

10146

Diagram No. 311

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey Hydrographic
Field No. HFP-10-2-84
Office No..... H-10146

LOCALITY

State Maine
General Locality Penobscot River
Locality Snub Point to Treat Hill

19 84

CHIEF OF PARTY

LCDR R.W. Jones

LIBRARY & ARCHIVES

DATE October 7, 1985

☆U.S. GOV. PRINTING OFFICE: 1980-766-230

ACPG
CMT

13309 - to sign off see
Rec'd of Application

HYDROGRAPHIC TITLE SHEET

H-10146

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.

State MaineGeneral locality Penobscot RiverLocality Snub Point to Treat HillScale 1:10,000Date of survey July 30 - Oct. 4, 1984Instructions dated March 20, 1984Project No. OPR-A166-MI/HFP-84Vessel 0517Chief of party LCDR R.W. Jones, NOAASurveyed by HFP-3, LTJG F.W. Rossman, OICSoundings taken by echo sounder, hand lead, pole AllGraphic record scaled by F.W. Rossmann, R. Snow, D.B. Elliot, J. Oswald, T. Rybarski, L. Williams, H. HickmanGraphic record checked by F.W. Rossman, D.B. Elliot, R. SnowVerification by 2,~~Reviewed by~~Automated plot by PMC Xynetics Plotter

Evaluation by

~~Verification by~~ C.R. DaviesSoundings in ~~fathoms~~ feet at MLW ~~XXXXX~~ MLLWREMARKS: Magrinal notes in black by evaluator. All times are in UTCSupplemental data is filed with the survey records.SP4-21-97AWOIS + SURF CHECK - GRM 2/9/89

69°

50'

40'

30'

20'

10'

H-10136
HFP-10-1-84
Tide Station
841-4612

H-10146
HFP-10-2-84
Tide Station
841-4781

H-10157
HFP-10-4-84
Bucksport
Tide Station
841-4684

OPR-A166-MI/HFP-84

E HFP-3

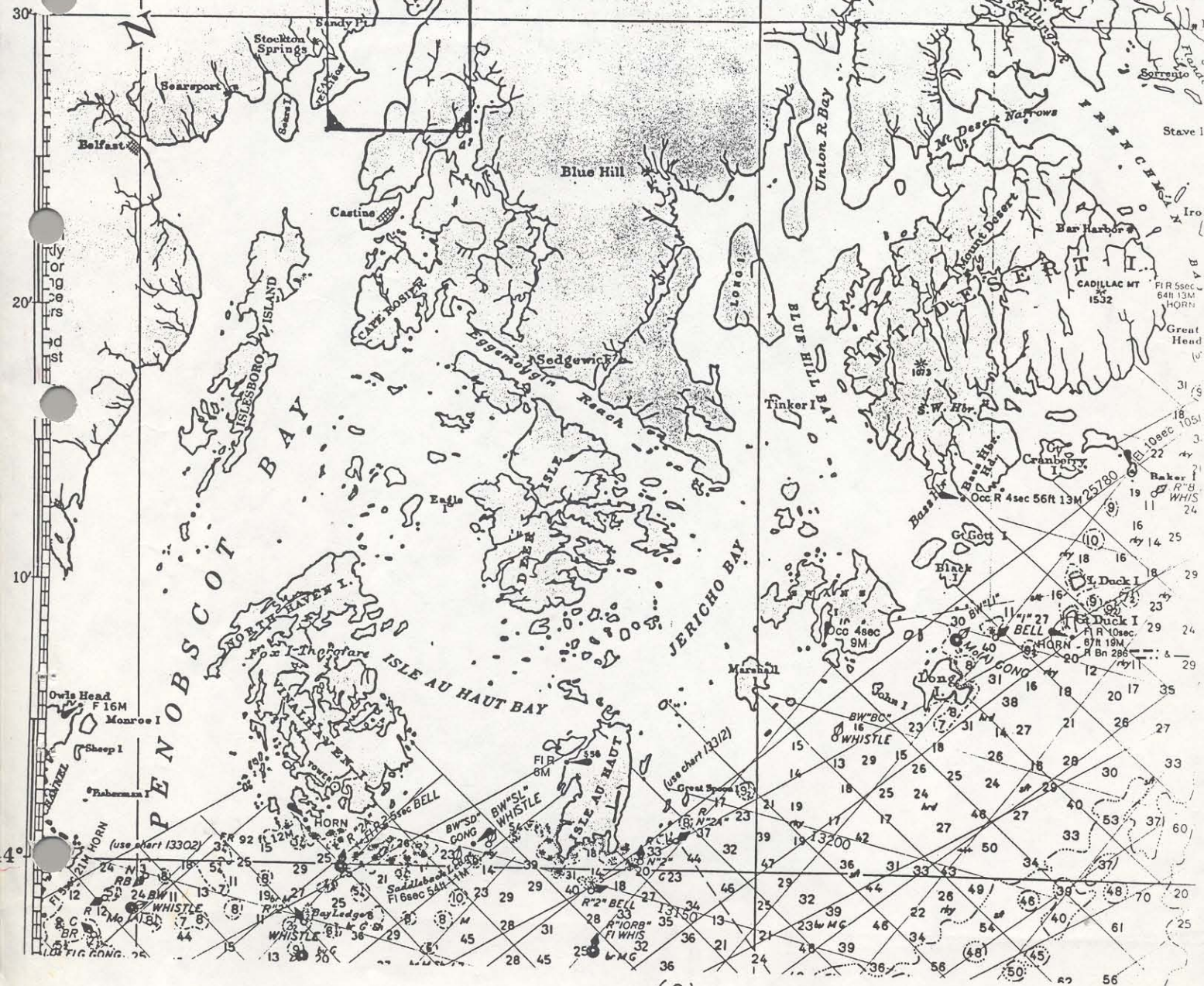
NOTE C TRAFFIC SEPARATION SCHEMES

One-way traffic lanes overprinted on this chart are RECOMMENDED between the points involved. They have been designed to aid in the prevention of collisions in the approach to Boston Harbor and for routing traffic not intended in any way to supersede or alter the applicable Rules of the Road to separate inbound and outbound traffic and to be free of ship traffic. Except for crossing purposes. When crossing traffic lanes and separation schemes are used, the recommended route in the Bay of Fundy has been established by the See large scale Canadian charts.

NOTE B PRECAUTIONARY AREAS

Traffic within the Precautionary Areas may consist of vessels operating in the Harbor, and one of the established Traffic lanes. Mariners are advised to exercise caution within these areas.

TS
substances to the
1-8802 (toll free), or
by telephone com-
(3).



(2)

Descriptive Report
to Accompany
Hydrographic Survey H-10146
HFP-10-2-84

Scale 1 : 10,000
Chief of Party: LCDR. Ronald W. Jones
Officer-in-Charge: LTJG Frederick W. Rossmann
Hydrographic Field Party Section
Hydrographic Field Party # 3

A. PROJECT ✓

This survey was accomplished under Project Instruction OPR-A166-MI/HFP-84, dated 20 March 1984, Change No. 1, dated May 14, 1984, Change No. 2, dated December 7, 1984.

B. AREA SURVEYED

The area surveyed was the Penobscot River, Maine. The survey began at Snub Point and proceeded south to Frankfort Flats, and is bounded by the following points:

Lat. 44°42'30.00" N, Lon. 68°48'30.00" W
Lat. 44°36'30.00" N, Lon. 68°48'30.00" W
Lat. 44°36'30.00" N, Lon. 68°52'00.00" W
Lat. 44°42'30.00" N, Lon. 68°52'00.00" W

This survey was conducted from 30 July 1984 to 4 October 1984.

C. SOUNDING VESSEL ✓

All soundings on this survey were obtained from NOAA Launch 517. All survey records are annotated with the vessel number 517.

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS ✓

The following Raytheon Fathometer sounding equipment was used during the survey:

JD 212-213	Model #719-C Serial #7727
JD 215-278	Model #719-C Serial #5881

No unusual problems were encountered with this equipment. The Fathometer was monitored continuously while sounding and was under constant adjustment to insure that no initial corrections were necessary.

Settlement and squat tests on Launch 517 were run on 10 July 1984 at Winterport, Maine (Lat. 44° 38'N, Long. 68° 50' W). The results of these tests are included in the Appendix. Settlement and squat corrections will be applied via the TC/TI tape during plotting of the smooth sheet at the Pacific Marine Center and were not applied to the field sheets.

Velocity and instrument corrections were determined by barcheck. Three velocity tables were constructed from the barcheck data. A change in the water column was noted between data taken on JD 215 and the data thereafter, making velocity table three necessary for JD 215 only (fatho S/N 5881). Fathometer S/N 7721 was used prior to JD 215. Velocity corrector tapes are provided with the survey data for smooth plotting by the Marine Center. Velocity correctors were not applied during the field processing of the data. The lengths of the line on the bar were checked on 31 May 1984. The chain was accurately marked at the time of inspection.

The soundings have been reduced for tides using the daily highs and lows from the Winterport, Maine tide station (Station # 841-4781). The tidal height and time were entered into the computer using AM-500 to interpolate tide correctors. A request for smooth tides was forwarded to N/OMS123 on 13 December 1984. These smooth tides will be used by the Marine Center for the final plotting of the data.

E. SURVEY SHEETS ✓

The field sheets were prepared using a PDP8/e computer and a DP-3 Complot plotter. Work sheets, semi-smooth sheets, the smooth field sheet, an overlay and a blow-up of Buck's Ledge are included with this survey. Mainscheme hydrography is plotted on the smooth field sheets while developments, splits, bottom samples, junction soundings, and aids to navigation are shown on the overlay sheet. Projection parameter tape listings for the field sheets are included in the Appendix of this report. The final smooth sheet and verification of this survey will be accomplished at the Pacific Marine Center.

