

10097

Diagram No. 1203-3

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. MI-10-3-83
Office No..... H-10097

LOCALITY

State Maine
General Locality West Penobscot Bay
Locality Spruce Head to Three Miles
..... South of Lincolnville
..... 19 83

CHIEF OF PARTY
CAPT J.A. Yeager

LIBRARY & ARCHIVES

DATE July 8, 1985

10097

ACPG

CHS

13307

13309

13305

13302

13260-12

TO SIGN OFF SET

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

"RECORD OF APPLICATION"

HYDROGRAPHIC TITLE SHEET

H-10097

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.

MI 10-3-83

State MaineGeneral locality West Penobscot BayLocality Spruce Head to Three Miles South of LincolnvilleScale 1:10,000Date of survey June 15 - August 3, 1983Instructions dated December 29, 1982Project No. OPR-A166-MI-83Vessel Launch 2223, Launch 2225, Skiff 2221Chief of party CAPT J.A. Yeager, NOAASurveyed by Lt. R. Parsons, Lt (jg) G. Yates, Ens. C. McLean, Ens. D. CrewsSoundings taken by echo sounder, hand lead, ~~etc~~Graphic record scaled by Ship PersonnelGraphic record checked by Ship PersonnelVerification R.N. MihailovAutomated plot by PMC Xynetics PlotterEvaluation by Gordon E. KaySoundings in ~~fathoms~~ feet at MLW ~~NOON~~ feet at MLWREMARKS: Notations in black were made during evaluation of H-10097 at the
Pacific Marine Center, Seattle, Washington.Separates are filed in the back of the accordion folderSC 5-597AWOL and SURF ✓ 389 SRB

361	456	530	12
13	14	9	—
72	80	111	—
2	2	2	—
—	—	—	—
228	307	229	20
4624	337	331	20

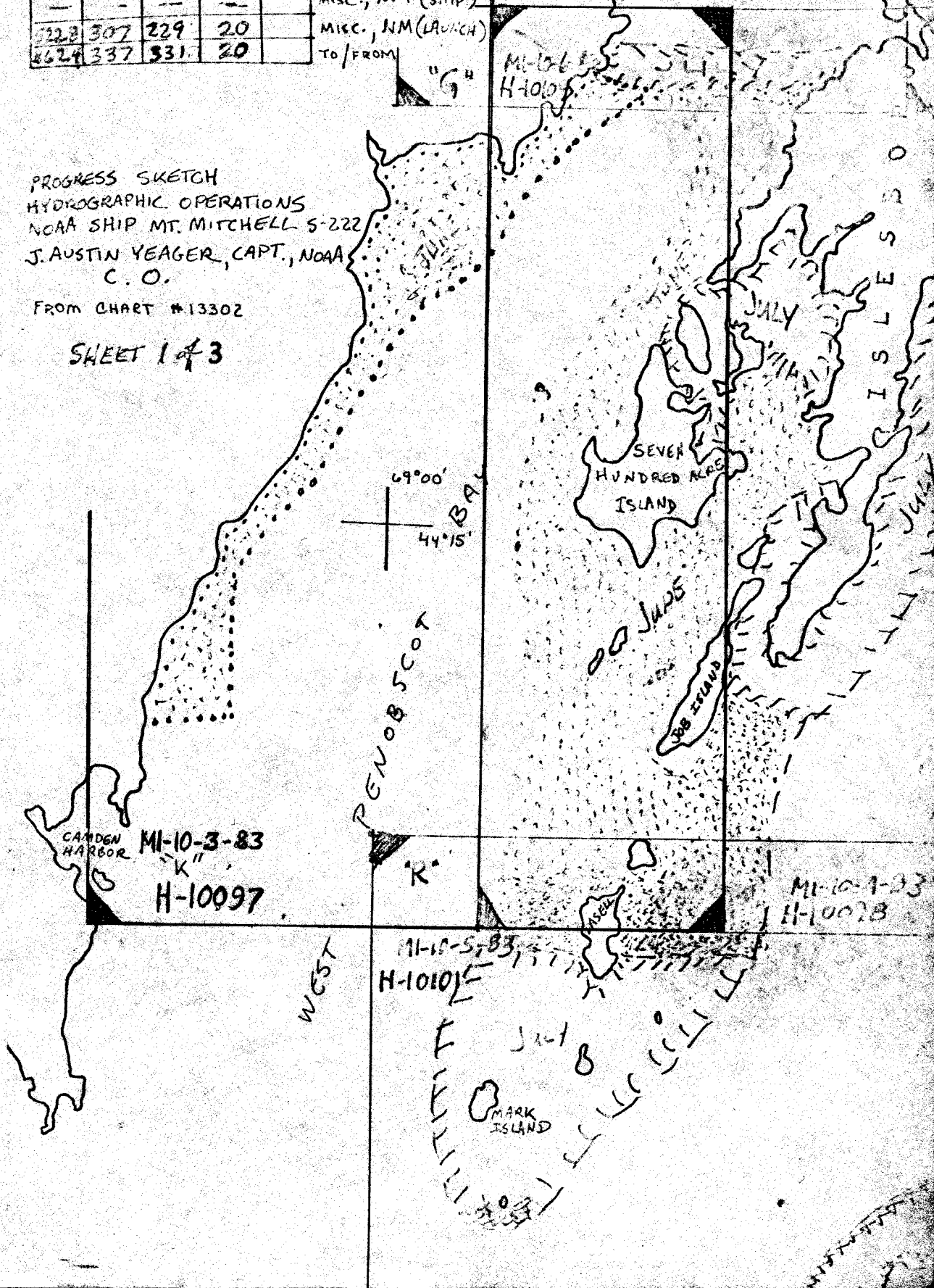
LNM HYDRO (SHIP)
 SNM HYDRO (SHIP)
 LNM HYDRO (LAUNCH)
 SNM HYDRO (LAUNCH)
 BOTTOM SAMPLES
 NANSEN CAST
 MISC., NM (SHIP)
 MISC., NM (LAUNCH)
 TO/FROM

