

F00448

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey Field Examination

Field No. AHP-10-10-98

Registry No. F00448

LOCALITY

State Maine

General Locality Penobscot Bay

Locality Belfast to Bucksport

1998

CHIEF OF PARTY
Brian A. Link

LIBRARY & ARCHIVES

DATE MAR 13 2000

HYDROGRAPHIC TITLE SHEET

F00448

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-10-10-98

State Maine

General locality Penobscot Bay

Locality Belfast to Bucksport

Scale 1:10,000

Date of survey Sept. 1-Oct. 13, 1998

Instructions dated 8-21-98

Project No. OPR-A343-AHP

Vessel Launch 0517

Chief of party Brian A. Link

Surveyed by Mark J. McMann, John B. Gaskin

Soundings taken by echo sounder, hand lead, pole _____

Graphic record scaled by MJM, JBG

Graphic record checked by MJM, JBG

Protracted by HPS

Automated plot by HP Designjet750C+ (FIELD)

Verification by ATLANTIC HYDROGRAPHIC PERSONNEL

Soundings in METERS ~~fathoms~~ ~~feet~~ at MLW MLLW

REMARKS: HANDWRITTEN NOTES IN THE DESCRIPTIVE REPORT WERE MADE DURING OFFICE PROCESSING

AWOIS/SURP ✓ 2/25/00, SJ ✓

DESCRIPTIVE REPORT TO ACCOMPANY
HYDROGRAPHIC SURVEY F00448
FIELD NO. AHP-10-10-98
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-A343-AHP, Maine- Penobscot Bay and Penobscot River, Belfast to Bucksport, dated August 21, 1998.

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

B. AREA SURVEYED

The area surveyed for F00448 covers three areas of concern to the Pilots: a 33-foot sounding located at 44°24'50.4", 068°55'05.1", the area to the west and north of Odom Ledge near the mouth of the Penobscot River, and the area surrounding a 24-foot sounding adjacent to Fort Knox on the Penobscot River south of Bucksport. The limits are:

North - 44°34'25"N
South - 44°23'54"N
East - 068°47'30"W
West - 069°00'39"W

Belfast Harbor was surveyed with single beam echo sounder coverage after a request by the Belfast Harbormaster.

Data was collected for 100% side scan sonar coverage in an area centered around 44°25'03"N, 068°51'20", prior to survey priorities being changed. New priorities excluded this area from the survey. No correctors were applied nor was the data edited.

This survey was conducted from September 1 (DN 244) to October 13, 1998 (DN 286).

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 THE 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. 4.5
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 obtain 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:

<u>Velocity Table No.</u>	<u>Cast No.</u>	<u>Deepest Depth (m)</u>	<u>Applicable DN</u>	<u>Cast Position</u>	<u>Day</u>
1	1	27.0/35.1*	202-212	44°26'45"N 068°52'00"W	251
2	2	17.5/22.8*	None	44°30'00"N 068°47'30"W	286

* 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 and used

** DATA FILED WITH THE ORIGINAL FIELD RECORDS*

for correcting the soundings for this survey. This station is also the reference station for the predicted tides. This survey required three tide zones: Zone ME137 with a time correction of -18 minutes and a height correction of x1.20, Zone ME132 with a time correction of -18 minutes and a height correction of x1.15, and Zone ME130 with a time correction of -12 minutes and a height correction of x1.12. These correctors were applied to actual tides from station 841-8150.

Approved tides were requested from the Requirements and Engineering Branch, N/CS41, in a letter dated January 13, 1999. A copy of the letter is appended to this report.

APPROVED TIDES AND ZONING WERE APPLIED DURING OFFICE PROCESSING

H. CONTROL STATIONS *SEE ALSO THE 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 sensor, 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 horizontal control station Sears and comparing the launch position with the third order position of the mark (44°27'07.43476"N, 68°55'28.71618"W). Results of the performance checks, which were all within tolerance, 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

Shoreline shown on the final sounding plot was from the raster image of chart 13309, 26th edition, April 17, 1993. 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

2.5 miles of crosslines were run, which equals 7% of the main scheme hydrography. Crossline agreement was good, within 0.3 meter.

L. JUNCTIONS

This survey does not junction with any contemporary surveys.