F. CONTROL STATIONS ✓

Control stations used during this survey were Aero Triangulation stations, established in 1982 and supplementary stations established by N/MOA2x1 in 1984 from the Aero-triangulation Network. All stations are referred to the North American 1927 datum. A list of all control stations used during this survey is included in the Appendix of this report.

Station 118, Win 1983, was searched for and not found. Win 1983 is presumed lost.

CONCUR

G. HYDROGRAPHIC POSITION CONTROL /

The method used to control this survey was Range-Azimuth using Del Norte Distance Measuring system and a twenty second NT-2D theodolite or an HP-3808A EDM modified with a twenty second horizontal angle yoke. The Del Norte/theodolite combination was used for the majority of the control. The HP-3808A was used to obtain detached positions on Julian Days 263, 271 and 272. Due to the location of some horizontal control stations, several positions during Range-Azimuth hydrography had to be dead reckoned. These dead reckoning positions are marked "SFS" in the remarks column of the sounding volume. A Range-Azimuth fix was scaled for these positions. A list of all positioning equipment used during this survey is contained in the Appendix of this report.

Only two failures occurred with the Del Norte equipment during this survey. Master S/N 273-A, failed on JD 234 and was replaced by S/N 1068. On the closing baseline, the tens digit of the right channel of DMU S/N #429 was inoperative. This problem was not observed during the hydrographic operations. This DMU was returned to AMC for repairs. No significant discrepancies affecting the hydrographic data are in evidence.

CONCUR

A baseline was established using the HP-3808A, from station 116, DOCK 1982, to a stake set on the eastern shore of the Penobscot River. This 1865 meter baseline was used for the baseline calibration on JD 209, 227 and 261. The closing baseline was taken between station 115, STARDRILL 1984, and station 116. This baseline had an inverse distance of 1653 meters. The Del Norte Baseline Calibration forms are included with the survey data in the fan folder.

See EVA
Report Section 2

Daily system checks were static, either observed between two horizontal control stations or as a direct comparison with the HP-3808A. Daily checks during the survey were in excellent agreement, less than 3 meters. On several occasions during the survey, it was impossible to obtain a valid static check due to the tidal range of the Penobscot River. For this reason, only one daily system check was obtained on the following dates:

See EVA
Report Section 4

JD 215- No opening daily check
JD 221- No closing daily check
JD 234- No opening daily check
JD 264- No closing daily check

An attempt was made to get a system check alongside a buoy on JD 215. However due to the scope of the buoy, the check was rejected due to poor repeatability. Work done on JD 215, 221, 234 and 264, was carefully scrutinized during the field processing of the data. No problems were noted. The decision to run hydrography on these occasions, rather than to return

CONCUR

for the HP-3808A and lose several hours of data acquisition, was based on the consistent quality of the baseline values and daily system checks during this survey. The HP-3808A was used to make direct comparisons when it seemed unlikely that a static system check could be performed. The HP-3808A was set up alongside the Del Norte remote, while the launch was grounded and prisms held on the Del Norte Master. The distance measured by the HP-3808A was compared against the distance measured by the Del Norte. An abstract of corrections to electronic position control is included in the Appendix.

H. SHORELINE ✓

Shoreline detail for this survey was obtained from Class III maps, TP-01106 and TP-01107, with a final review date of April 1984. The maps are at a scale of 1:10,000.

The only correction to the manuscript is the addition of a rock groin; the offshore end is located at Lat. 44°37'01.27" N, Lon. 68°51'20.10" W. This groin is currently charted on 13309, 23rd Ed. March 1984 and is shown dashed red on the field sheet.
Shown as a dashed black line on the smooth sheet, uncovers 3 feet at MLW, position number 1389.

Photogrammetric locations of rocks and other salient features from the manuscript were checked during hydrography. In some areas it was impractical to obtain numerous detached positions on the many rocks and boulders. In these areas a low water line was run. The area between this low water line and the high water line is foul with rocks and boulders. The beginning and ending positions of these low water lines are:

From Position	To Position
=====	=====
46 foul with rocks	47 foul with rocks
80 rock	81 rock
473 foul with rocks, shoreline	483 foul with rocks
573 rock	574 rock
577 rock	578 rock
580 rock	581 rock
582 rock	585 rock
650 foul with rocks	666 foul with rocks
669 foul with rocks	671 foul with rocks
922 Line of hydrography-shoreline	928 foul with rocks inshore
1026 foul with rocks	1047 foul with rocks

A dashed black line was added to the smooth field sheet to delineate these foul areas. The dashed black line delineating foul areas were drawn with the use of the above positions and comments made by the hydrographer in the raw data.

I. CROSSLINES ✓

Crosslines constitute 12% of the main scheme hydrography. 78% of the crossings agree within ± 2 feet. The slight disagreement between the sounding is caused by the rapidly

See EULC
Report Section 3

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changing bottom and the fact that no zoning correctors were used with the semi-smooth Winterport tide station data.

J. JUNCTIONS ✓

This survey junctions with H-10136 on the north and H-10157 on the south. H-10136 and H-10157 are contemporary surveys conducted by Hydrographic Field Party III using Launch 517 and Range-Azimuth positioning during the summer of 1984. Both junction surveys have good agreement with this survey, as contours can be drawn continuously between the three surveys.

See ERM
Report Section 5

K. COMPARISON WITH PRIOR SURVEYS ✓

This survey was compared with the following surveys:

H-1473 (1880), 1:10,000 scale
H-1257b (1874), 1:10,000 scale

The current survey encompasses H-1473 from Snub Point (44°42'20"N) to Parker's Point (44°39'00"N). No adjustment was made to the prior survey to align it to the North American Datum of 1927. The surveys were compared by aligning the shorelines of the two surveys. The following items were noted during the comparison:

a) Buck's Ledge (Lat. 44°40'54.2"N, Lon. 68°48'54.1"W) is still present. The ledge bares at low water. The ledge represents a danger to navigation, but is adequately marked with a Daybeacon. Ledge uncovers 8 feet at MLLW at latitude 44°40'54.49", longitude 68°48'53.99".

b) The shoal along the eastern shore, Lat 44°39'13"N, Lon. 68°49'40"W, is still present. Least depth from the current survey is 24 feet. This shoal extends in a northeast-southwest direction for approximately 300 meters.

c) The area around Lat. 44°41'15"N, Lon. 68°49'25"W has shoaled. The depths from the current survey tend to be 8 to 14 feet shallower than those of the prior survey. Line spacing in this area was reduced to 50 meters. The 18 foot contour northwest of this area has eroded, this erosion may have helped build the new shoal area.

CONCUR

In other areas, little difference is observed between the two surveys. The current survey should supersede the prior survey for charting in common areas.

CONCUR

H-1257b encompasses the current survey from Parker's Point Lat. 44°39'00"N, to Frankfort Flats, Lat. 44°36'30"N. Soundings are in good general agreement, ±2 feet. The soundings from the current survey tend to be slightly shallower when they are not in exact agreement. The mud flat at Frankfort Flats (Lat. 44°37'00.00" N, Lon. 68°50'30.00" W) is extending westward.

CONCUR

The current survey should supersede the prior survey for charting in all common areas. CONCUR

L. COMPARISON WITH THE CHART ✓

This survey was compared with Chart #13309, 23rd edition, dated 24 March 1984. Chart #13309 is a 1:40,000 scale chart. The 22nd edition of the chart was photographically enlarged to 1:10,000, and is included with the survey. The overall general comparison between the current survey and the chart is good. The following areas were noted during the comparison:

a) Bald Hill Reach is shoaling, at Lat. 44°41'15.68" N, Lon. 68°49'27.00" W. The shoalest depth charted in this area is 28 feet. The current survey depths in this area range from 16 to 25 feet. The shoaling is probably caused by sediment transport from the river. Northwest of this area the 18 foot contour has shifted shoreward. A Notice to Mariners was issued on this shoaling and a copy is appended to this report. CONCUR

b) Bucks Ledge (Lat. 44°40'54.2" N, Lon. 68°48'54.1" W) is a rock ledge that uncovers at low water. The outcrop is adequately marked with a Daybeacon. High point of ledge (X) is located at latitude 44°40'54.49", longitude 68°48'53.99". CONCUR

c) The shoal along the eastern shore, Lat. 44°39'13.00" N, Lon. 68°49'40.00" W, is still present. Least depth from the current survey is 5⁴ feet.

d) Several sand waves were found between Lat. 44°37'45.00" N. and Lat. 44°38'15.00" N. The line spacing in this area was reduced to 50 meters. Least depth in this area is 20¹ feet. The hydrographer does not provide enough information in the raw data as on the field sheet to concur with this statement.

e) Some shifting of the 6, 12 and 18 foot contour was observed between Lat. 44°36'45.00" N. and Lat. 44°37'20.00" N. The greatest shift was noted in the six foot contour. This shifting of the contours is probably due to sediment transport. Some slight tidal anomalies are noted between soundings from different days, with the difference being within 1 foot. These anomalies should be resolved when smooth tides are applied. CONCUR

f) The shoreline is accurately shown at Lat. 44°37'10.00" N, Lon. 68°50'15.00" W. This area is an extremely shallow mud flat that is exposed at low tide. CONCUR

g) The shoreline along the Penobscot River is foul with rocks and boulders. These foul areas were designated by running a low water line as discussed in Section H above. These foul areas are shown as dashed black lines on the smooth field sheet with a note stating "Foul with rocks and boulders." Positions 1026-1027 are shown as a rock ledge on the T-Sheet.