SEE SHEET 282

PROGRESS SKETCH
 HYDROGRAPHIC OPERATIONS
 NOAA SHIP MT. MITCHELL S-222
 J. AUSTIN YEAGER, CAPT., NOAA
 C. O.

FROM CHART #13302

SHEET 1 of 3



DESCRIPTIVE REPORT
OPR-A166-MI-83
PENOBSCOT BAY, MAINE
H-10097

A. PROJECT

THIS SURVEY WAS CONDUCTED IN ACCORDANCE WITH PROJECT INSTRUCTIONS OPR-A166-MI-83, PENOBSCOT BAY, MAINE, ISSUED 29 DECEMBER 1982 AND AMENDED BY CHANGE No. 1 DATED 24 MAY 1983. ✓

B. AREA SURVEYED

THIS SURVEY COVERS THE AREA OF WESTERN PENOBSCOT BAY FROM LATITUDE 44°13'35" N TO LATITUDE 44°18'35" N, BOUNDED TO THE WEST BY SHORELINE AND TO THE EAST AT LONGITUDE 68°56'24" W BY JUNCTION SURVEY H-8178.

THIS SURVEY WAS CONDUCTED FROM JD 166 (15 JUNE 1983) TO JD 215 (3 AUGUST 1983). ✓

C. SOUNDING VESSELS

SOUNDINGS FOR THIS SURVEY WERE OBTAINED BY THE FOLLOWING VESSELS:

VESNO 2226	(LAUNCH 1004)	JD 174
VESNO 2225	(LAUNCH 1012)	JD 170-172, 205
VESNO 2223	(LAUNCH 1008)	JD 166-174
VESNO 2221	(MONARK SKIFF)	JD 215

 ✓

NO UNUSUAL SOUNDING VESSEL CONFIGURATIONS OR PROBLEMS WERE ENCOUNTERED.

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

<u>VESNO 2221</u>	<u>S/N</u>	✓
RAYTHEON DE-719B FATHOMETER	3947	

<u>VESNO 2223</u>		
ROSS MODEL 5000 ECHO SOUNDER	1083	
DIGITIZER MODEL 6000	1055	✓
TRANSCEIVER MODEL 4000	1055	
INVERTER MODEL 2000	1055	

<u>VESNO 2225</u>		
ROSS MODEL 5000 ECHO SOUNDER	1104	
DIGITIZER MODEL 6000	1050	✓
TRANSCEIVER MODEL 4000	1050	
INVERTER MODEL 2000	1104	

<u>VESNO 2226</u>		
USED ONLY FOR BOTTOM SAMPLES WITH VISUAL SEXTANT CONTROL.		✓

ALL SOUNDINGS WERE TAKEN WITH A HULL-MOUNTED TRANSDUCER (ANDIST 0.0 M).

ALL SURVEY RECORDS WERE SCANNED BY TRAINED SURVEY DEPARTMENT PERSONNEL AND CHECKED BY THE OFFICER-IN-CHARGE. PEAKS AND DEEPS CONSIDERED SIGNIFICANT OCCURRING BETWEEN SOUNDINGS WERE INSERTED ON THE ELECTRONIC CORRECTOR TAPE. DIGITIZING ERRORS WERE CORRECTED TO AGREE WITH THE GRAPHIC RECORD VIA THE ELECTRONIC CORRECTOR TAPE.