M. COMPARISON WITH PRIOR SURVEYS *SEE ALSO THE EVALUATION REPORT*

The prior surveys covering this project are:

<u>Registry Number</u>	<u>Scale</u>	<u>Year Surveyed</u>
H-1168	1:10,000	1872
H-1258	1:20,000	1872
H-1257A	1:10,000	1902
H-7198	1:10,000	1947
F00185	1:10,000	1962
H-10109	1:10,000	1983
H-10130	1:10,000	1984
H-10131	1:10,000	1984
H-10134	1:10,000	1984
H-10157	1:10,000	1984

Comparisons with prior surveys will be performed by AHB.

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

N. ITEM INVESTIGATION REPORTS

There were no AWOIS items assigned to this survey.

O. COMPARISON WITH THE CHART *SEE ALSO THE EVALUATION REPORT*

Comparisons were made with chart 13309, 26th Edition, Apr. 17, 1993. The majority of the areas of the current survey agree well with the chart, with differences of less than 2 feet.

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

Original PN	Investigation PN	Least Depth	Latitude	Longitude	Recommendation
1323.7	3012	55'	44°25'04.28"N	68°55'04.61"W	Chart survey soundings
1334.7	3155	44'	44°24'46.35"N	68°55'00.39"W	Chart survey soundings
1335.0	3144	35'	44°24'45.77"N	68°54'59.52"W	Chart survey soundings
1336.3	3193	39'	44°24'43.76"N	68°54'59.48"W	Chart survey soundings
1336.7	3177	50'	44°24'43.22"N	68°54'58.47"W	Chart survey soundings
1357.8	3220	50'	44°24'42.50"N	68°55'00.60"W	Chart survey soundings
1358.7	3201	48'	44°24'44.00"N	68°55'00.08"W	Chart survey soundings
1359.1	3165	52'	44°24'44.28"N	68°55'02.61"W	Chart survey soundings
1361.2	3126	35'	44°24'47.83"N	68°55'03.40"W	Chart survey soundings
1362.4	3081	37'	44°24'49.72"N	68°55'03.51"W	Chart survey soundings
1363.0	3093	31'	44°24'50.75"N	68°55'04.57"W	Chart survey soundings
1379.2	3056	43'	44°24'56.78"N	68°55'10.14"W	Chart survey soundings
1384.1	3114	46'	44°24'48.93"N	68°55'06.01"W	Chart survey soundings
1399.9	3249	54'	44°24'27.32"N	68°55'03.65"W	Chart survey soundings
1433.6	3069	59'	44°24'47.73"N	68°55'14.35"W	Chart survey soundings
1444.5	3234	52'	44°24'30.13"N	68°55'09.67"W	Chart survey soundings
1527.5	3030	56'	44°25'04.12"N	68°55'05.83"W	Chart survey soundings
1540.8	3205	53'	44°24'42.68"N	68°54'59.84"W	Chart survey soundings
1602.4	3253	51'	44°24'25.85"N	68°55'46.75"W	Chart survey soundings
1704.9	5423	70'	44°33'52.94"N	68°47'51.55"W	Chart survey soundings
1879.5	5401	73'	44°33'51.96"N	68°47'52.52"W	Chart survey soundings
1917.5	5509	49'	44°34'07.51"N	68°48'10.32"W	Chart survey soundings
1924.5	5530	48'	44°34'17.67"N	68°48'15.08"W	Chart survey soundings
1955.2	5012	49'	44°31'12.31"N	68°48'08.53"W	Chart survey soundings
1958.4	5030	47'	44°31'06.90"N	68°48'09.20"W	Chart survey soundings
1987.3	5115	24'	44°30'19.23"N	68°48'07.57"W	Chart survey soundings
2016.4	5018	55'	44°31'09.02"N	68°48'11.02"W	Chart survey soundings
2140.8	5291	39'	44°29'50.32"N	68°47'51.66"W	Chart survey soundings
2202.1	5224	41'	44°29'57.70"N	68°47'59.87"W	Chart survey soundings
2265.8	5149	25'	44°30'15.70"N	68°48'06.01"W	Chart survey soundings
2270.5	5161	20'	44°30'07.60"N	68°48'05.88"W	Chart survey soundings
2274.6	5173	14'	44°30'00.89"N	68°48'06.32"W	Chart survey soundings
2275.1	5179	13'	44°29'59.92"N	68°48'06.70"W	Chart survey soundings
2277.2	5188	16'	44°29'56.63"N	68°48'06.69"W	Chart survey soundings
2421.7	5271	73'	44°29'53.17"N	68°47'55.98"W	Chart survey soundings
2492.1	5206	19'	44°29'56.43"N	68°48'04.78"W	Chart survey soundings
2525.7	5049	35'	44°31'03.01"N	68°48'06.77"W	Chart survey soundings
2553.0	5068	68'	44°30'45.44"N	68°48'12.58"W	Chart survey soundings

All of the significant contacts that weren't investigated individually were within areas that were developed with reduced line spacing. Isolated contacts were investigated singly. There were no dangers to navigation identified on this survey.

