC TITLE SHEET

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.

AHP-10-8-98

State Maine

General locality Portland Harbor

Locality Little beach to Pomroy Rock

Scale 1:10,000 Date of survey July 21, 1998 - August 19, 1998

Instructions dated 8-19-98 Project No. OPR-A373

Vessel Launch 0517

Chief of party Brian A. Link

Surveyed by Atlantic Hydrographic Party

Soundings taken by echo sounder, hand lead, pole

Graphic record scaled by M. J. McMann, J. B. Gaskin

Graphic record checked by MJM, JBG

Protracted by HPS Automated plot by Hewlett Packard Design Jet 2500CP (office) HP750C+ (Field)

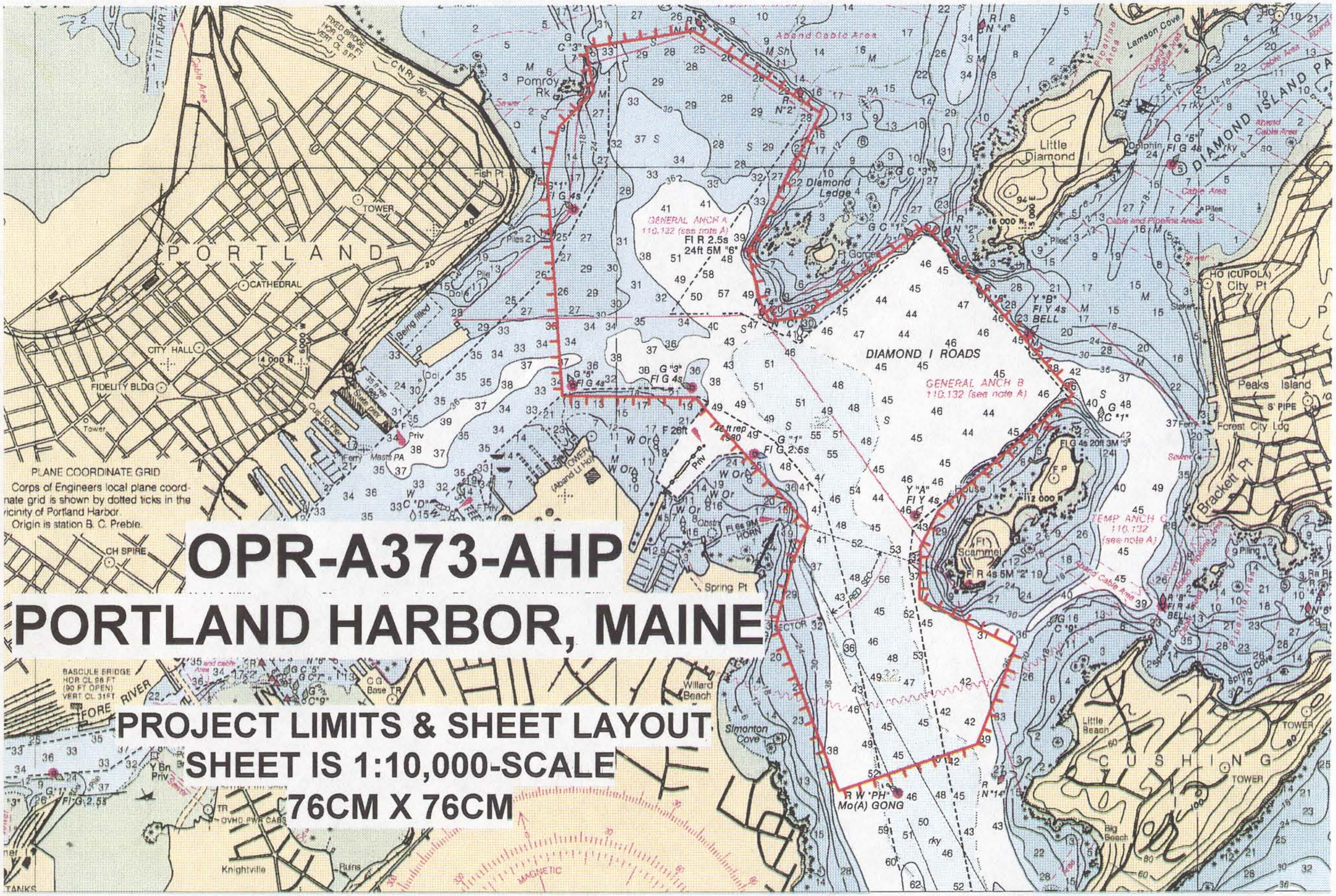
Verification by Atlantic Hydrographic Branch Personnel