PHASE CALIBRATION CHECKS WERE MADE AT FREQUENT INTERVALS. NECESSARY ADJUSTMENTS WERE MADE AND NOTED IN THE SOUNDING VOLUME AND ON THE FATHOGRAM. ANY DEPARTURE OF THE TRACE FROM THE CALIBRATION DUE TO PHASE DIFFERENCE WAS CORRECTED DURING THE SCANNING PROCESS.

VELOCITY CORRECTORS WERE OBTAINED FROM THE TWO NANSSEN CASTS LISTED BELOW, AND RESULTANT DATA WERE APPLIED TO THE ECHO SOUNDINGS. *Both casts fall outside of survey area*

<u>NANSSEN CAST No.</u>	<u>POSITION</u>	<u>CAST DEPTH</u>	<u>DATE</u>	
2	44°12.6' N 69°01.1' W	55 M	6-24-83	✓
4	44°11.0' N 68°55.0' W	54 M	7-24-83	

VELOCITY TABLES LISTED IN APPENDIX D ARE TO BE APPLIED AS FOLLOWS:

<u>VESNO</u>	<u>JULIAN DATE</u>	<u>CAST No.</u>	<u>TABLE</u>
2223	166-174	2	3
2225	170-172	2	4
2226	174	2	5
2225	205	4	13
2221	215	4	14

BAR CHECKS WERE TAKEN DAILY AND COMPARED FAVORABLY WITH THE CAST DATA. PRINTOUTS OF VELOCITY TABLES AND THEIR RESPECTIVE VELOCITY CURVES ARE INCLUDED IN APPENDIX D.

A TRANSDUCER DRAFT OF ^{1.8}~~2.1~~ FEET WAS DETERMINED FOR THE NEWLY INSTALLED TRANSDUCERS AND WAS APPLIED TO ALL SOUNDINGS TAKEN BY VESNO 2223 AND VESNO 2225. *See letter from AMC re: rising draft (attached)*

DRAFT CHANGES FOR THE LAUNCH WERE INSIGNIFICANT, AND SETTLEMENT AND SQUAT VALUES WERE MEASURED AT VARIOUS OPERATIONAL SPEEDS IN THE VICINITY OF THE U.S. COAST GUARD PIER AT ROCKLAND, MAINE. SETTLEMENT AND SQUAT TESTS WERE REPEATED AFTER JD 179, WHEN PROTECTIVE PROPELLER CAGES WERE INSTALLED.

A COPY OF THE SETTLEMENT AND SQUAT REPORT AND GRAPHIC PRESENTATIONS OF CORRECTORS VERSUS LAUNCH RPM'S ARE INCLUDED IN APPENDIX D. THESE CORRECTORS ARE INCORPORATED IN THE TC/TI TAPES, PRINTOUTS OF WHICH ARE ALSO INCLUDED IN APPENDIX D.

THIS SURVEY WAS CONDUCTED USING PREDICTED TIDES BASED ON DAILY PREDICTIONS AT PULPIT HARBOR (STATION No. 841-4888). THE PRIMARY TIDE GAGE FOR THIS SURVEY IS LOCATED IN ROCKLAND, MAINE (STATION No. 841-5490).

SMOOTH TIDES WERE REQUESTED FROM THE CHIEF, TIDES AND WATER LEVELS BRANCH (N/OMS12) IN A LETTER DATED 7 SEPTEMBER 1983.

SMOOTH TIDES AND SETTLEMENT AND SQUAT CORRECTORS WILL BE APPLIED ON THE FINAL SMOOTH SHEET PREPARED BY THE PROCESSING DIVISION, ATLANTIC MARINE CENTER (MOA23).

Smooth sheet revised and evaluated at the Pacific Marine Center, Seattle Wa. Completed

E. HYDROGRAPHIC SHEETS

THIS SURVEY WAS PLOTTED ON TWO (2) MYLAR FIELD SHEETS BY THE HYDROPLOT SYSTEM ONBOARD NOAA SHIP MT MITCHELL AS FOLLOWS:

<u>SHEETS</u>	<u>DATA</u>	<u>SKEW</u>
1	MAINScheme	90, 36, 54

SHEETS

1

DATADEVELOPMENTS, CROSSLINES, BOTTOM
SAMPLES AND DETACHED POSITIONSSKEW

90, 36, 54

THIS SURVEY WAS PLOTTED OFFLINE USING AN ELECTRONIC CORRECTOR TAPE AND A VELOCITY CORRECTOR TAPE. SOUNDINGS ON THE FIELD SHEETS ARE CORRECTED FOR TRA, PREDICTED TIDES AND SOUND VELOCITY. SHEETS SUBMITTED ARE NOT CORRECTED FOR SMOOTH TIDES OR SETTLEMENT AND SQUAT. THESE CORRECTORS WILL BE APPLIED BY THE ATLANTIC MARINE CENTER PROCESSING DIVISION AFTER FINAL VERIFICATION. ALL FIELD RECORDS AND THE FOLLOWING TAPES HAVE BEEN FORWARDED TO THE ATLANTIC MARINE CENTER (MOA):