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

P. ADEQUACY OF SURVEY *SEE ALSO THE EVALUATION REPORT*

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

Q. AIDS TO NAVIGATION

Aids to navigation were not located during this field examination survey.

There were no bridges, ferry routes, pipelines or overhead power cables within the field examination areas.

R. STATISTICS

<u>Description</u>	<u>Quantity</u>
Total Number of Positions	3603
Total Linear Nautical Miles of Hydrography	68.2
Square Nautical Miles of Hydrography	1.1
Days of Production	9
Detached Positions	0
Bottom Samples	2
Tide Stations	2
Velocity Casts	2

S. MISCELLANEOUS *SEE ALSO THE EVALUATION REPORTS*

No anomalous currents or tides were observed during this survey.

Two bottom samples were taken and submitted to the Smithsonian Institution.

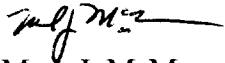
T. RECOMMENDATIONS

No additional field work was identified after field office processing was completed. Specific recommendations are made in sections J. 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:



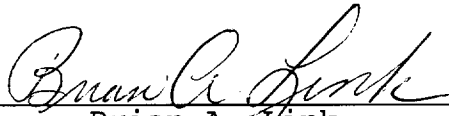
Mark J. McMann

Launch Hydrographer-In-Charge

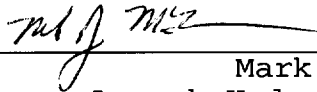
APPROVAL SHEET
Field Examination Survey
OPR-A343-AHP
AHP-10-10-98
F00448
1998

This field examination survey was conducted in accordance with the project instructions for OPR-A343-AHP, the Hydrographic Manual, the Hydrographic Survey Guidelines, and the Field Procedures Manual. All reports, records, and survey sheets were reviewed by the Launch Hydrographer-in-charge. The descriptive report was reviewed and approved by the Chief of Party. The Chief of Party did not directly supervise any part of this survey

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



Brian A. Link
Chief, Atlantic Hydrographic Party (acting)



Mark J. McMann
Launch Hydrographer-in-charge



TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: April 9, 1999

HYDROGRAPHIC BRANCH: Atlantic

HYDROGRAPHIC PROJECT: OPR-A343-AHP-98

HYDROGRAPHIC SHEET: F00448

LOCALITY: Penobscot Bay & River, ME
Belfast to Bucksport

TIME PERIOD: September 1 - October 13, 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: ME128A, ME130, ME131, ME 132,
ME133, ME136 & ME137

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.

Note 2: Fort Point (841-4721) would be the preferred tide data set for hydrography at Belfast to Bucksports, Penobscot Bay and River, ME. Unfortunately, the data collected there was declared invalid due to unresolved gauge problems. Data from the primary gauge at Portland, ME (841-8150) has been substituted for the Fort Point gauge data for tide reduction of survey work during the 1998 field season of this project. However, the area of hydrography may have meteorological conditions and river influences from the Penobscot River that are not reflected at the Portland tide gauge. Water level reducers based on zoned data from Portland are considered to be within the accuracy tolerances required for hydrographic survey operations. However, the uncertainty and overall error in the zoning and resulting water level reducers cannot be quantified.

Thomas V. Mero

CHIEF, REQUIREMENTS AND DEVELOPMENT DIVISION



GEOGRAPHIC NAMES

F00448

Name on Survey	<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">A ON CHART NO. 13309</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">B ON PREVIOUS SURVEY NO.</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">C ON U.S. QUADRANGLE MAPS</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">D FROM LOCAL INFORMATION</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">E ON LOCAL MAPS</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">F P.O. GUIDE OR MAP</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">G RAND McNALLY ATLAS</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">H U.S. LIGHT LIST</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">K</div> </div>										
	BELFAST (pp1)	X		X							
BELFAST HARBOR	X										2
BUCKSPORT (pp1)	X		X								3
FORT KNOX	X		X								4
GOOSE RIVER	X		X								5
MAINE (title)	X		X								6
MILL COVE	X		X								7
ODOM LEDGE	X		X								8
PENOBSCOT BAY	X		X								9
PENOBSCOT RIVER	X		X								10
PROSPECT FERRY	X		X								11
SANDY POINT	X		X								12
VERONA ISLAND	X		X								13
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											25