The ledge does not extend to 1027. Chart according to smooth sheet at latitude 44°41'31.94", longitude 68°50'03.27".

h) The following items are charted and were verified during the survey:

POSITION	LATITUDE	LONGITUDE	ITEM
0002	44° 41' 34.83"	68° 50' 05.84"	Rock Out Crop islet (3)
0045	44° 41' 40.16"	68° 50' 20.22"	Rock * (2)
0082	44° 41' 21.95"	68° 49' 15.82"	Rock * (8) Foul with boulders
0920-0921	44° 38' 16.13" 44° 38' 17.11"	68° 50' 26.86" 68° 50' 26.29"	Pilings in ruins (charted as a pile)
1269	44° 37' 01.11"	68° 49' 57.41"	Boulder * (12)
1359, 1360	44° 38' 09.75" 44° 38' 08.31"	68° 50' 31.52" 68° 50' 32.86"	Pilings in ruins (charted as a pier)
1361-1362	44° 38' 04.88" 44° 38' 04.05"	68° 50' 36.36" 68° 50' 37.37"	Rocks pile (on T-Sheet) *, * (3)
1363-1364	44° 38' 00.46" 44° 38' 02.08"	68° 50' 40.44" 68° 50' 39.75"	Rocks pile (on T-Sheet) * (2), * (6)
1389	44° 37' 01.25"	68° 51' 20.06"	Offshore end rock groin (3)
1390	44° 37' 15.80"	68° 51' 15.70"	Offshore end rock groin (on T-Sheet) (Ledge) * (5) excessed by * (5) from TP-01107

i) The following items were located during the survey and should be charted:

POSITION	LATITUDE	LONGITUDE	ITEM
1387	44° 36' 43.20"	68° 51' 24.60"	Rocks * (2)
1386	44° 36' 39.85"	68° 51' 21.33"	Rocks * (2)
1388	44° 36' 55.21"	68° 51' 23.24"	Cluster of rocks * (2)
1348	44° 37' 54.35"	68° 50' 45.87"	Pilings in ruins (11) (on T-Sheet)
1349	44° 37' 53.32"	68° 50' 48.95"	Bulkhead in ruins AWASH (1)
919	44° 38' 13.32"	68° 50' 27.93"	Dolphin in ruins (On T-sheet as pile)
667-668	44° 38' 33.68" 44° 38' 34.33"	68° 50' 17.92" 68° 50' 17.77"	Boulder * (1), * covered 1 ft msl (excessed)
580-581	44° 39' 05.74" 44° 39' 02.81"	68° 49' 40.55" 68° 49' 44.71"	Foul area/rocks and boulders * (6), * (5)

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POSITION	LATITUDE (N)	LONGITUDE (W)	ITEM
577-578	44° 39' 29.20" 44° 39' 19.16"	68° 49' 26.38" 68° 49' 31.82"	Foul area/rocks and Boulders * (4), * (2)
579	44° 39' 16.33"	68° 49' 33.42"	Rock Boulder * (6)
575	44° 39' 40.98"	68° 49' 18.68"	Crib in ruins (4)
576	44° 39' 34.79"	68° 49' 22.33"	Cluster of boulders * (11)
1082	44° 39' 34.26"	68° 49' 21.91"	Boulder Islet (6)
584	44° 39' 31.07"	68° 49' 45.65"	Numerous boulders (on t-sheet) * (5)
583	44° 39' 30.34"	68° 49' 45.65"	Boulder Rock * (1)
582-585	44° 39' 29.88" 44° 39' 39.03" ⁺	68° 49' 48.15" 68° 49' 40.73"	Foul area/boulders *(1), *(1), *(5), *(6)
573-574	44° 40' 02.87" 44° 39' 46.81"	68° 48' 42.04" 68° 49' 14.91"	Foul area/boulders *(2), *(2)
80-81	44° 41' 23.39" 44° 41' 21.56"	68° 49' 24.26" 68° 49' 16.85"	Foul area/boulders *(12), *(8)
383			Rock - not supported by raw data
384			Numerous rocks not supported by raw data
46-47	44° 42' 16.85" 44° 42' 17.50" ⁺	68° 50' 16.98" 68° 50' 17.27"	Foul area/boulders (rock symbol on T-Sheet)
53	44° 42' 11.17"	68° 50' 11.55"	Rock * (1)

No pre-survey review items were assigned for the area covered by this survey. ✓

M. ADEQUACY OF SURVEY ✓

This survey is complete and adequate to supersede prior surveys for charting in the common areas. COMNAV

N. AIDS TO NAVIGATION ✓

All floating and fixed aids to navigation in the survey area were located during the survey. These aids do not have positions (latitude and longitude) in Volume 1 of the 1984 Light List. COMNAV

The following positions were obtained during the survey:

AID	POS.	LATITUDE	LONGITUDE	DESCRIPTION
Buoy 14	1204	44°36'22. ⁵⁷ 60"N	68°50'44.0 ² 4"W	Red Nun
Buoy 15	1205	44°36'39. ⁸⁸ 90"N	68°51'11.3 ¹ 4"W	Black Buoy W/ Green Light & Radar Reflector
Buoy 16	1206	44°37'04.0 ³ 05"N	68°50'59.0 ⁵ 8"W	Red Nun
Buoy 17	280	44°40'07.9 ³ 4"N	68°48'51.8 ² 4"W	Black Can
Buoy 18A	83	44°41'26.9 ⁵ 7"N	68°50'00.3 ²⁸ 2"W	Red Nun

DBN 18 281 44°40'54.1⁴15"N 68°48'54.08"W Bucks Ledge
Bucks Ledge Daybeacon 18 was not located to 2nd Order Class I positioning standards. An untriangulated position can be obtained from N/CG 232, Rockville.

Bucks Ledge Daybeacon 18 marks the approximate center of the rock ledge. It is not a standard Daybeacon. The Daybeacon is mounted on a steel I-beam, and is an ellipsoid steel cage approximately 15 feet in length, with red triangle attached.

It should be noted that all the buoys have adequate scope to swing with the tide. All aids were found to adequately serve the apparent purpose for which they were established. No discrepancies were found between the charted and surveyed positions or with the descriptions found in the light list. *CONCUR*

The charted overhead cable at Lat. 44°40'40.00" N, Lon. 68°49'00.00" W is present. The authorized clearance is correct; no direct check was made by the field party during the survey.

The Winterport Church, ^{clock}Spire was visually verified as presently charted with NGS position at Lat. 44°38'10.544" N, Lon. 68°50'49.849" W. This is the only landmark charted within the survey limits *CONCUR*

No evidence of the submerged cable area at Lat. 44°37'30.00" N, Lon. 68°50'50.00" W was observed during the survey. Local knowledge indicates that it had been active in the past, but is uncertain if it is still active. A visual search of the shoreline was made during the survey; no evidence of any cable crossing signs were observed. Being uncertain of its status, the hydrographer recommends that the cable area remain charted. *CONCUR*

No bridges exist in this survey area. *CONCUR*

O. STATISTICS ✓

Number of positions.....	1455 ⁴⁶
Nautical miles of sounding line.....	72.4
Nautical miles of crossline.....	9.0
Nautical miles of development.....	13.8
Total miles of hydrography.....	95.2
Number of bottom samples.....	331
Number of barchecks.....	26
Number of detached positions.....	56

P. MISCELLANEOUS ✓

Data between position 512 and 513 is marked rejected in the volume. This is good data and should be plotted. The data after position 513 to position 515 is rejected. *concur*

Work done on JD 261 is recorded in volume 2 and is out of sequence. JD 261's data consist of detached positions and bottom samples. It was recorded in volume 2 to allow the data in volume 5 to be input into the computer. A note is contained in volumes 2 and 5 stating that the JD is out of sequence.

Corrections have been made during office processing.

On JD 254, incorrect values were entered when making the tide tape. The smooth field sheet had already been plotted, and no attempt was made to correct the smooth field sheet. These data were replotted in black ink on the rough field plot. The rough plot with the corrected soundings was used to draw the contours on the smooth field sheet. The contours in this area were drawn as dashed lines so they could be identified because they do not fit the soundings on the smooth field sheets. A note has been added to the smooth sheet about this. *The rough plot was not received at PNC. Correct tide values were applied during office processing.*

Eight photographs are included with this report. They show the rocky shoreline, the mud flat at Frankfort Flats and one set of pilings in ruins. Two chartlets accompany these photos. They show the approximate location and the direction from which each photo was taken.

Q. RECOMMENDATIONS ✓

See sections H,K,L, and M, for specific recommendations.

R. AUTOMATED DATA PROCESSING ✓

Programs used during field data acquisition and field processing of this survey are as follows:


H-10146

PROGRAM	DESCRIPTION	VERSION DATE
RK 201	Grid, signal, and lattice plot	4/18/75
RK 212	Visual Station Table Load	4/01/74
RK 216	Range-azimuth Non-real time plot	2/05/76
RK 300	Utility computations	2/05/76
RK 330	Reformat and Data Check	5/04/76
RK 407	Geodetic Inverse/Direct Computation	9/25/78
AM 500	Predicted Tide Generator	11/10/72
AM 602	ELINORE-line oriented editor	5/20/75

S. REFERENCE TO REPORTS ✓

Descriptive Report for H-10136, 1984.
Control Report for CM-8101
Coast Pilot Report
Danger of Navigation Report

Respectfully submitted,


Frederick W. Rossmann
LTJG, NOAA
OIC, HFP-3




UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE

Atlantic Marine Center
Hydrographic Field Parties

January 8, 1985 MOA233:BL

To: N/CG233, Coast Pilot Sect.

From: Ronald W. Jones 
Chief, Hydrographic Field Parties Section

Subject: Coast Pilot Report

Attached are corrections to Coast Pilot 1, 1984 noted as a result of
OPR-A166-HFP-84, by HFP-3, while conducting operations on Survey H-10146.

cc: N/MOA 2x1



COAST PILOT REPORT

PLEASE MAIL TO:

Director
National Ocean Survey
National Oceanic and Atmospheric Administration
ATTENTION: C324
Rockville, Maryland 20852

This record of your experience and observations when coasting, entering port, and/or following inside channels will be used to correct, amplify, or confirm the description now given in the Coast Pilot.