Soundings in ~~meters~~ Feet ~~fathoms~~ ~~feet~~ at MLW MLLW

REMARKS: * Notes in Descriptive Report were made ~~in~~ ~~Red~~ HANDWRITTEN During Office Processing.

AWOIS/DIFF 9/16/99. SJV

NOAA FORM 77-28 SUPERSEDES FORM C & GS-837.


OPR-A373-AHP
PORTLAND HARBOR, MAINE
PROJECT LIMITS & SHEET LAYOUT
SHEET IS 1:10,000-SCALE
76CM X 76CM
PLANE COORDINATE GRID
Corps of Engineers local plane coordinate grid is shown by dotted ticks in the vicinity of Portland Harbor.
Origin is station B. C. Preble.
PORTLAND
DIAMOND I ROADS
GENERAL ANCH A
GENERAL ANCH B
TEMP ANCH C
Little Diamond I
DIAMOND ISLAND
Diamond Ledge
Peaks Island
Forest City Ldg
Brackett Pt
CUSHING
Spring Pt
Simonton Cove
Willard Beach
FORE RIVER
Knightville
CITY HALL
CATHEDRAL
FIDELITY BLDG
TOWER
CH SPIRE
Fish Pt
Pomroy Rk
Little Beach
Big Beach

DESCRIPTIVE REPORT TO ACCOMPANY
HYDROGRAPHIC SURVEY H-10830
FIELD NO. AHP-10-8-98
SCALE: 1:10,000
1998
ATLANTIC HYDROGRAPHIC PARTY
CHIEF OF PARTY: Brian A. Link

A. PROJECT

This survey was conducted in accordance with Hydrographic Project Instructions OPR-A373-AHP, Maine- Portland Harbor, Little Beach to Pomroy Rock, dated August 19, 1998.

This project was conducted in response to requests from the Penobscot Bay & River Pilots Association, Portland Pilots, Inc., Down East Pilots, The Maine Department of Environmental Protection and the U. S. Coast Guard. Modern hydrographic surveys area required in the project area to ensure safe navigation of commercial shipping.

B. AREA SURVEYED

The area surveyed for H-10830 covers a portion of the approaches to Portland Harbor including Diamond Island Roads. The limits are:

North - 43°40'23"N
South - 43°37'57"N
East - 070°12'24"W
West - 070°14'17"W

This survey was conducted from July 21 (DN 202) to August 18, 1998 (DN 230).

C. SURVEY VESSELS

NOAA launch 0517, a 21-foot MonArk, was the vessel used to collect all survey data. There were no unusual vessel configurations nor problems encountered.

D. AUTOMATED DATA ACQUISITION AND PROCESSING

See also Evaluation Report.

Coastal Oceanographic's HYPACK software package, version 6.4 was used to collect all hydrographic data for this survey. HPS version 4.03 was used for data processing.

Other computer programs used were:

MapInfo	Ver. 5.0
VELOCITY	Ver. 3.1 (2/25/98)

E. SIDE SCAN SONAR EQUIPMENT

Side scan sonar (SSS) operations were conducted using an EG&G model 260 slant-range corrected SSS recorder and an EG&G 272-T dual-channel, single frequency towfish. The towfish was operated on the 100-kHz frequency and was configured with a 20° beam depression. The side scan sonar equipment used for the survey was towfish serial number 016835 and recorder serial number 016942.

Side scan sonar data was collected utilizing the 50-meter range scale. In order to acquire the required 200% coverage, main-scheme lines were run at 40-meter spacing. Adequate coverage was determined by producing two separate swath plots and ensuring 100% coverage on each plot.

The side scan sonar towfish was maintained at a height off the bottom of 8 to 20 percent of the range scale used. Confidence checks were performed on a routine basis, primarily by noting changes in bottom texture on the outer edges of the sonargram, and on buoys and other contacts in the survey area.