Dennis J. Ronesburg
Chief Cartographer

AUG 17 1999

02/07/2000

HYDROGRAPHIC SURVEY STATISTICS
REGISTRY NUMBER: F00448

NUMBER OF CONTROL STATIONS		2
NUMBER OF POSITIONS		3603
NUMBER OF SOUNDINGS		3603
	TIME-HOURS	DATE COMPLETED
PREPROCESSING EXAMINATION	65.0	06/29/1999
VERIFICATION OF FIELD DATA	195.0	12/27/1999
QUALITY CONTROL CHECKS	0.0	
EVALUATION AND ANALYSIS	9.0	
FINAL INSPECTION	54.0	01/14/2000
COMPILATION	80.0	02/07/2000
TOTAL TIME	403.0	
ATLANTIC HYDROGRAPHIC BRANCH APPROVAL		01/21/2000

N/CS33-10-00

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, Station 6813. SSMC3
 1315 East-West Highway
 Silver Spring, MD 20910

DATE FORWARDED

2-16-0

NUMBER OF PACKAGES

1 Box and 1 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.

F00448

Maine, Penobscot Bay, Belfast to Bucksport

One Box containing:

- 1 Original Descriptive Report for survey F00448 with 5 page size smooth sheets.
- 1 Drawing History for F00448 for chart 13309

1 Tube containing:

- 1 Paper composite plot (1 of 3) of survey F00448 (sheet 3) for chart 13309
- 1 Paper composite plot (2 of 3) of survey F00448 (sheets 4 & 5) for chart 13309
- 1 Paper composite plot (3 of 3) of survey F00448 (sheets 1 & 2) for chart 13309
- 1 Paper composite plot of survey F00448 (sheet 3 of 5) for chart 13309 (inset)
- 1 Mylar H-Drawing of F00448 for chart 13309 (inset)
- 1 Mylar H-Drawing of F00448 for chart 13309

FROM: (Signature)



Richard H. Whitfield

RECEIVED THE ABOVE
(Name, Division, Date)

Return receipted copy to:

Atlantic Hydrographic Branch, N/CS33
 439 West York Street
 Norfolk, Virginia 23510-1114

**ATLANTIC HYDROGRAPHIC BRANCH
EVALUATION REPORT FOR F00448 (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.

Four 1:10,000 and one 1:20,000 scale page size plots were generated during office processing and are attached to this 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
SiteWorks, version 2.01
MicroStation 95, version 5.05
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. Five page size plots have been annotated with ticks showing the computed mean shift between NAD 83 and the North American Datum of 1927 (NAD 27).

To place sheet 1 of 5 on NAD 27, move the projection lines 0.267 seconds (8.245 meters or .825 mm at the scale of the survey) north in latitude, and 1.884 seconds (41.568 meters or 4.16 mm at the scale of the survey) east in longitude.

To place sheet 2 of 5 on NAD 27, move the projection lines 0.270 seconds (8.334 meters or .833 mm at the scale of the survey) north in latitude, and 1.889 seconds (41.723 meters or 4.17 mm at the scale of the survey) east in longitude.

To place sheet 3 of 5 on NAD 27, move the projection lines 0.273 seconds (8.435 meters or .843 mm at the scale of the survey) north in latitude, and 1.876 seconds (41.501 meters or 4.15 mm at the scale of the survey) east in longitude.

To place sheet 4 of 5 on NAD 27, move the projection lines 0.275 seconds (8.475 meters or .847 mm at the scale of the survey) north in latitude, and 1.883 seconds (41.659 meters or 4.16 mm at the scale of the survey) east in longitude.

To place sheet 5 of 5 on NAD 27, move the projection lines 0.275 seconds (8.491 meters or .424 mm at the scale of the survey) north in latitude, and 1.888 seconds (41.781 meters or 2.08 mm at the scale of the survey) east in longitude.

M. COMPARISON WITH PRIOR SURVEYS

H-7198 (1947)

A comparison with prior surveys was not done for sheets 1, 2, 4, and 5 during office processing in accordance with section 4. of the memorandum titled *Changes to Hydrographic Survey Processing*, dated May 24, 1995. The following should be noted:

Prior survey H-7198 (1947) is common to sheet 3 of 5. Prior survey depths compare favorably with the present survey with soundings varying plus or minus 2 feet.

The present survey is adequate to supersede the prior surveys in the common area.