Please use additional sheets if more space is needed.

Additional report forms will be provided upon receipt of each report.

GEOGRAPHIC LOCATION

PENOBSCOT RIVER MAINE

LATITUDE

44° 41' N

LONGITUDE

68° 49' W

CHART NUMBER

13309

COAST PILOT NUMBER

1

VESSEL

NOAA
LAUNCH 517

MASTER/COMMANDING OFFICER

LEDR RONALD JONES

DATE OF OBSERVATION

5 AUG 84

OBSERVER

LTJG. FREDERICK ROSSMANN

- I. LANDMARKS: Mention those visible from seaward and useful for navigation (day and/or night); include natural ranges and indicate the pair of marks forming a range. Photographs of landmarks difficult to describe are solicited; each view should be labeled with the distance off and the direction towards which the camera was pointed.

N/A

TYPE	CHARTED		LATITUDE (Approximate)	LONGITUDE	DESCRIPTIVE INFORMATION HELPFUL IN IDENTIFICATION
	YES	NO			

- II. RADAR: List best radar targets and, if known, give maximum useful radar range at which the object can be positively identified and used. Mention under remarks places you have observed radar returns to be misleading.

N/A

NAME OR TYPE OF FEATURE (Include approximate latitude and longitude if necessary to identify on chart)	MAXIMUM USEFUL RANGE

- III. ROUTES: Where entrance and inside routes are not marked by aids to navigation, show recommended directions for Coast Pilot (latitude and longitude of entrance point, and distances and true courses made good); include natural steering ranges if available.

N/A

IV. DANGERS: Mention those of concern to the navigator where special caution should be indicated in the Coast Pilot.
BUCKS LEDGE IS 3.2 MILES NORTH OF WINTERPORT. THE ROCK LEDGE BARES AT LOW WATER. THE LEDGE IS MARKED IN THE CENTER BY DAY BEACON #18. THE LEDGE EXTENDS NORTH AND SOUTH OF THE DAY BEACON.

(Should Be Added After Line 54 On Page 144)

V. CURRENTS: Indicate places you have experienced conditions of current where special caution should be mentioned in the Coast Pilot.
N/A

VI. ANCHORAGES: Mention best anchorage in the area and other secure anchorages having good holding ground.
N/A

LOCATION (Include anchorage bearings and natural ranges if available)

TYPE OF BOTTOM OBSERVED:

	EXCEL	GOOD	FAIR	POOR	COMMENT	RECOMMENDED FOR VESSELS:	
						LENGTH	DRAFT
HOLDING QUALITY							
PROTECTION OFFERED							
ACCESSABILITY						___ TO ___ FT.	___ TO ___ FT.

VII. REMARKS: N/A

VIII. OTHER COAST PILOT CHANGES

U.S. COAST PILOT			
NUMBER	EDITION	PAGE	LINE(S)
<u>1</u>	<u>20</u>	<u>144</u>	<u>54</u>

NOTE: Any chart(s) submitted with your report to show conditions will be replaced free of charge.

READ: STRIKE OUT: (INSERT AFTER:) (Circle one)

SOUTH ORINGTON, ON THE EASTERN BANK OF THE RIVER, HAS A PUBLIC BOAT LAUNCHING RAMP AT THE MOUTH OF MILL CREEK. BOATERS MAY FIND THE RAMP INACCESSIBLE AT LOW TIDE. THERE ARE NO FACILITIES AT THE LAUNCHING RAMP.

channel southeastward of Castine is not good, and the general depth is about 72 feet.

Dangers.—Henry Point is on the east side of the approach to Smith Cove. Dangers to be avoided in the cove are the middle-ground ledge, awash and marked on the east side by a buoy, about 0.5 mile south of Henry Point, and a rock covered 3 feet 300 yards west of Sheep Island, near the southern part of the cove. In addition, there are numerous unmarked bare and submerged rocks along the edges of the cove and caution should be exercised.

Otter Rock Shoal, awash at low water and marked by a buoy at its south end, extends 0.2 mile off the north shore at the entrance near Dice Head.

Hosmer Ledge, a drying ledge on the south side of the channel, extends 0.2 mile off the north end of Cape Rosier about 0.9 mile east of Dice Head Light. A daybeacon is on the ledge.

Middle Ground, which uncovers 2 feet and is marked on its west end by a buoy, is off the east side of the channel 1.4 miles above the entrance.

Trott Ledge, which uncovers 5 feet and is marked by a buoy, is on the west side of the channel about 1.8 miles above the entrance.

A rocky ledge, covered 4 feet and marked by a buoy, is on the west side of the channel 2.6 miles above the entrance and south of Negro Islands.

Numerous other rocks and ledges, mostly unmarked, are on both sides of the channel above the Narrows, a constricted part of the channel about 4.5 miles above the entrance.

Tides and currents.—The mean range of tide is 9.7 feet at Castine. The river is usually free from ice at Castine and for some distance above, but in very severe winters the river is entirely closed. Currents of almost 5 knots have been observed at Jones Point, about 4 miles above the entrance.

Routes.—Craft entering Castine Harbor will find the eastern shore northward and southward of the entrance is bold and can be followed at a distance of 0.3 mile. Pass close to the fairway bell buoy on either side and, keeping a reasonable distance offshore and south of the buoy marking Otter Rock Shoal, steer into the harbor on a midchannel course. By close attention to the chart, anchorage can be found in Smith Cove about 200 to 500 yards south of Henry Point, or for small craft south of Sheep Island near the head of the cove, taking care to avoid the charted dangerous rock previously mentioned.

There are no commercial facilities in Castine Harbor. The Maine Maritime Academy, at the western end of the Castine waterfront, maintains an excellent wharf with 26 feet alongside at which the large training vessel moors.

Small-craft facilities.—The town wharf and float landing, just eastward of the Academy wharf, has 12 feet reported alongside. A boatyard is 150 yards northeast of the town wharf. A 20-ton marine railway at the yard can handle craft up to 45 feet long for hull or engine repairs or dry open and covered winter storage; gasoline, diesel fuel, water, ice, and some marine supplies are available.

Castine Yacht Club, about 100 yards eastward of

the boatyard, has a depth of 8 feet reported alongside its float landing. The stone foundation of an old stone pier is between the shore and the northeast end of the yacht club float; care should be taken to avoid it in coming alongside.

West Brooksville is a village on the south side of the river 1.5 miles above Castine Harbor, and **North Castine** is a village on the west side 2 miles above Castine.

North Brooksville is a village on the southern branch of Bagaduce River, about 6 miles above Castine. At high water, small boats sometimes go to the bridge crossing the river at the village, but the channel is unmarked and unsafe for strangers.

Penobscot is a village on Northern Bay at the head of navigation on the north branch of the Bagaduce River, 6.5 miles above Castine. The approach to the village is bare at low water.

Penobscot River, emptying into the head of Penobscot Bay, forms the approach to the towns of Bucksport, Winterport, and the cities of Bangor and Brewer; the last two are at the head of navigation about 24 miles above Fort Point Light at the entrance. The deepest draft ordinarily trading to Bangor is about 18 feet.

Channels.—In 1964-March 1983, the controlling depth in the marked channel in Penobscot River from Bucksport to Bangor was 18 feet to Winterport, thence in 1962-1963, 13 feet to Bangor. The channel is marked by buoys and a lighted buoy to a point about 1.5 miles below South Brewer.

Caution.—Deep-draft vessels bound for Bucksport should exercise caution above Fort Point as depths of 31 and 32 feet are in midchannel, about 0.5 mile eastward of Sandy Point, and a rocky ledge, covered 34 feet, also in midchannel, is reported about 0.2 mile southwestward of Odom Ledge Daybeacon.

The most difficult sections for vessels are off Lawrence and Luce Coves where it is difficult to mark the best water and off Frankfurt Flats where large vessels experience difficulty with the sharp turns.

The channel in Penobscot River is crooked and narrow in places, and frequent changes occur. Strangers should not attempt to carry drafts greater than 10 feet to Bangor at low water. With a deeper draft a pilot or towboat should be used; 14 to 18 feet is carried to Bangor and Brewer at high water, and deeper drafts occasionally to the oil berth at South Brewer. The safest time is on a rising tide. Navigation of the river at night is extremely dangerous due to lack of lighted navigational aids. After unusually high tides many logs, dangerous to small craft, are in the river. At times of maximum ebb currents, buoys are occasionally pulled under. The paragraphs describing the river give the simplest directions by pointing out the difficulties and the dangers and especially the need for local knowledge. The chart and the aids must be carefully followed.

Dangers.—Fort Point Ledge, 0.3 to 0.6 mile southward of Fort Point Light, uncovers about 5 feet. A

Should be Frankfurt
(42)



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE

Atlantic Marine Center
Hydrographic Field Party Section

January 9, 1985 N/MOA233:RWJ

TO: N/CG222 - Chief, Chart Information Section

FROM: N/MOA233 - Ronald W. Jones *Robert Lee*

SUBJECT: Danger to Navigation Report from OPR-A166
Chart 13309, Hydrographic Survey H-10146

The attached letter, chart section, and field sheet section were sent to the Commander, First Coast Guard District, Boston, MA, for inclusion in the Local Notice to Mariners, concerning shoaling in the Penobscot River, ME., found while conducting Hydrographic Survey H-10146.

The Coast Guard Office was also informed of these dangers by telephone on 8 January 1985.

cc: MOA2X1
N/CG241





**UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE**

**Atlantic Marine Center
Hydrographic Field Party Section**

January 9, 1985 N/MOA233:RWJ

TO: Commander, USCG 1st District, Boston, MA

FROM: Ronald W. Jones, LCDR., NOAA *Robert Lewis*
Chief, Hydrographic Field Parties Section

SUBJECT: Shoaling Danger to Navigation, Penobscot River, ME
Chart 13309, 23rd Ed., March 1984

The following danger to navigation was found by the National Ocean Service, Hydrographic Field Party 3, while conducting a basic hydrographic survey of the Penobscot River, Maine:

Shoaling exists in Bald Hill Reach at Latitude 44°41'15"N and between Longitude 68°49'15"W and 68°49'40"W. Depths in this area range from 16 to 29 feet rather than the 28 to 36 feet currently charted on 13309, 23rd Ed., March 1984.