All significant contacts were measured off the sonargrams and entered into an HPS contact table. Field Party personnel determined contact heights, positions, and cross reference correlations using the HPS contact Utility program. Contacts were investigated using echo sounder development.

F. SOUNDING EQUIPMENT

An Innerspace model 448 depth sounder, serial number 241, was used to collect all soundings.

A standard lead line calibrated in meters, serial number 0517, was used during this survey for comparison readings with the echo sounder.

G. CORRECTIONS TO SOUNDINGS

Soundings were recorded using the Innerspace model 448 depth sounder. It was adjusted for an assumed speed of sound through water of 1500 meters/second. Changes to the gain and/or chart speed were noted on the echogram. Digitized soundings agreed with the analog trace within 0.1 meter.

Corrections for the speed of sound through water were computed from data obtained with Sea-Bird Electronics Inc. SEACAT electronic profiler, serial number 192276-287. Data quality assurance tests were performed in accordance with Field Procedures Manual (FPM) 2.1.3.2. Program VELOCITY was used to compute speed of sound through water corrections. Copies of the velocity tables and cast data are in the "Survey Separates."

Correctors for the velocity of sound through water were determined from the casts listed below:

Velocity Table No.	Cast No.	Deepest Depth (m)	Applicable DN	Cast Position	Day
1	1	45.2/58.7*	202-212	43°36'24"N 070°08'30"W	215
2	2	55.3/72.0*	None	43°33'53"N 070°09'04"W	218
3	3	53.2/69.2*	223-230	43°34'18"N 070°10'00"W	219
4	4	19.4/25.3*	231	43°38'00"N 070°12'45"W	231

* software extrapolated depth

Correctors were applied to the sounding data prior to plotting.

Weather permitting, lead line comparisons were conducted each day in accordance with FPM 2.1.3.1. No instrument error was detected from these comparisons. The lead line comparison form is in the "Survey Separates."

A static draft of 0.3 meter was applied to the on-line data. The draft was measured by subtracting the difference from a punch mark on the side of launch 0517, 0.6 meter above the transducer, to the water surface. Settlement and squat measurements were performed on September 15, 1997 (DN 258), at Pasadena, Maryland, using Lietz level S/N 08754. Settlement and squat correctors and the static draft corrector were applied on-line through the offset table. Copies of the field data, the graphs of the settlement and squat correctors vs. speed in meters/second, and the offset table are included in the "Survey Separates."

The Portland, ME tide station (841-8150) served as control for datum determination. Unverified actual water level heights from this gauge were downloaded from the NOAA web site (http://www.opsd.nos.noaa.gov/ftp/pwldata.html) and used for correcting the soundings on this survey. This station is also the reference station for predicted tides. This survey required one tide zone (ME201). No time or height corrections were necessary for the actual tides.

Approved tides were requested from the Ocean and Lake Levels Branch, N/OES231, in a letter dated October 8, 1998. A copy of the letter is appended to this report.

H. CONTROL STATIONS SEE ALSO EVALUATION REPORT

The horizontal control datum for this project is the North American Datum of 1983. The USCG Differential GPS (DGPS) Beacon at Brunswick, ME was used to control this survey. The position for the reference station antenna is 43° 53' 23.2"N, 069° 56' 47.7"W.

I. HYDROGRAPHIC POSITION CONTROL

DGPS was used as the method of positioning for all hydrographic data on this survey. The USCG Differential GPS beacon at Brunswick, ME was used as the reference station in conjunction with beacon receiver serial number X-1086 and antenna serial number MBA-M1039 on launch 0517. A Starlink DGPS Beacon Receiver, serial number 700417A1065 was used as the remote station on vessel 0517. This equipment met the accuracy standards for this 1:10,000 scale survey.

Performance checks were conducted by resting the launch alongside "Portland Breakwater Light" and comparing the launch position with the third order position of the light (43°39'19.89164"N, 70°14'05.47798"W). Results of the performance checks are shown on the critical check form in the survey separates.