MASTER RANGE/RANGE DATA TAPES (RAW AND EDITED)
MASTER RANGE/AZIMUTH TAPES (RAW AND EDITED)
VELOCITY CORRECTOR TAPES
PARAMETER TAPE
SIGNAL TAPE
TC/TI TAPES
ELECTRONIC CORRECTOR TAPES

F. CONTROL STATIONS

CONTROL STATIONS USED FOR THIS SURVEY WERE EITHER THIRD ORDER, CLASS I POSITIONS OR PHOTOGRAMMETRIC POSITIONS ESTABLISHED PRIOR TO MT MITCHELL'S ARRIVAL IN PENOBSCOT BAY. IN CASES WHERE PHOTOGRAMMETRIC POSITIONS WERE USED, THEIR ACCURACY WAS CONFIRMED BY MEASURING A BASELINE TO A KNOWN GEODETIC POSITION. PHOTOGRAMMETRIC POSITIONS WERE CONSIDERED ACCURATE AND USED FOR ELECTRONIC CONTROL IF THE MEASURED DISTANCE AGREED WITHIN ± 2 METERS OF THE CALCULATED INVERSE DISTANCE. PHOTOGRAMMETRIC POSITIONS WERE NEVER USED TO EXTEND CONTROL TO OTHER AREAS. STATIONS USED DURING THIS SURVEY WERE ALL MONUMENTED AND ARE AS FOLLOWS:

GOOSE

FERRY

PHIL

SHERM

FLAT RM 5

SPRUE - Bottom Samples only.

A LIST OF ALL SIGNAL NAMES AND GEOGRAPHIC POSITIONS IS INCLUDED IN APPENDIX F OF THIS REPORT. A HORIZONTAL CONTROL REPORT DOCUMENTING THE ESTABLISHMENT OF ADDITIONAL CONTROL BY MT MITCHELL PERSONNEL IS INCLUDED WITH THE SURVEY SUPPORT DATA.

Horizontal Control Report forwarded separately to N/C 6243

G. HYDROGRAPHIC POSITION CONTROL

DEL NORTE TRISPONDERS WERE USED FOR ELECTRONIC CONTROL WITH RANGE/RANGE AND RANGE/AZIMUTH METHODS. THE FOLLOWING EQUIPMENT WAS USED DURING THIS SURVEY.

DEL NORTE REMOTES

S/N 189 (74)

S/N 256 (78)

DEL NORTE MASTER

S/N 1070

S/N 159

DMU

S/N 182

S/N 162

WILD T-2 THEODOLITE

S/N 17801

EACH DEL NORTE DMU-MASTER PAIR WAS CALIBRATED WITH THE REMOTE UNITS EVERY TWO WEEKS OVER A MEASURED BASELINE, IN ACCORDANCE WITH AMC OPERATIONS ORDER No. 79. ✓

THE MEASURED BASELINE WAS ESTABLISHED OVER A WATER PATH BETWEEN THE U.S. COAST GUARD STATION AT ROCKLAND, MAINE AND A POINT NEAR THE BASE OF THE ROCKLAND BREAKWATER USING A HEWLETT PACKARD 3810B UNIT. ✓

FREQUENT BASELINE CALIBRATIONS AT TWO WEEK INTERVALS WERE MADE DURING THE SURVEY AND DAILY CALIBRATION CHECKS WERE MADE BEFORE AND AFTER DATA ACQUISITION. DAILY METHODS INCLUDED THREE POINT SEXTANT FIXES, OR AN HP 3810B UNIT OCCUPYING A KNOWN STATION AND REFLECTING A SIGNAL FROM THE SURVEY LAUNCH WITH A PRISM MIRROR CLUSTER. SEXTANT CALIBRATION WAS ONLY USED WHEN OTHER MEANS WERE NOT FEASIBLE, HOWEVER, AN HP 3810B CALIBRATION WAS OBTAINED WITHIN 24 HOURS TO INSURE POSITION CONTROL ACCURACY. ✓

H. SHORELINE

SHORELINE DETAILS PRESENTED ON THE FIELD SHEET ARE TAKEN FROM SHORELINE MANUSCRIPTS TP-01113 AND TP-01114, JOB CM-8101. FIELD EDIT WAS ACCOMPLISHED THROUGH A DETAILED EXAMINATION OF ALL SHORELINE AREAS DURING ACQUISITION OF HYDROGRAPHIC SHORELINE SOUNDINGS. ADDITIONALLY, ON JULIAN DATES 200 AND 205, THE ENTIRE SHORELINE AREA WAS EXAMINED BY SKIFF AND WALKED BY ✓

THE HYDROGRAPHER IN AREAS WHICH CONTAINED FINE DETAIL OR DISCREPANCIES WITH CURRENT CHART EDITIONS. THESE AREAS ARE ADDRESSED IN SECTION L OF THIS REPORT. SEVERAL CHANGES HAVE BEEN TRANSFERRED TO THE FIELD SHEET AND ANSWER THE INQUIRIES PRESENTED IN THE NOTES TO THE HYDROGRAPHER.