A least depth of 16 feet at mean low water was found at Lat. 44°41'10.8" N, Lon. 68°49'27.0"W, with an 18 foot depth 50 meters north, at Lat. 44°41'12.6" N, Lon. 68°49'26.4" W.

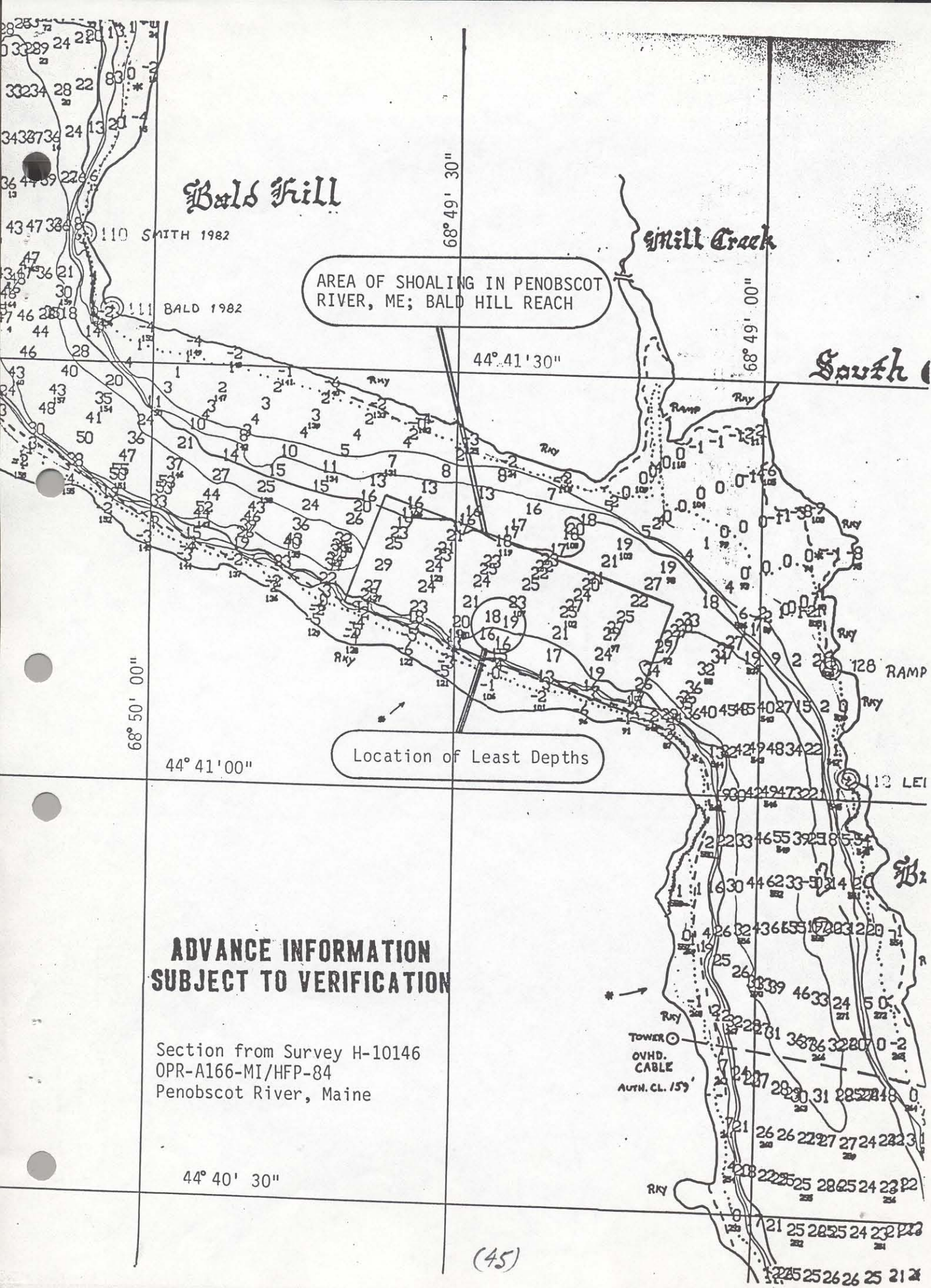
Attached is a section of the survey sheet showing this area of shoaling, along with a section of chart 13309, 23rd Ed. March 1984.

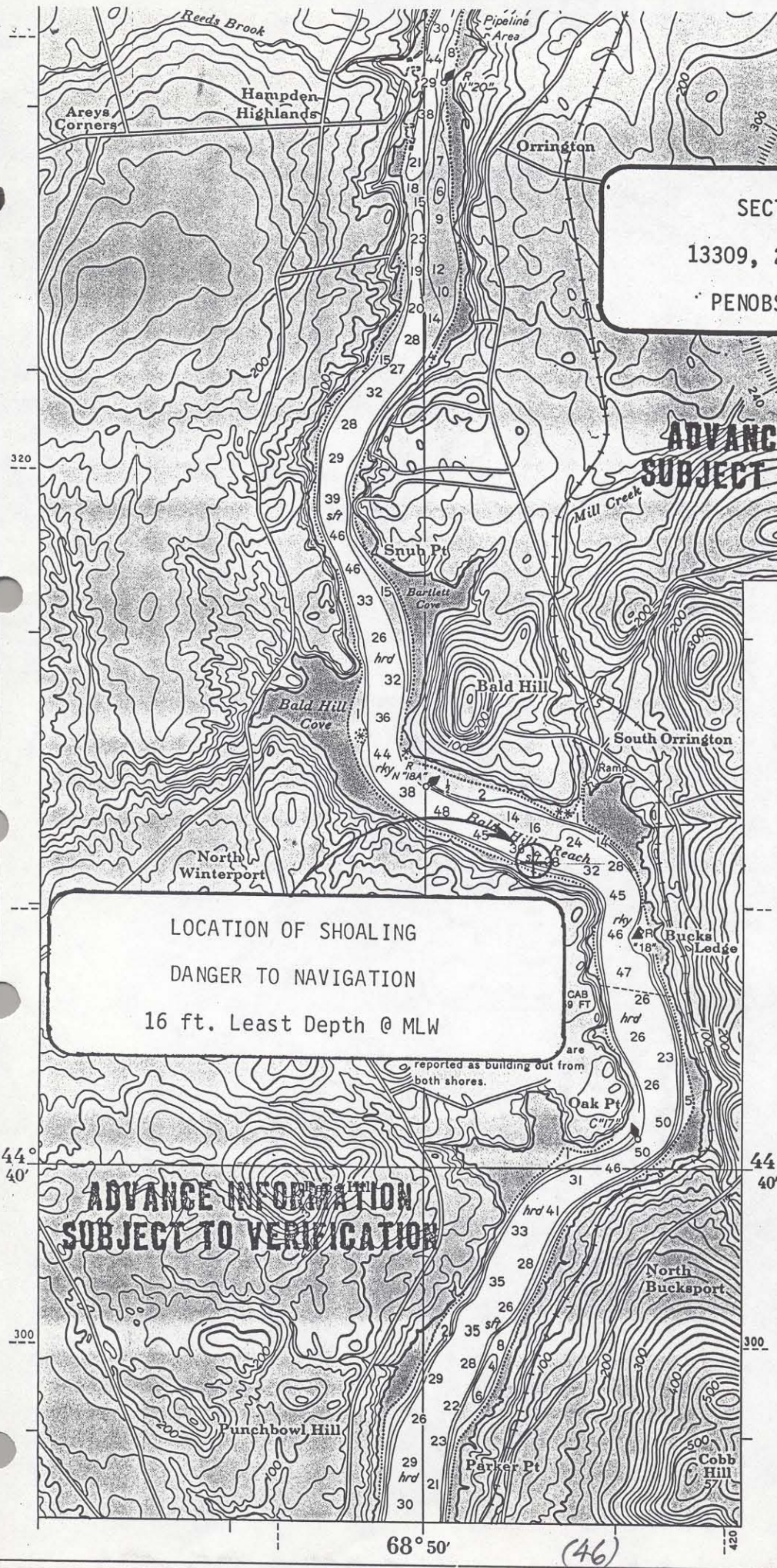
All depths were recorded with a Raytheon 719-C Survey Fathometer. The sounding vessel was positioned by range /azimuth methods using Del Norte Electronic position system for the range and a Nikon NT2D 20" theodolite for the azimuth. Least depths given are corrected for unverified actual tides and are subject to the application of final verified smooth tides.

The above information was relayed by telephone to Mr. Steinhower, of the 1st District, U.S. Coast Guard Local Notice to Mariners Office, Boston, MA. on January 8, 1985.