Occasionally a good position misplotted on the raw track plot. This problem was attributed to good DGPS data following a period of questionable DGPS data. These positions were reviewed, then edited or rejected as necessary.

J. SHORELINE SEE ALSO EVALUATION REPORT

Shoreline shown on the final sounding plot was from the raster image of chart 13292, 34th edition, January 10, 1998. The MapInfo program was used for plotting. There were no shoreline changes noted from the chart.

A complete list of all detached positions by day is included in the accordion file. It lists the position of each feature and the AWOIS item number when applicable.

K. CROSSLINES

5.5 miles of crosslines were run which equals 9% of the mainscheme hydrography. Crossline agreement was good, within 0.3 meter.

L. JUNCTIONS SEE ALSO EVALUATION REPORT

This survey junctions with H10831 from OPR-A329-RU, which was run ~~sun~~ simultaneous with this survey. A comparison of the junction areas was not accomplished during field processing of this survey.

M. COMPARISON WITH PRIOR SURVEYS SEE ALSO EVALUATION REPORT

The prior surveys covering this project are:

Registry Number	Scale	Year Surveyed
H-6672	1:5,000	1941
H-6673	1:5,000	1941
H-6677	1:10,000	1941
H-6728	1:10,000	1941-43
H-6781WD	1:10,000	1942

Comparisons with prior surveys will be performed by AHB.

N. ITEM INVESTIGATION REPORTS

N.1.- AWOIS 10033, 10035

Item Description: WRECK

Source: NM22/64

AWOIS Position: Lat - 43° 38' 08.29"N, Lon - 70°12' 31.17"W — AWOIS # 10033
Lat – 43°38' ~~06.29~~ 12.30"N, Lon – 70°12' ~~28.17~~ 30.00"W - AWOIS # 10035

Required Investigation: S2, E2, DI

Charts Affected: 13292

INVESTIGATION

Date(s)/DN(s): 8/18/98, 8/19/98 (OPR-A373-AHP, H-10830)

Position Numbers: 3081-3191, 3192-3231 **Launch Number**: 0517

Investigation Used: 200% side scan sonar, Echosounder

Position Determined By: DGPS

Investigation Summary: Two-hundred percent side scan sonar coverage was performed in the area of the charted wrecks and one contact was found. Echosounder development over the area of the contact was performed on DN 231 (pos. 3192-3231). No significant feature was found.

CHARTING RECOMMENDATION

The hydrographer recommends removing the wrecks from the chart. CONCUR - DELETE DANGEROUS WRECK PA AND DANGEROUS WRECK

O. COMPARISON WITH THE CHART SEE ALSO EVALUATION REPORT

No dangers to navigation were identified during the course of this survey.

Comparisons were made with chart 13292, 34th Edition, Jan. 10, 1998. The majority of the current survey areas agree very well with the chart, with differences of less than 2 feet. In the area of the port approaches west of Diamond Island Roads, agreement is poorest, with current survey soundings being up to 4 feet deeper than charted soundings. A 36-foot shoal charted at Lat. 70°13'11.7"N, 43°38'48.3"W, was investigated with reduced line spacing of 5 meters and the least depth found in the area was 35 feet.

The following contacts were identified during the course of this survey:

PN	Invest. PN	Latitude	Longitude	Depth	Recommendation	
72.0	2245-2281	43°38'45.09"N	70°13'13.14"W29	37'	Chart Survey Soundings	**
83.7	2282-2314	43°38'32.08"N24	70°12'53.28"W26	~~42'~~41	Chart Survey Soundings	**
98.3	2315-2359	43°38'48.44"N18	70°13'11.60"W53	35'	Chart Survey Soundings	
98.4	2360-2382	43°38'49.42"N	70°13'10.66"W	39'	Chart Survey Soundings	*
99.1	2383-2415	43°38'50.18"N48	70°13'10.81"W13	38'	Chart Survey Soundings	**
116.1	2416-2448	43°38'53.06"N25	70°13'10.04"W35	~~49'~~47	Chart Survey Soundings	**
117.5	2449-2478	43°38'50.68"N03	70°13'08.27"W67	~~46'~~48	Chart Survey Soundings	**
147.0	2479-2509	43°38'52.78"N	70°13'05.50"W	45'	Chart Survey Soundings	*
147.9	2510-2542	43°38'54.44"N	70°13'06.00"W	51'	Chart Survey Soundings	*
160.2	2543-2575	43°39'08.73"N43	70°13'23.55"W87	~~24'~~26	Chart Survey Soundings	**
232.8	2576-2611	43°39'24.63"N26	70°13'37.74"W09	51'50	Chart Survey Soundings	**
471.4	2612-2646	43°39'11.23"N	70°13'04.09"W	47'	Chart Survey Soundings	*
605.1	2649-2682	43°39'37.78"N	70°13'26.55"W	33'	Chart Survey Soundings	*
718.9	2683-2715	43°40'01.97"N	70°13'48.10"W	34'	Chart Survey Soundings	*