O. COMPARISON WITH CHART 13309 (26th Edition, Apr. 17/93)

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. The following should be noted:

1. A charted rock with a depth of 8-ft (8 Rk) in Latitude 44°25'47.5"N, Longitude 69°00'19.3"W, originates with United States Corp of Engineers (U.S.C.O.E.) Blueprint 79655 (1970). The rock was neither verified nor disproved by the present survey. It is recommended that the rock (8 Rk) be retained as charted. See sheet 3 of 5.

2. The charted piles in the vicinity of Latitude 44°25'42.0"N, Longitude 69°00'10.0"W, were neither verified nor disproved. It is recommended that the piles be revised to submerged piles. See sheet 3 of 5.

3. A charted 23-ft depth and 39-ft depth in Latitude 44°25'09"N, Longitude 68°52'30"W, and Latitude 44°25'14"N,

Longitude 68°52'28"W, respectively are not considered disproved. Present survey side scan sonar shows an area of numerous rocks in the area and sounding development is not considered adequate to disprove these depths. It is believed that these depths originate with H1258 (1872) or unascertainable sources. It is recommended that the 23-ft and 39-ft depths be retained.

4. The charted submerged dolphins in the vicinity of Latitude 44°25'52.8"N, Longitude 68°00'32.5"W, were neither verified nor disproved by the present survey. It is recommended that the submerged dolphins be retained as charted.

JEM
2/25/00

The present survey is adequate to supersede the charted hydrography within the common areas.

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: 13309 (26th Ed., Apr, 17/93)

Frank Saunders


Frank Saunders

Cartographic Technician
Verification of Field Data
Evaluation and Analysis

APPROVAL SHEET
F00448

Initial Approvals:

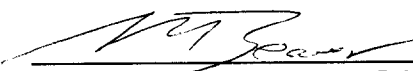
The completed survey has been inspected with regard to survey coverage, delineation of depth curves, development of critical depths, cartographic symbolization, and verification or disproval of charted data. The digital data have been completed and all revisions and additions made to the smooth sheet 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 H. Whitfield
Cartographer
Atlantic Hydrographic Branch

Date: 1/21/00

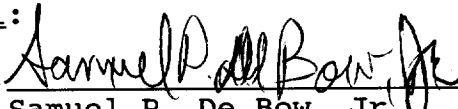
I have reviewed the smooth sheet, accompanying data, and reports. This survey and accompanying digital data meet or exceed NOS requirements and standards for products in support of nautical charting except where noted in the Evaluation Report.



Andrew L. Beaver, LCDR, NOAA
Chief, Atlantic Hydrographic Branch

Date: 1/21/00

Final Approval:

Approved: 

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

Date: March 13, 2000

68° 48' 30"

68° 48' 00"

68° 47' 30"

44° 34' 30"

PENOBSCOT RIVER

BUCKSPORT

PROSPECT FERRY

FORT KNOX

VERONA ISLAND

F00448

MAINE

PENOBSCOT BAY
BELFAST TO BUCKSPORT
SEP-OCT 1998

SCALE: 1:10000

HORIZONTAL DATUM: NAD 1983

VERTICAL DATUM: SOUNDING IN FEET AT MLLW

BUCKSPORT TO PROSPECT FERRY

SHEET: 1 OF 5

Shoreline in brown is from chart 13309 (26th, Ed. Apr. 17/93)
and is for orientation purposes only.

68° 48' 30"

68° 48' 00"