**ADVANCE INFORMATION
SUBJECT TO VERIFICATION**





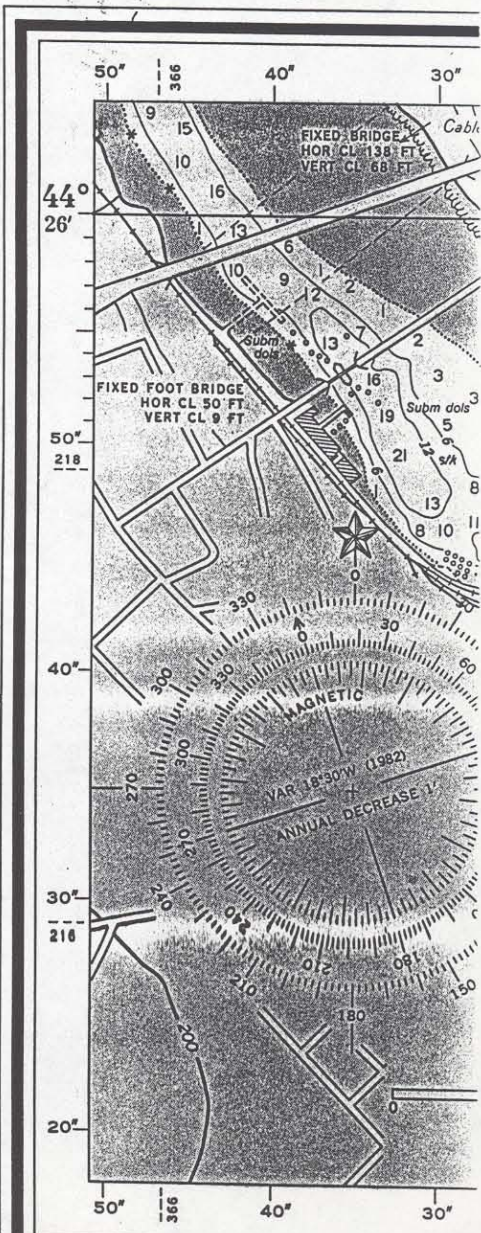


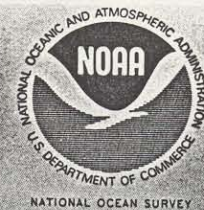
SECTION FROM CHART
13309, 23rd Ed., March 1984
PENOBSCOT RIVER, MAINE

ADVANCE INFORMATION
SUBJECT TO VERIFICATION

LOCATION OF SHOALING
DANGER TO NAVIGATION
16 ft. Least Depth @ MLW

ADVANCE INFORMATION
SUBJECT TO VERIFICATION





UNITED STATES — EAST COAST
MAINE

PENOBSCOT RIVER

Mercator Projection
Scale 1:40,000 at Lat. 44°27'
North American 1927 Datum
SOUNDINGS IN FEET
AT MEAN LOW WATER

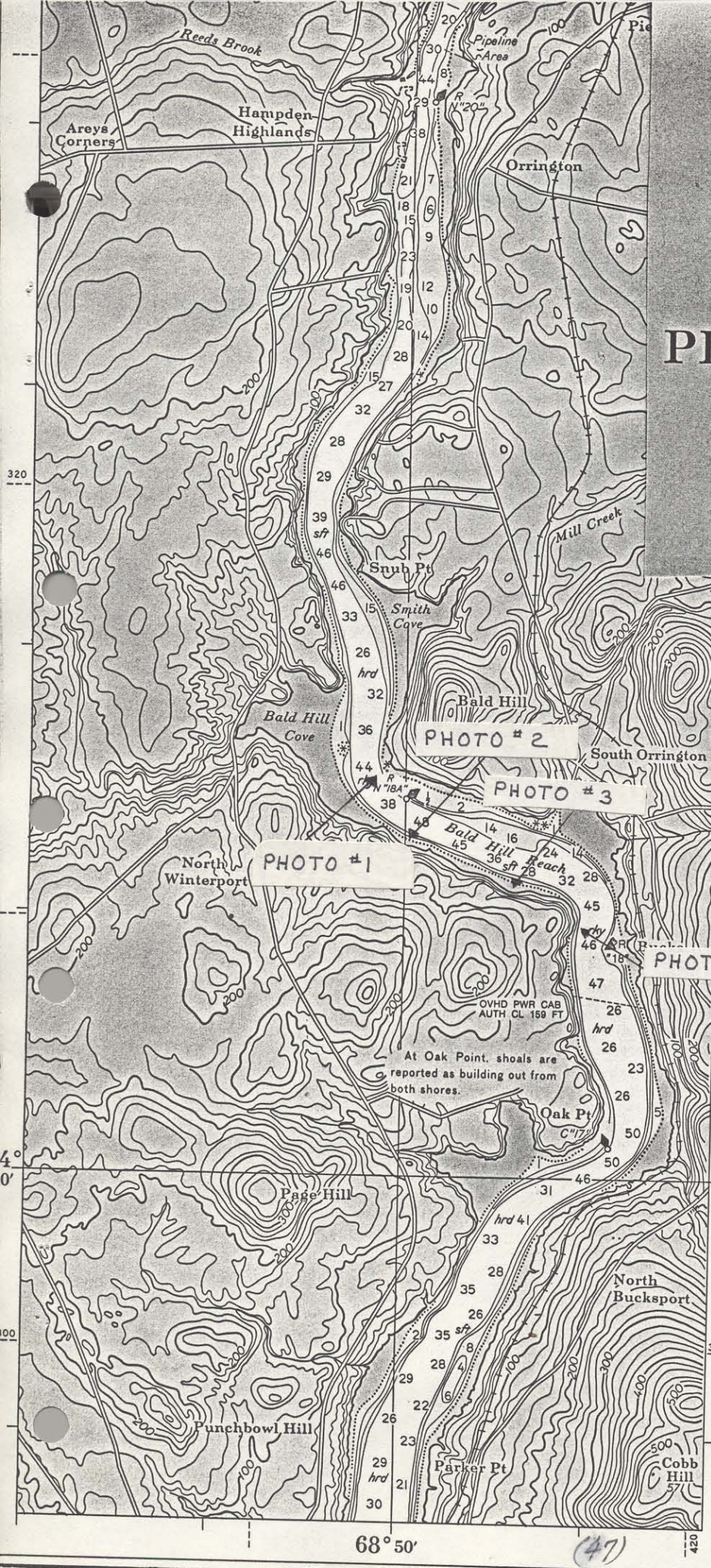


PHOTO #4

PHOTO #2

PHOTO #3

PHOTO #1

68° 50'

(47)



Mercator Projection
Scale 1:40,000 at Lat. 44°27'
North American 1927 Datum
SOUNDINGS IN FEET
AT MEAN LOW WATER

APPROVAL SHEET

For

SURVEY H-10146 (HFP-10-2-84)

The hydrographic records transmitted with this survey are complete and adequate.

No direct supervision was given by me during the field work.

The survey is complete and adequate, with no additional field work recommended.



Ronald W. Jones, LCDR, NOAA
Chief, Hydrographic Field Parties Section

Signal Tape Listing
 Penobscot River, Maine
 OPR-A166-MI/HFP-84
 H-10146
 HFP-10-2-84

101	7	44	47	51816	068	45	53949	243	0000	000000	Brew, 1982
102	3	44	47	44821	068	46	13514	243	0000	000000	Ford, 1984
103	4	44	46	52155	068	46	36350	243	0000	000000	Bang, 1982
104	3	44	46	38101	068	47	95243	243	0000	000000	Chev T.P., 1984
105	3	44	45	38243	068	48	19854	243	0000	000000	Crib 2, 1984
106	7	44	44	59353	068	48	57381	243	0000	000000	Crosby, 1982
107	3	44	44	13345	068	58	00933	243	0000	000000	Ham, 1982
108	4	44	43	00056	068	49	51657	243	0000	000000	Gray, 1982
✓109	4	44	42	18297	068	50	15957	254	0000	000000	Snub, 1982
✓110	4	44	41	39267	068	50	06921	254	0000	000000	Smith, 1982
✓111	4	44	41	33920	068	50	04145	254	0000	000000	Bald, 1982
✓112	4	44	41	01537	068	48	51199	254	0000	000000	Ledge, 1984
✓113	3	44	40	05061	068	49	09061	254	0000	000000	Oak, 1982
✓114	4	44	39	57349	068	48	52487	254	0000	000000	Cobb, 1984
✓115	4	44	38	56512	068	49	47955	254	0000	000000	Stardrill, 1984
✓116	3	44	38	11705	068	50	28998	254	0000	000000	Dock, 1982
✓117	3	44	37	32777	068	51	05177	254	0000	000000	Winter, 1982
118	4	44	37	28465	068	50	33196	243	0000	000000	Win, 1983
119	4	44	36	17796	068	49	24792	243	0000	000000	Rebar, 1984
120	5	44	35	50469	068	49	57469	243	0000	000000	Old 12, 1982
121	7	44	34	16463	068	47	43555	243	0000	000000	Rosen, 1982
122	3	44	35	28883	068	51	54389	243	0000	000000	Quarry, 1982
123	5	44	34	22384	068	48	57772	243	0000	000000	Stubbs, 1984
124	6	44	34	06583	068	47	22278	243	0000	000000	PK Lamp, 1984
125	3	44	42	43538	068	53	35932	243	0000	000000	Liebow, 1984
126	4	44	45	53376	068	47	23384	243	0000	000000	Kedunk, 1984
127	7	44	36	04323	068	51	04827	254	0000	000000	Bowden, 1982
✓128	4	44	41	09694	068	48	52848	254	0000	000000	Ramp, 1982

Note: All stations set in 1982 are aero-triangulation control, Job CM-8101. Stations established in 1983 and 1984 are supplemental stations established from the aero-triangulation, using Third Order Class One methods.

NOAA FORM 76-40
(8-74)

Replaces C&GS Form 367.

NONFLOATING AIDS XXXXXXXXXX FOR CHARTS

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

REPORTING UNIT
(If field party, ship or office)
HFP-3

LOCALITY
PENOBSCOT RIVER

STATE
MAINE

DATE
1/85

ORIGINATING ACTIVITY
☒ HYDROGRAPHIC PARTY
☐ GEODETIC PARTY
☐ PHOTO FIELD PARTY
☐ COMPILATION ACTIVITY
☐ FINAL REVIEWER
☐ QUALITY CONTROL & REVIEW GRP.
☐ COAST PILOT BRANCH
(See reverse for responsible personnel)

The following objects HAVE ☐ HAVE NOT ☐ been inspected from seaward to determine their value as landmarks.