* NOT SHOWN ON PRESENT SURVEY

** NOT CHARTED - SHOALER DEPTHS IN THE IMMEDIATE AREA

PN	Invest. PN	Latitude	Longitude	Depth	Recommendation
996.3	2716-2749	43°39'44.44"N	70°12'49.70"W	45'	Chart Survey Soundings *
1075.8	2784-2815	43°38'37.78"N	70°13'08.72"W	46'	Chart Survey Soundings *
1142.0	2816-2848	43°38'50.96"N	70°13'11.80"W	39'	Chart Survey Soundings *
1672.1	2750-2784	43°40'12.93"N	70°14'05.56"W	17'	Chart Survey Soundings *
1706.2		43°40'04.30"N	70°13'46.75"W		Insignificant

* NOT SHOWN ON PRESENT SURVEY

The hydrographer recommends that sounding data from this survey be used to update the chart.

P. ADEQUACY OF SURVEY SEE ALSO EVALUATION REPORT

This survey is complete and adequate to supersede all prior surveys within the common area.

Q. AIDS TO NAVIGATION

There are no fixed aids to navigation within the limits of this survey. Floating aids to navigation, which generally form the boundaries of this navigable area survey, were not located. All floating aids were found to serve their apparent purpose. There are numerous ferry routes in the area, especially in the Diamond Island Roads. There were no bridges, pipelines or overhead power cables within the survey area.

R. STATISTICS

Description	Quantity
Total Number of Positions	3231
Total Lineal Nautical Miles of Hydrography	59.2
Square Nautical Miles of Hydrography	1.1
Days of Production	12
Detached Positions	32
Bottom Samples	13
Tide Stations	1
Velocity Casts	4

S. MISCELLANEOUS SEE ALSO EVALUATION REPORT

No anomalous currents or tides were observed during this survey. Thirteen bottom samples were taken and submitted to the Smithsonian Institution.

T. RECOMMENDATIONS

No additional field work was identified after field office processing was completed. Specific recommendations are made in sections J., N., and O. of this report.

U. REFERRAL TO REPORTS

There are no reports referred to in this report that are not submitted with this report.

Submitted by:

Mark J. McMann
Launch Hydrographer-In-Charge

APPROVAL SHEET
Basic Hydrographic Survey
OPR-A373-AHP
AHP-10-8-98
H-10830
1998

This basic hydrographic survey was completed in accordance with the Project Instructions for OPR-A373-AHP, the Hydrographic Manual, the Hydrographic Survey Guidelines, and the Field Procedures Manual. All reports, records, and survey plots were reviewed by Mr. Mark J. McMann, Launch-hydrographer-in-charge of this project. The Descriptive Report was also reviewed by the Chief, AHP. The chief of party did not directly supervise any part of this survey.

This survey is a complete basic hydrographic survey for the area described in Section B of this report.

Brian A. Link
Chief, Atlantic Hydrographic Party

Mark J. McMann
Surveying Technician, AHP

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: April 12, 1999

HYDROGRAPHIC BRANCH: Atlantic

HYDROGRAPHIC PROJECT: OPR-A373-AHP-98
HYDROGRAPHIC SHEET: H-10830

LOCALITY: Portland Harbor, ME
Little Beach to Pomroy Rock

TIME PERIOD: July 21 - August 19, 1998

TIDE STATION USED: 841-8150 Portland, ME
Lat. 43° 39.4'N Lon. 70° 14.8'W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 2.880 meters

REMARKS: RECOMMENDED ZONING
Use zone(s) identified as: ME201 & ME208

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.