A ROCK AWASH WAS PLOTTED AT POSITION 44°14'18" N, 69°02'09" W ON TOPOGRAPHICAL SHEET TP-01113. THIS FEATURE, PLOTTED BETWEEN THE HIGH AND LOW WATER LINE, WAS NOT FOUND TO EXIST WHEN THE DESIGNATED AREA WAS EXAMINED AT MLW AND SHOULD NOT BE CHARTED. *small sheet shows pile (B)*
 RUINS, CONSISTING OF SEVERAL PILINGS, EXTEND BEYOND THE SMALL PIER IMMEDIATELY SOUTH OF THE LINCOLNVILLE FERRY TERMINAL AT POSITION 44°16'49" N, 69°00'25" W. THESE RUINS WERE NOT DISCERNED FROM THE ADJACENT PIER AT THIS LOCATION ON SHEET TP-01113 AND HAVE BEEN LOCATED BY DETACHED POSITION (POSITION 1742). THESE RUINS SHOULD BE INCLUDED ON THE CHART. EXTENDING EAST FROM FROHOCK BROOK ARE FOUND SEVERAL BOULDERS. THESE ARE ROCKS AWASH AND HAVE BEEN LOCATED (POSITION 1836+1) AT 44°16'58" N, 69°00'21" W. *Concur*
 A ROCK AWASH SYMBOL SHOULD BE CHARTED AT THIS POSITION. IN THIS IMMEDIATE AREA IS ALSO FOUND A 3" DIAMETER FLEXIBLE PIPELINE, USED AS A SALTWATER INTAKE FOR A NEARBY RESTAURANT. THE PIPELINE EXTENDS APPROXIMATELY 75 FEET BEYOND MLW AND HAS BEEN DRAWN ON THE FIELD SHEET AS IT APPEARS TO THE HYDROGRAPHER. IT IS NOT RECOMMENDED THAT THIS PIPELINE BE CHARTED. *small sheet shows rock awash x (1) Concur, not shown on small sheet.*

NO RUINS WERE FOUND AT 44°17'51" N, 68°59'39" W. THE INDICATED STRUCTURE AT THIS LOCATION ON SHEET TP-01114 IS ACTUALLY A CLUSTER OF ROCKS SUBMERGED AND AWASH. DETACHED POSITIONS 1708-1711 DEFINE THE SUBMERGED ROCKS. WITHIN THESE POSITIONS ARE FOUND SEVERAL ROCKS AWASH, AND SHOULD BE CHARTED AS SUCH, SINCE THEY ARE A HAZARD TO NAVIGATION AT ALL PHASES OF THE TIDE.

Small sheet shows x (1), x (4) (5) were incorporated into the ledge

I. CROSSLINES

CROSSLINES WERE RUN AT 45° TO THE MAINSCHEME SOUNDING LINES. TOTAL CROSSLINE MILEAGE OF 8.1 NAUTICAL MILES ACCOUNTED FOR 10.7% OF THE PRINCIPAL SYSTEM OF SOUNDING LINES. ✓

AGREEMENT OF COMPARED SOUNDINGS WAS 100% AS PER THE GUIDELINES SET IN SECTION 1.1.2, PART B.II.I OF THE HYDROGRAPHIC MANUAL. ✓

J. JUNCTIONS

THIS SURVEY IS JUNCTIONED BY THE FOLLOWING SURVEYS:

REGISTRY NUMBER	SCALE	DATE
H-10109 <i>(fine)</i>	1:10,000	AUG, 1983
H-8178 <i>(fine)</i>	1:20,000	MAY-OCT, 1954
H-7830 <i>(fine)</i>	1:10,000	MAY-AUG, 1950

COMPARISON WITH SURVEY H-8178 GENERATED 100% AGREEMENT OF SOUNDINGS WHEN COMPARED UNDER THE CRITERION STATED IN SECTION 1.1.2, PART B.II.I OF THE HYDROGRAPHIC MANUAL. SURVEY H-8178 JUNCTIONS THIS SURVEY TO THE EAST OR DEEPWATER REGION. A NOTABLE FEATURE WAS THE SHOAL WITH A LEAST DEPTH OF 7~~3~~ FEET (POSITION 1360+5). THIS LEAST DEPTH WAS NOT RECORDED IN SURVEY H-8178 AND SHOULD BE NOTED FOR INCLUSION ON THE CHART (SEE SECTION L).