OPR PROJECT NO. A166-MI/HFP-84

JOB NUMBER H-10146

DATUM North American 1927

METHOD AND DATE OF LOCATION
(See instructions on reverse side)

CHARTS
AFFECTED

CHARTING NAME
Daybeacon R"18"

DESCRIPTION
(Record reason for deletion of landmark or aid to navigation.
Show triangulation station names, where applicable, in parentheses.)
Bucks Ledge Daybeacon 18
1984 USCG L.L. Vol. 1, Page 40

POSITION
LATITUDE LONGITUDE
° / ' " D.M. Meters ° / ' " D.P. Meters

44 40 54.15 68 48 54.08

Hydro D.P.
8/84

13309
13310

NC L-36(85)

RESPONSIBLE PERSONNEL	
TYPE OF ACTION	NAME
OBJECTS INSPECTED FROM SEAWARD	LTJG. Frederick W. Rossmann OIC-HFP-3
POSITIONS DETERMINED AND/OR VERIFIED	LTJG. Frederick W. Rossmann
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>OFFICE</p> <p>I. OFFICE IDENTIFIED AND LOCATED OBJECTS Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object. EXAMPLE: 75E(C)6042 8-12-75</p> <p>FIELD</p> <p>I. NEW POSITION DETERMINED OR VERIFIED Enter the applicable data by symbols as follows: F - Field L - Located V - Verified 1 - Triangulation 2 - Traverse 3 - Intersection 4 - Resection 5 - Field Identified 6 - Theodolite 7 - Planetable 8 - Sextant</p> <p>A. Field positions* require entry of method of location and date of field work. EXAMPLE: F-2-6-L 8-12-75</p> <p>*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.</p> </div> <div style="width: 45%;"> <p>FIELD (Cont'd)</p> <p>B. Photogrammetric field positions** require entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object. EXAMPLE: P-8-V 8-12-75 74L(C)2982</p> <p>II. TRIANGULATION STATION RECOVERED When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery. EXAMPLE: Triang. Rec. 8-12-75</p> <p>III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH Enter 'V-Vis.' and date. EXAMPLE: V-Vis. 8-12-75</p> <p>**PHOTOGRAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods.</p> </div> </div>	
<p>INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION' (Consult Photogrammetric Instructions No. 64.)</p>	

FIELD TIDE NOTE (H10146)

Field tide reduction of soundings was based on daily high and low water levels from the ADR gauge at Winterport, Maine (Station No. 841-4781). The values were reduced to mean low water using the bench mark elevations for the Winterport tide station. All times for the gauges installed by the field party are UTC.

The operating tide station at Rockland, Maine (841-5490) and Bar Harbor, Maine (841-3320) will serve as control for datum determination at all subordinate tide stations. The Rockland gauge was leveled by the NOAA Ship Mt. Mitchell at the beginning of OPR-A166 in 1984 and was leveled out by HFP-3 on 8 October 1984.

Standard Fischer/Porter ADR tide gauges with tide staffs were installed, operated and observed by HFP-3 for the period indicated:

SITE	LOCATION	PERIOD
Bangor, Maine #841-4612	LAT 44°47'7N LON 68°46'3W	IN 30 May 84 OUT 9 Oct 84
Winterport, Maine #841-4781	LAT 44°38'2N LON 68°50'5W	IN 18 Jun 84 OUT 9 Oct 84
Bucksport, Maine #841-4684	LAT 44°34'3N LON 68°48'1W	IN 24 Aug 84 OUT 8 Oct 84

The staff on the Bangor gauge was changed on 27 June 1984. A level run was made to the old staff at the change. The staff was moved because the water level of the Penobscot River dropped below the staff's zero. A bubbler tide gauge was installed at the Bangor tide station to backup the ADR gauge when the river dropped below the level of the float well. Levels were run at the Winterport and Bucksport tide stations when the stations were installed and removed. There was no change in the tide staffs at Winterport or Bucksport from the level data.

The bubbler was installed at the Bangor, Maine tide station (841-4612) on 27 June 1984. The station operated until 31 August 1984 when the bubbler tubing was cut by accident during construction work at the tide station site.

ZONING

There are no recommendations for zoning by the field party. Zoning should be provided by the Tides and Water Levels Branch (N/OMS12).

DATE: 01/15/85

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

Marine Center: Pacific

OPR: A166

Hydrographic Sheet: H-10146

Locality: Penobscot River, ME

Time Period: July 30 - October 4, 1984.

Tide Station Used: 841-4612 Bangor, ME
841-4781 Winterport, ME

Plane of Reference (Mean ~~Lower~~ Low Water): 841-4612 = -1.57 ft.
841-4781 = 2.32 ft.

FROM PHONE CONV. W/JOE MULLEN 2/25/85.

Height of Mean High Water Above Plane of Reference: 841-4612 = 13.2 ft.
841-4781 = 11.7 ft.

Remarks: Recommended Zoning :

- 1) South of latitude $44^{\circ}43.6'$ to $44^{\circ}41.5'$ zone on 841-4612 and apply x0.94 range ratio to all heights.
- 2) South of latitude $44^{\circ}41.5'$ south to $44^{\circ}39.8'$ zone on 841-4781 and apply x1.03 range ratio to all heights.
- 3) South of latitude $44^{\circ}39.8'$ to $44^{\circ}37.0'$ zone direct on 841-4781

36.4
FROM PHONE CONV. W/JOE MULLEN 2/24/85.

James R. Hubbard
Chief, Tidal Datums Section

GEOGRAPHIC NAMES

H-10146

Name on Survey	A	B	C	D	E	F	G	H	I
	ON CHART NO.	ON PREVIOUS SURVEY NO.	CON U.S. QUADRANGLE MAPS	FROM LOCAL INFORMATION	ON LOCAL MAPS	P.O. GUIDE OR MAP	GRAND MCNALLY ATLAS	U.S. LIGHT LIST	Manuscript
Maine, Penobscot River Snub Point to Treat Hill									
Bald Hill Reach	X							01106	1
Bucks Ledge	X							01106	2
Drachm Point	X							01107	3
Frankfort Flats	X							01107	4
Oak Point	X							01106	5
Parkers Point	X							01107	6
Penobscot River	X							01107	7
Snub Point	X							01106	8
Treat Hill	X							01107	9
Winterport	X							01107	10
									11
									12
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NOAA FORM 77-27(H) (9-83)		U.S. DEPARTMENT OF COMMERCE		REGISTRY NUMBER H-10146	
HYDROGRAPHIC SURVEY STATISTICS					
RECORDS ACCOMPANYING SURVEY: To be completed when survey is processed.					
RECORD DESCRIPTION		AMOUNT		RECORD DESCRIPTION	
SMOOTH SHEET		1		SMOOTH OVERLAYS: POS., ARC, EXCESS	
DESCRIPTIVE REPORT		1		FIELD SHEETS AND OTHER OVERLAYS	
DESCRIP- TION	DEPTH/POS RECORDS	HORIZ. CONT. RECORDS	SONAR- GRAMS	PRINTOUTS	ABSTRACTS/ SOURCE DOCUMENTS
ACCORDION FILES	1				
ENVELOPES					
VOLUMES	5				
CAHIERS					
BOXES					
SHORELINE DATA					
SHORELINE MAPS (List): TP-01106, TP-01107					
PHOTOBATHYMETRIC MAPS (List):					
NOTES TO THE HYDROGRAPHER (List):					
SPECIAL REPORTS (List):					
NAUTICAL CHARTS (List):					
OFFICE PROCESSING ACTIVITIES <small>The following statistics will be submitted with the cartographer's report on the survey</small>					
PROCESSING ACTIVITY			AMOUNTS		
			VERIFICATION	EVALUATION	TOTALS
POSITIONS ON SHEET					1446
POSITIONS REVISED			1446		
SOUNDINGS REVISED			185		
CONTROL STATIONS REVISED			---		
			TIME-HOURS		
			VERIFICATION	EVALUATION	TOTALS
PRE-PROCESSING EXAMINATION			4		4
VERIFICATION OF CONTROL					
VERIFICATION OF POSITIONS			54.0		54.0
VERIFICATION OF SOUNDINGS			124.0		124.0
VERIFICATION OF JUNCTIONS					
APPLICATION OF PHOTOBATHYMETRY					
SHORELINE APPLICATION/VERIFICATION			12.5		12.5
COMPILATION OF SMOOTH SHEET			27.0		27.0
COMPARISON WITH PRIOR SURVEYS AND CHARTS				25.5	25.5
EVALUATION OF SIDE SCAN SONAR RECORDS					
EVALUATION OF WIRE DRAGS AND SWEEPS					
EVALUATION REPORT				7.5	7.5
GEOGRAPHIC NAMES					
OTHER: Digitization					14.0
*USE OTHER SIDE OF FORM FOR REMARKS			TOTALS	209	33.0
					268.5
Pre-processing Examination by J. L. Stringham, J.S. Green			Beginning Date 3-26-85		Ending Date 3-26-85
Verification of Field Data by R.A. Shipley, J.L. Stringham			Time (Hours) 209		Ending Date 8-8-85
Verification Check by B.A. Olmstead, J.L. Stringham, J.S. Green			Time (Hours) 65.0		Ending Date 9-11-85
Evaluation and Analysis by C.R. Davies			Time (Hours) 33.0		Ending Date 9-11-85
Inspection by D. Hill			Time (Hours) 2		Ending Date 9-11-85

PACIFIC MARINE CENTER
EVALUATION REPORT
H-10146

1. INTRODUCTION

H-10146 was accomplished by the NOAA Hydrographic Field Party III in accordance with the following project instructions:

OPR-A166-MI/HFP-84, dated March 20, 1984
Change Number 1, dated May 14, 1984
Change Number 2, dated December 7, 1984

This is a basic hydrographic survey of the Penobscot River in Maine. The survey extends from Treat Hill and Frankfort Flats at latitude $44^{\circ}36'25''$ N in the south to Snub Point at latitude $44^{\circ}42'25''$ in the north.