Thomas N. Meo 4/12/99
CHIEF, REQUIREMENTS AND DEVELOPMENT DIVISION

NOAA FORM 76-155
(11-72)

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

GEOGRAPHIC NAMES

SURVEY NUMBER

H-10830

Name on Survey	A On Chart No. 13292	B On Previous Survey No.	C On U.S. Quadrangle Maps	D From Local Information	E On Local Maps	F P.O. Guide or Map	G Rand McNally Atlas	H U.S. Light List	K	
BIG BEACH	X		X							1
CUSHING ISLAND	X		X							2
DIAMOND ISLAND LEDGE	X		X							3
DIAMOND ISLAND ROADS	X		X							4
FISH POINT	X		X							5
FORT GORGES	X		X							6
FORT PREBLE	X		X							7
FORT SCAMMEL	X		X							8
HOUSE ISLAND	X		X							9
LITTLE BEACH	X		X							10
LITTLE DIAMOND ISLAND	X		X							11
MAINE (title)	X		X							12
POMROY ROCK (title)	X		X							13
PORTLAND	X		X							14
PORTLAND HARBOR (title)	X		X							15
SOUTH PORTLAND	X		X							16
SPRING POINT	X		X							17
WILLARD BEACH	X		X							18
										19
										20
										21
										22
										23
										24
										25

Approved:

Dennis J. Rosenberg

Chief Geographer MAY 17 1999

NOAA FORM 61-29
(12-71)

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

REFERENCE NO.
N/CS 33-71-99

LETTER TRANSMITTING DATA

DATA AS LISTED BELOW WERE FORWARDED TO YOU BY *(Check)*:

☐ ORDINARY MAIL ☐ AIR MAIL

☐ REGISTERED MAIL ☒ EXPRESS

☐ GBL *(Give number)* _____

TO:

NOAA / National Ocean Service
Chief, Data Control Group, N/CS3x1
SSMC3, Station 6815
1315 East-West Hwy.
Silver Spring, MD 20910-3282

DATE FORWARDED
9-14-99

NUMBER OF PACKAGES
ONE TUBE

NOTE: A separate transmittal letter is to be used for each type of data, as tidal data, seismology, geomagnetism, etc. State the number of packages and include an executed copy of the transmittal letter in each package. In addition the original and one copy of the letter should be sent under separate cover. The copy will be returned as a receipt. This form should not be used for correspondence or transmitting accounting documents.

H10830

MAINE, PORTLAND HARBOR, CUSHING ISLAND TO POMROY ROCK

(ONE) 1 TUBE CONTAINING THE FOLLOWING:

1 Orignial Descriptive Report
1 Smooth Sheet for H10830
1 Drawing History Form (NOAA FORM #76-71) for NOS Chart 13292 (located in back of DR)
1 Record of Application to Chart Form (NOAA FORM #76-96) for survey H10830 (located in back of DR)
1 Mylar H-Drawing for NOS Chart 13292
1 Paper Composite Plot for NOS Chart 13292

FROM: *(Signature)* Richard J Blevins

Richard Blevins

RECEIVED THE ABOVE
(Name, Division, Date)

Return receipted copy to:

Richard Blevins
Atlantic Hydrographic Branch
439 W. York St.
Norfolk, VA 23510

NOAA FORM 61-29 SUPERSEDES FORM C & GS 413 WHICH MAY BE USED.

09/14/99

HYDROGRAPHIC SURVEY STATISTICS
REGISTRY NUMBER: H10830

NUMBER OF CONTROL STATIONS	2
NUMBER OF POSITIONS	3231
NUMBER OF SOUNDINGS	3231

	TIME-HOURS	DATE COMPLETED
PREPROCESSING EXAMINATION	6.0	03/16/99
VERIFICATION OF FIELD DATA	30.0	06/08/99
QUALITY CONTROL CHECKS	0.0	
EVALUATION AND ANALYSIS	1.0	
FINAL INSPECTION	15.0	04/29/99
COMPILATION	115.0	06/29/99
TOTAL TIME	167.0	

ATLANTIC HYDROGRAPHIC BRANCH APPROVAL 04/30/99

ATLANTIC HYDROGRAPHIC BRANCH
EVALUATION REPORT FOR H10830 (1998)

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

D. AUTOMATED DATA ACQUISITION AND PROCESSING

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

Hydrographic Processing System
NADCON, version 2.10
MicroStation 95, version 5.05
SiteWorks, version 2.01
I/RAS B, version 5.01

The smooth sheet was plotted using an Hewlett Packard DesignJet 2500CP plotter.