SURVEY H-10109, WHICH WAS CONDUCTED CONCURRENT WITH THIS SURVEY, WAS COMPLETED AUGUST, 1983. COMPARISON WITH THIS SURVEY SHOWED 100% AGREEMENT WHEN COMPARED UNDER SECTION 1.1.2, PART B.II.I OF THE HYDROGRAPHIC MANUAL. THIS SURVEY JUNCTIONS TO THE NORTH AND NO CONTOUR CHANGES OR DISCREPANCIES WERE FOUND. ✓

SURVEY H-7830 JUNCTIONS TO THE SOUTH AND AGREED 100% WITH THE PRESENT SURVEY WITH ONE EXCEPTION. IN THE VICINITY OF DILLINGHAM LEDGE AT 44°13'42" N, 69°01'59" W, SURVEY 7830 SHOWS A 10' AND 11' SOUNDING. CURRENT SURVEY POSITION 1200 FINDS A 26' SOUNDING WITHIN 1 MM OF THE 10' SOUNDING AT THE SCALE OF THE SURVEY. THIS AREA HAS A RAPID, STEEP SLOPE, AND COMPLICATES COMPARISON WITH THE HAND-PLOTTED SOUNDINGS OF H-7830. POSITION NUMBER 1200 IS ACTUALLY OUTSIDE OF THE ASSIGNED SURVEY AREA AND WAS THE MOST SOUTHERLY SOUNDING OF THE LINE WHICH OVERLAPPED INTO THE AREA OF H-7830. DUE TO THE STEEP SLOPE, IT IS RECOMMENDED THAT THE SHOAL DEPTH FROM H-7830 BE CARRIED FORWARD IN LIEU OF POSITION 1200 OF THIS SURVEY. *Concur see Evaluation Report section 4*

K. COMPARISON WITH PRIOR SURVEYS

THE FOLLOWING PRIOR SURVEY WAS COMPARED WITH THIS SURVEY:

<u>REGISTRY NUMBER</u>	<u>SCALE</u>	<u>DATE</u>
1143	1:20,000	1871

COMPARISON OF SOUNDINGS YIELDS 90% AGREEMENT WITHIN GUIDELINES OF THE HYDROGRAPHIC MANUAL, SECTION 1.1.2, PART B.II.I. AREAS OF DISAGREEMENT ARE AS FOLLOWS:

<u>LOCATION</u>	<u>SURVEY 1143</u>	<u>PRESENT SURVEY</u>	<u>POSITION No.</u>
44°15'11" N	16 FT.	68 ⁶⁷ FT.	1079+1
69°01'10" W		38 ³⁹ FT.	1075+4
44°16'10" N	28.5 FT. (4-3/4 FM)	51 ⁵⁰ FT.	3045+5
69°00'18" W		43 FT.	1344+5
44°16'55" N	58.5 FT. (9-3/4 FM)	74 ⁷³ FT.	1860
69°99'01" W			

THE ABOVE PRIOR SURVEY DEPTHS WERE NOT FOUND DURING MAINSCHEME SOUNDINGS AND 50 M DEVELOPMENT LINE SPACING. THE PRESENT SURVEY DEPTHS ARE TO SUPERSEDE THOSE OF THE PRIOR, SINCE THESE PRIOR DEPTHS DO NOT REPRESENT ISOLATED FEATURES BUT EXTENSIONS AND MIS-PLACEMENTS OF CONTOUR IN STEEP SLOPED AREAS. *Concur* ✓

3. HADDOCK LEDGE, A PINNACLE LEDGE RISING TO A LEAST DEPTH OF 3 FEET (POSITION 1254) IS POSITIONED AT 44°17'12" N, 68°59'22" W ON BOTH PRESENT AND PRIOR SURVEYS AND LEAST DEPTHS AGREE WITHIN 1 FOOT; SURVEY 1143 PRESENTING A 4-FOOT LEAST DEPTH. POSITION 1254, A DETACHED POSITION, WAS OBTAINED BY LEADLINE SOUNDING AFTER VISUAL SEARCH REVEALED THE SHOALEST POINT OF THE LEDGE. DETERMINATION OF THE ACTUAL LEAST DEPTH SHOULD BE MADE AFTER REAL TIDE DATA ARE APPLIED TO THE SOUNDINGS. ✓

A SHOAL OF ¹³74 FEET LEAST DEPTH (POSITION 3054+3) EXISTS AT POSITION 44°16'18" N, 69°00'00" W. THIS WAS NOT REPORTED IN THE PRIOR SURVEY AND SUBSEQUENTLY THE CURRENT CHART EDITIONS (SEE SECTION L). *Previously discussed in paragraph 5*

THE PRIOR SURVEY DOCUMENTS SOUNDINGS WITHIN THE EXISTENCE OF DUCKTRAP RIVER. DURING THE PRESENT SURVEY, THE HYDROGRAPHER CHOSE NOT TO SOUND WITHIN THE RIVER MOUTH, CONSIDERING THE SAFETY OF THE SOUNDING VESSEL, AND TO INDICATE THAT THE PRUDENT MARINER SHOULD NOT ATTEMPT TO NAVIGATE THIS EXTREMELY NARROW AND SHOAL PASSAGE. ✓

THERE WERE NO PSR ITEMS ASSIGNED TO THIS SURVEY.