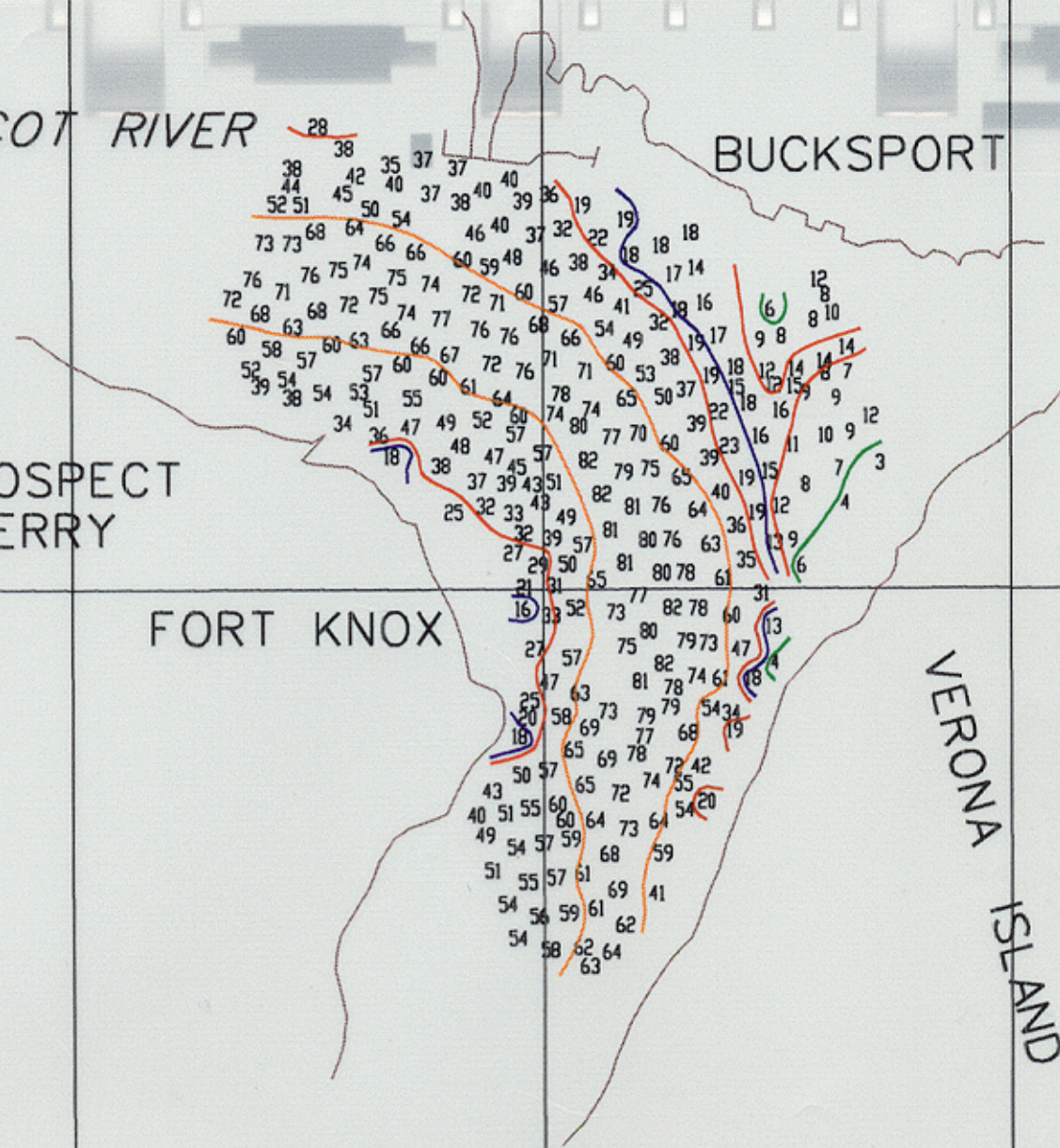
68° 47' 30"

068° 48' 00" W

NAD 27 44° 33' 30" N

44° 33' 30"

CHECKED BY: FLS
DATE 07/29/99



68° 48' 00" 68° 47' 30" 68° 47' 00" 44° 31' 30"

PENOBSCOT RIVER

VERONA ISLAND

ODOM LEDGE

72 57 62 62 58
69 68 51 51 58 49
69 63 49 49 44
67 68 48 46 46 38
66 70 53 48 44 35
65 70 64 50 43 31
64 72 68 54 42 28
67 71 71 63 32 32
67 72 71 64 39 30
67 72 72 65 43

068° 47' 30" W

NAD 27 44° 31' 00" N

44° 31' 00"

CHECKED BY: FLS
DATE 07/29/99

MILL COVE

F00448
MAINE
PENOBSCOT BAY
BELFAST TO BUCKSPORT
SEP-OCT 1998
SCALE: 1:10000
HORIZONTAL DATUM: NAD 1983
VERTICAL DATUM: SOUNDING IN FEET AT MLLW
ODOM LEDGE
SHEET: 2 OF 5

Shoreline in brown is from chart 3309 (26th Ed. Apr 17/93)
and is for orientation purposes only

44° 30' 30"

68 71 71 65 52
45 68 71 71 62
52 68 70 70 65
36 69 70 69 66
34 55 71 69 66
40 45 72 68 62
37 45 48 72 69 60
43 46 33 66 78 44
45 49 42 70 77 34
46 52 52 69 62 39
45 55 61 71 41 36
38 56 69 70 41 36
29 56 69 41 35 32
23 53 66 70 55 36 33
22 41 62 71 65 40 33 30
26 56 66 70 47 37 31 29
26 45 58 74 62 43 30 28
26 27 69 57 36 34 30
26 27 43 61 61 43 39 34 29