Predicted tides were not based on the Portland, Maine gage as recommended by the project instructions. Observed tides based on the Winterport, Maine gage with time and range adjustments were utilized during shipboard processing. Tide correctors used for the reduction of final soundings are computed from approved hourly heights from two tide gages, Bangor and Winterport, Maine.

The field sheet parameters have been revised to center the hydrography on the smooth sheet and to change the projection to polyconic.

The TRA, velocity, settlement and squat, and electronic correctors were changed to reflect corrections made during processing, because of incorrect computations.

2. CONTROL AND SHORELINE

All horizontal control stations used for controlling hydrography were established in accordance with aerotriangulation and Third Order Class I standards. The smooth sheet was plotted using aerotriangulated, preliminary adjusted field positions based on the North American Datum 1927.

Hydrographic positioning was conducted using Del Norte, configured in the range-azimuth mode, the HP-3080A was utilized for distance measuring; and see-field-sheet methods were employed when conventional control was unavailable. Baseline calibrations were performed before and after completing the hydrography. Daily system checks to confirm the baseline values were conducted by static methods and direct comparisons between control stations with the HP-3808A. However, daily corrections were utilized for the corrections of positions on H-10146 instead of baseline calibrations which were not well documented.

All remaining information affecting the positioning and station control of this survey is contained in paragraph F and G of the Descriptive Report and other supplemental data submitted with this survey.

The applicable reviewed Class III Shoreline Manuscripts and dates are as follows:

<u>Manuscript Number</u>	<u>Date of Photography</u>
TP-01106	September 1982
TP-01107	September 1982

The mean high waterline was not shown on the smooth sheet, except for two small islets at latitude 44°38'16.5"N, longitude 68°50'00"W and latitude 44°39'25"N, longitude 68°49'30"W.

3. HYDROGRAPHY

Crossline soundings are in good agreement. Generally, all standard depth curves are complete and satisfactory. The bottom configuration and least depths were adequately determined.

Two soundings were offset from the pier at latitude 44°37'52"N, longitude 68°50'44"W for cartographic clarity.

4. CONDITION OF SURVEY

The hydrographic records and reports are adequate and conform to the requirements of the Hydrographic Manual, 4th Edition, revised through Change three, except as noted in the Preprocessing Examination Report, dated February 28, 1975, and the following:

Bucks Ledge Daybeacon 18 is a fixed aid to navigation within the limits of this survey. It was located hydrographically. All fixed aids to navigation shall be located to Third Order Class I standards (Hydrographic Manual 4.5.13.2 and Project Instructions 4.2.2.3).

5. JUNCTIONS

H-10146 joins H-10136 (1984) to the north. Several soundings were transferred from H-10136 to facilitate the drawing of the depth curves in the junction area. This junction has been adequately effected.

H-10157 (1984-85) adjoins H-10146 to the south. This survey is in the field and a junction could not be accomplished. Because there was no junctional survey to the south the chart was compared to the present survey and depths are in harmony except in the eastern portion of the Penobscot River in the Frankfort Flats area. Shoaling has extended in a southwestern direction.

6. COMPARISON WITH PRIOR SURVEYS

H-1473 (1880) 1:10,000
H-1257b (1874) 1:10,000

The present survey soundings compare within ±1 to 4 feet of the prior survey soundings. These differences are attributed to the relative accuracy of the

data acquisition techniques, datum adjustment, and the shifting of the bottom topography through erosion and accretion, especially around the Frankfort Flats area.

H-10146 is adequate to supersede the prior surveys within the area of common coverage.

7. COMPARISON WITH CHART

Chart 13309, 23rd Edition, dated March 24, 1984

a. Hydrography - Charted information originates with the prior surveys discussed in Section 6 of this report and from miscellaneous sources. For more detail see section L of the hydrographer's report.

H-10146 is adequate to supersede charted hydrography within the common area.

The area covered by H-10146 was examined for dangers to navigation. One hazard was found by the hydrographer and reported to the 1st Coast Guard District. No additional dangers to navigation were found during the Preprocessing Examination or office processing.

b. Controlling Depths - There are no controlling depths within the limits of H-10146.

c. Aids to Navigation - There are five floating and one fixed aid to navigation within the limits of H-10146. The surveyed positions are contained in section N of the hydrographer's report.

These aids adequately serve the purposes intended.

The geographic names shown on the smooth sheet originated from this chart.

8. COMPLIANCE WITH INSTRUCTIONS

H-10146 adequately complies with the project instructions as amended and noted in section 4 of this report.

9. ADDITIONAL FIELD WORK

This is a good survey and no additional field work is recommended.

Respectfully submitted,

Charles R. Davies

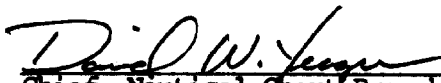
C. R. Davies
Cartographer

This survey has been verified and evaluated. I have examined the survey and it meets Charting and Geodetic Services survey standards and requirements for use in nautical charting. The survey is recommended for approval.

Dennis Hill
Dennis Hill
Chief, Hydrographic Section

ATTACHMENT TO DESCRIPTIVE REPORT FOR H-10146


I have reviewed the smooth sheet, accompanying data, and reports of this hydrographic survey. Except as noted in the Evaluation Report, the hydrographic survey meets or exceeds Charting and Geodetic Services (C&GS) standards, complies with instructions, and is accurately and completely represented by the smooth sheet and digital data file for use in nautical charting.


Chief, Nautical Chart Branch (Date)

CLEARANCE:

N/MOP2:LWMordock

SIGNATURE AND DATE:

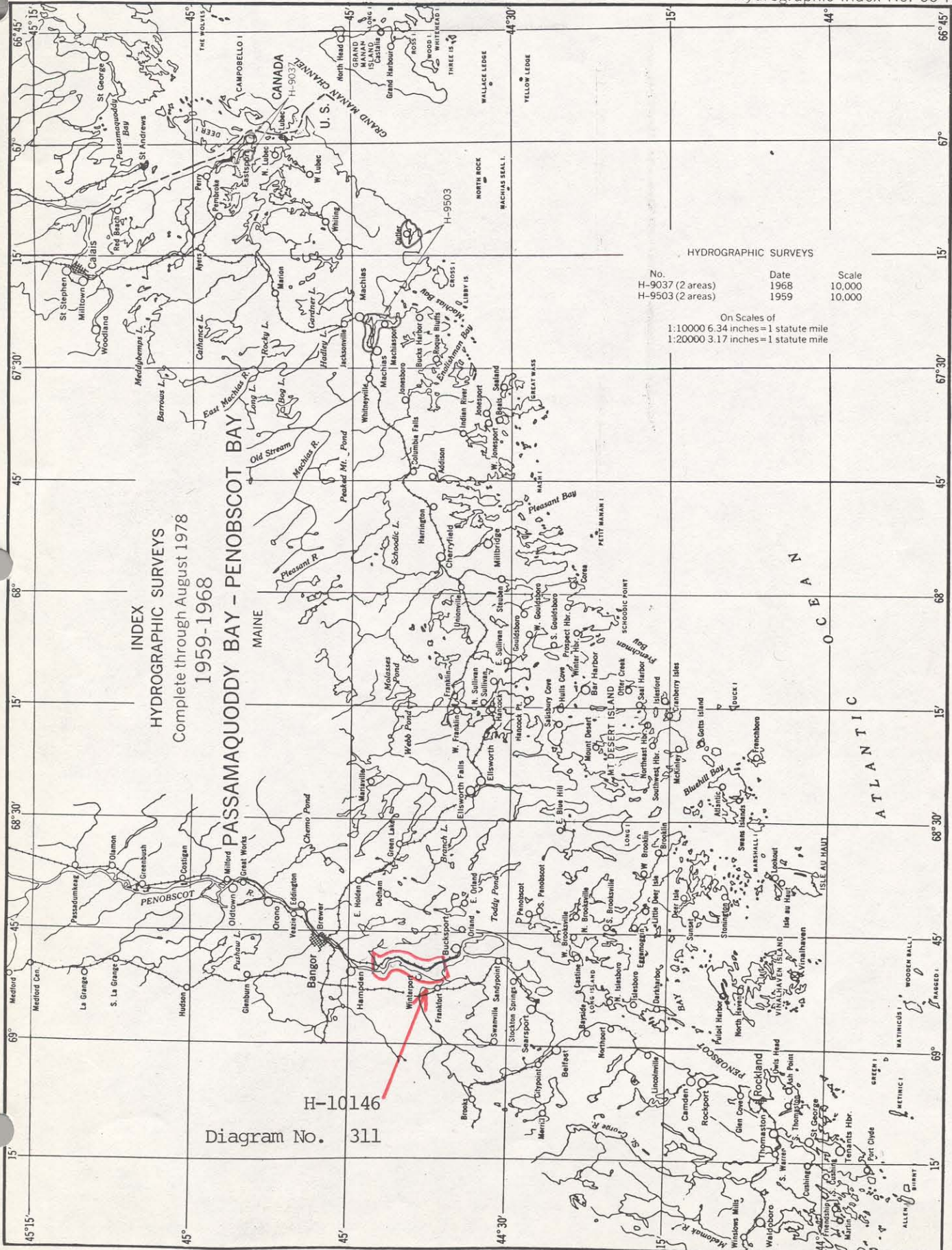


After review of the smooth sheet and accompanying reports, I hereby certify this survey is accurate, complete, and meets appropriate standards with only the exceptions as noted above. The above recommendations are forwarded with my concurrence.

 9/27/85
Director, Pacific Marine Center (Date)

DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Ocean Survey
Rockville, Maryland

Hydrographic Index No. 60 H



FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-10146

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.

SUPERSEDES C&GS FORM 8352 WHICH MAY BE USED.