L. COMPARISON WITH THE CHART

THIS SURVEY IS PRESENTLY COVERED BY TWO NOS CHARTS. THEY ARE:

<u>CHART No.</u>	<u>EDITION</u>	<u>DATE</u>	<u>SCALE</u>
13305	24TH	13 FEB 1982	1:40,000
13309	22ND	20 FEB 1982	1:40,000
(13302)	14TH	26 FEB 1983	1:80,000)

COMPARISON WITH CHART No. 13305 SHOWED 80% AGREEMENT UNDER STANDARDS OF THE HYDROGRAPHIC MANUAL. THREE SIGNIFICANT DISCREPANCIES WERE FOUND.

AT POSITION ^{Lettered}44°14'03" N, ^{formatted}69°02'07" W, A 16-FOOT SOUNDING IS CHARTED WHERE PRESENT SURVEY SHOWS AN ADJACENT 23-FOOT (POSITION 3372) AND 27-FOOT (POSITION 3369+1) SOUNDING. THE CARTOGRAPHIC PLACEMENT OF THE CHARTED SOUNDING CAUSES AN EARLY DISTORTION OF THE 20-FOOT CONTOUR LINE, WHICH SHOULD BE REPRESENTED AS INDICATED BY THIS SURVEY. *chart as shown on the smooth sheet*

④ The charted rock was found location #1231

A SUBMERGED ROCK CHARTED AT 44°15'55" N, 69°00'45" W WAS NOT FOUND AND WAS NOT INCLUDED ON THE SHORELINE MANUSCRIPT. *Chart according to this survey H-10097* SHORELINE DEVELOPMENT AND FIELD EDIT DID NOT REVEAL THIS FEATURE. SINCE IT WAS NEITHER FOUND NOR DISPROVED, IT SHOULD BE CONTINUED ON THE CHART. THE SOURCE OF THIS ITEM IS PRIOR SURVEY NO. 1193.

*The rock * (1) was located 10 meters to N.E. Position #1231*

ON CHART 13305 AND 13309 APPEARS A 28-FOOT SOUNDING AT 44°16'10" N, 69°00'18" W. A SERIES OF DEVELOPMENT LINES RUN AT 50 METER SPACING DISPROVED THIS FEATURE, WHICH DISTORTS THE BOTTOM CONTOURS AS CHARTED. SOUNDINGS OF 520 FEET (POSITION 3034+5) AND 432 FEET (POSITION 1344+5) WERE OBTAINED AT THAT POSITION AND SHOULD SUPERSEDE THE INCORRECT ONE MENTIONED. *Chart as shown on smooth sheet*

CHART 13309 SHOWED A 90% AGREEMENT WHEN COMPARED, AND SHORELINE FEATURES WERE MORE SIGNIFICANT IN COMPARISON THAN SOUNDINGS.

A 96-FOOT CHARTED SOUNDING AT 44°17'53" N, 68°58'12" W DISTORTS THE 120-FOOT CONTOURS TO THE EAST. THIS SURVEY SHOWED A 155-FOOT DEPTH (POSITION 3798+3) AND SHOULD BE CARRIED ON THE CHART. ✓

TO SMOOTH THE 60-FOOT CONTOUR AT 44°16'55" N, 69°00'01" W, THE CHARTED 58-FOOT SOUNDING (SOURCE IS PRIOR SURVEY 1143) SHOULD BE REPLACED BY THE CORRECT DEPTH OF 73 FEET (POSITION 1860) WHEN CHARTED. *This sounding increased by a 11 foot depth, Chart as shown on smooth sheet.*

ROCKS AWASH CHARTED AT 44°17'19" N, 69°00'01" W WERE LOCATED BY POSITION 1549, BUT DO NOT APPEAR ON THE SHORELINE MANUSCRIPT. *See location Report section 7* THE FEATURE DOES EXIST AS CHARTED. THE SPIT EXPOSED AT LOW WATER IS NOT AS EXTENSIVE AS CHARTED AT 44°17'41" N, 69°00'00" W, AND IS DRAWN CORRECTLY ON THE FIELD SHEET. THIS CORRECTION SHOULD BE INCLUDED ON THE CHART. *Delination of this spit is accomplished by the zero foot curve on the smooth sheet.*