25 26 50 64 71 60 49 41 36 30
24 25 34 54 64 64 38 46 39 33 30
27 27 39 58 60 63 55 43 36 33 30
26 31 51 57 61 61 48 38 35 32 30
25 27 36 57 61 61 48 38 35 32 30
25 39 59 63 56 42 37 33 32 32 31
26 24 29 57 63 59 47 39 35 34 32 33 32 31
25 26 53 62 65 54 43 36 34 32 33 33 32 29 28
27 25 44 61 66 61 48 37 35 34 34 33 31 29 26
27 25 29 60 66 54 39 35 34 35 35 34 33 30 27
25 27 57 62 68 62 43 36 35 35 35 34 33 31 28
26 27 43 63 67 67 50 37 36 36 35 35 32 28
26 27 29 62 67 70 55 39 36 37 36 36 35 33 29
22 28 28 50 67 71 57 41 36 37 36 35 34 30
17 18 27 28 48 66 71 60 43 38 37 36 36 34 30
21 26 28 40 64 72 66 44 39 38 37 36 35 31
16 21 25 28 39 56 71 72 47 40 39 38 37 36 35 33
14 24 29 38 51 71 74 48 40 39 39 37 35 33

44° 30' 00"

SANDY POINT

M Sh

17 24 30 38 54 76 69 47 41 39 39 36 36 33
16 18 30 41 60 78 61 46 44 40 40 39 38 36 34
18 18 30 43 72 49 45 39 38 38 35
20 21 25 31 45 72 76 55 46 41 35 39 38 37 37 34
21 26 35 50 72 76 55 42 38 39 39 39 37 35
23 27 40 54 71 66 41 34 41 40 40 38 37 35
22 22 45 56 63 67 42 39 41 40 40 38 37 35
24 37 48 54 57 56 48 44 42 43 41 40 39 38 35
29 42 50 52 52 52 49 46 43 41 40 40 38 35
35 46 52 51 50 49 47 47 44 44 42 41 40 38 35
41 48 51 50 49 46 46 45 43 42 41 40 38 35
45 51 51 50 47 48 46 46 44 43 42 41 40 38 36
48 52 51 49 48 47 46 45 44 43 42 41 40 38 36
51 53 52 49 48 47 46 45 44 43 42 41 40 37 36
53 54 52 49 48 46 45 45 43 42 41 40 38 35

44° 29' 30"

68° 48' 30" 68° 48' 00" 68° 47' 30" 68° 47' 00"

69° 00' 30"

69° 00' 00"

68° 59' 30"