H. CONTROL STATIONS

Horizontal control used for this survey during data acquisition is based upon the North American Datum of 1983 (NAD 83). Office processing of this survey is based on these values. The smooth sheet has been annotated with ticks showing the computed mean shift between the NAD 83 and the North American Datum of 1927 (NAD 27).

To place this survey on the NAD 27, move the projection lines 0.298 seconds (9.194 meters or 9.19 mm at the scale of the survey) north in latitude, and 1.828 seconds (40.975 meters or 4.10 mm at the scale of the survey) east in longitude.

J. SHORELINE

Brown shoreline originates with National Ocean Service (NOS) chart 13292, (34th Edition, Jan 10/98), and is for orientation purposes only.

L. JUNCTIONS

H10831 (1998) to the South

A standard junction was effected between the present survey and survey H10831 (1998). There are no junctional surveys to the north, east, or to the west. Present survey depths are in harmony with the charted hydrography to the

north, east, and to the west.

M. 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.

O. COMPARISON WITH CHART 13292 (34th EDITION, Jan 10/98)

Hydrography

The charted hydrography originates with the prior surveys and requires no further consideration. The hydrographer makes an adequate chart comparison in section O. of the Descriptive Report. Attention is directed to the following:

1) A charted **rock awash(Catfish Rock)**, in Latitude 43°38'06"N, Longitude 070°12'28"W was neither verified nor disproved by the present survey. It is recommended that this rock awash be retained as charted.

2) A charted **submerged rock of uncertain depth,** in Latitude 43°38'05"N, Longitude 070°12'28"W is not considered disproved by the present survey. It is recommended that this submerged rock of uncertain depth be retained as charted.

3) A charted **14 foot (4³ m) depth**, in Latitude 43°40'14.2"N, Longitude 070°14'05.5"W, is not considered disproved by the present survey. It is recommended that this 14 foot depth be retained as charted.

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

P. ADEQUACY OF SURVEY

This is an adequate hydrographic/side scan sonar survey. No additional work is recommended.

S. MISCELLANEOUS

Chart compilation was done by Atlantic Hydrographic Branch personnel, in Norfolk, Virginia. Compilation data will be forwarded to Marine Chart Division, Silver Spring, Maryland.

The following NOS Chart was used for compilation of the present survey:

13292 (34th Edition, Jan. 10/98).

H10830

Robert Snow

Robert Snow
Cartographic Technician
Verification of Field Data
Evaluation and Analysis

APPROVAL SHEET
H10830

Initial Approvals:

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 digital data have been completed and all revisions and additions made to the smooth sheet during survey processing have been entered in the digital data for this survey. The survey records and digital data comply with NOS requirements except where noted in the Evaluation Report.

Richard W. Blevins Date: 22 JUNE 1999

Richard W. Blevins
Cartographer
Atlantic Hydrographic Branch

I have reviewed the smooth sheet, 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.

Andrew L. Beaver Date: 23 JUNE 99

Andrew L. Beaver
Lieutenant Commander, NOAA
Chief, Atlantic Hydrographic Branch

****

Final Approval:

Approved: Samuel P. De Bow Date: 11-12-99

Samuel P. De Bow, Jr.
Captain, NOAA
Chief, Hydrographic Surveys Division

NOAA FORM 75-96
(10-83)

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

MARINE CHART BRANCH

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. ____________________

INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.

1. Letter all information.
2. In "Remarks" column cross out words that do not apply.
3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

CHART	DATE	CARTOGRAPHER	REMARKS
13292	06/28/99	Richard W. Blum	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
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SUPERSEDES C&GS FORM 8352 WHICH MAY BE USED