BELFAST

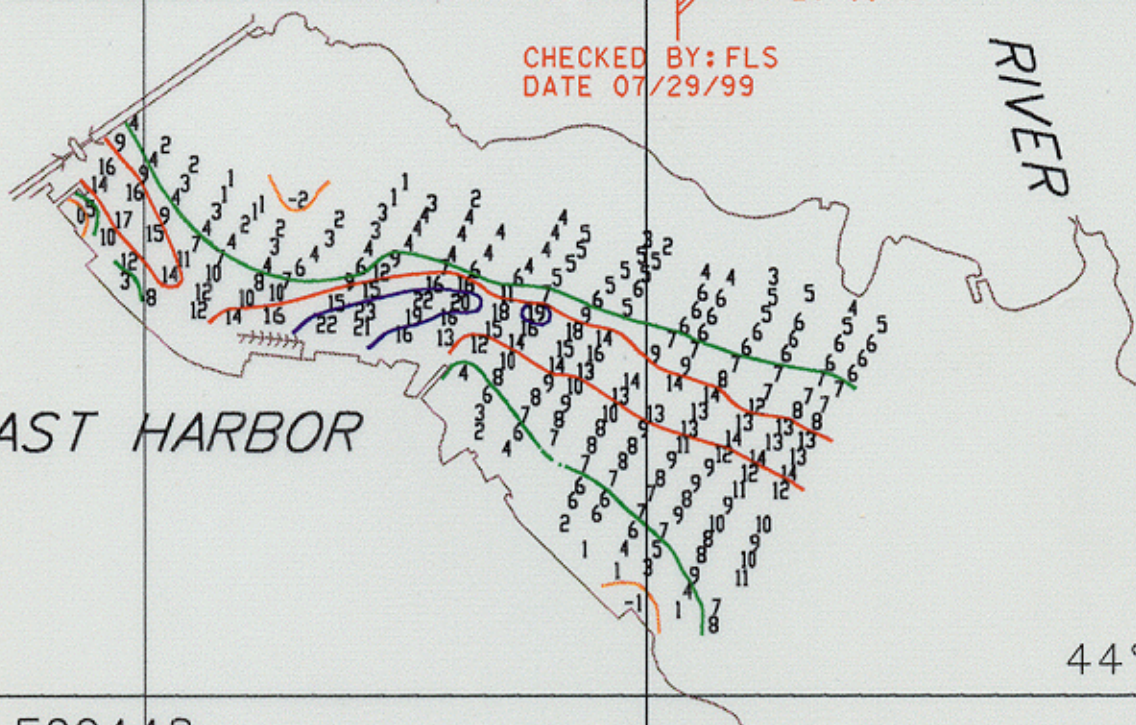
GOOSE RIVER

069° 00' 00" W

NAD 27 44° 26' 00" N

44° 26' 00"

CHECKED BY: FLS
DATE 07/29/99



BELFAST HARBOR

44° 25' 30"

F00448

MAINE

PENOBSCOT BAY

BELFAST TO BUCKSPORT

SEP-OCT 1998

SCALE: 1:10000

HORIZONTAL DATUM: NAD 1983

VERTICAL DATUM: SOUNDINGS IN FEET AT MLLW

BELFAST HARBOR

SHEET 3 OF 5

Shoreline in brown is from chart 13309 (26th Ed. Apr 17/93)
and is for orientation purposes only.

44° 25' 00"

69° 00' 30"

69° 00' 00"

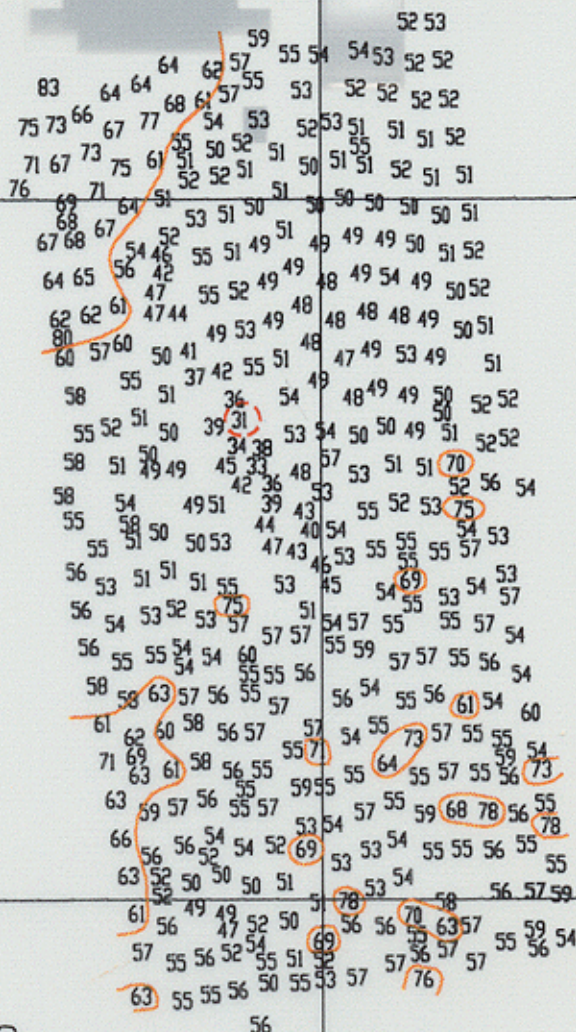
68° 59' 30"

68° 55' 30"

68° 55' 00"

68° 54' 30"

PENOBSCOT BAY



44° 25' 00"

44° 24' 30"

F00448
 MAINE
 PENOBSCOT BAY
 BELFAST TO BUCKSPORT
 SEP-OCT 1998
 SCALE: 1:10000
 HORIZONTAL DATUM: NAD 1983
 VERTICAL DATUM: SOUNDINGS IN FEET AT MLLW
 10 NM SE OF BELFAST HARBOR
 SHEET 4 OF 5

069°55'00"W

NAD 27 44°24'00"N

44° 24' 00"

CHECKED BY: FLS
DATE 11/09/99

68° 55' 30"

68° 55' 00"

68° 54' 30"