THE FERRY TERMINAL AT LINCOLNVILLE IS CHARTED CORRECTLY AT 44°16'49" N, 69°00'25" W. THE SOUTHERN STRUCTURE CONTAINS SEVEN PILINGS IN RUINS AND SHOULD BE CHARTED AS SUCH A HAZARD, AS INDICATED ON THE FIELD SHEET. *Chart as shown on smooth sheet*

ROCKS AWASH WERE SUGGESTED TO BE RUINS BY THE PHOTOCOMPILER WERE LOCATED BY POSITION 1708-1711. THEY SHOULD BE CHARTED AS ROCKS AWASH AT 44°17'51" N, 68°59'39" W. *Also see page 6 paragraph 3, 159.*

A ROCK AWASH SYMBOL SHOULD BE ADDED AT LOCATION 44°18'58" N, 69°00'27" W, AS SEVERAL LARGE ROCKS ARE FOUND HERE INDICATED BY POSITION 1836+1. IN THIS AREA A FLEXIBLE PIPELINE DISCUSSED IN SECTION H IS FOUND. *THIS FEATURE WAS PLACED ON THE FIELD SHEET *This feature was not shown in field sheet.* BY HAND BY THE HYDROGRAPHER AND DOES NOT EXTEND INTO HEAVILY TRAFFICKED AREAS. THE PIPE IS AN INTAKE AND EXTENDS 75 FEET BEYOND MLW. THIS PIPELINE SHOULD NOT BE CHARTED, AS IT PRESENTS NO HAZARD TO NAVIGATION.

Note: There is no acquired field data that supports any existence of this pipeline. Chart as shown on smooth sheet. Charting is left to the discretion of the compiler

M. ADEQUACY OF SURVEY

THIS SURVEY IS SUFFICIENTLY COMPLETE AND ADEQUATE TO SUPERSEDE THE PRIOR SURVEY, WITH THE EXCEPTION OF THOSE ITEMS NOTED IN SECTIONS J AND L. ✓

See Evaluation Report

N. AIDS TO NAVIGATION

ONLY ONE FLOATING AID WAS WITHIN THE LIMITS OF THIS SURVEY. THIS AID IS HADDOCK LEDGE BUOY 2 AND IS CORRECTLY DESCRIBED IN THE LIGHT LIST AS FOLLOWS: *and see Evaluation Report section 7*

NAME	DEPTH DEPLOYED	AREA	COMMENTS
1. HADDOCK LEDGE	42 FEET	25 YDS. SOUTH OF	RED NUN,
BUOY 2	57	HADDOCK LEDGE	RED REFLECTOR
<i>a. Spruce Head</i>	<i>145 Feet</i>	<i>250 Yards off of Spruce Head</i>	<i>FL 1000 Bell "9"</i>

THIS BUOY CHARTED AS RN "2" IS LOCATED AS CHARTED AT 44°17'08"N, 68°59'25" W AND PRESENTLY DEPLOYED IN 57 FEET OF WATER AS DETERMINED BY DP 1252. THE BUOY SERVES THE PURPOSE FOR WHICH IT WAS INTENDED, TO WARN THE MARINER ENTERING DUCKTRAP HARBOR OF THE DANGEROUS SHOAL LEDGE.

A SUBMARINE CABLE AREA EXISTS AS CHARTED ON CHARTS 13305 AND 13309 IN THE AREA OF FROHOCK POINT EXTENDING EAST ACROSS THE BAY TO GRINDLE POINT, ISLESBORO. CABLE ACTIVITY WAS VERIFIED BY CONVERSATION WITH REPRESENTATIVES OF CENTRAL MAINE POWER & LIGHT CO. THIS WARNING SHOULD BE CONTINUED ON THE CHART. *Concur*

A SALTWATER INTAKE PIPE, EXTENDING SEAWARD BY 75 FEET BEYOND MLW WAS LOCATED NEAR FROHOCK BROOK. THIS FLEXIBLE PIPE IS DISCUSSED IN SECTION H OF THIS REPORT AND DOES NOT EXTEND INTO AN AREA OF VESSEL TRAFFIC. ✓

A SINGLE FERRY ROUTE EXISTS BETWEEN THE LINCOLNVILLE FERRY TERMINAL AT 44°16'49" N, 69°00'25" W AND GRINDLE POINT, ISLESBORO AT 44°16'52" N, 68°56'36" W. THE FERRY, THE M/V GOVERNOR MUSKIE, TRANSITS THIS ROUTE THROUGHOUT THE YEAR. A SOUNDING LINE WAS RUN FROM THE FERRY BERTH ALONG THE ROUTE, AND SEVERAL DETACHED POSITIONS (POSITIONS 171461720) DEFINE THE TERMINAL STRUCTURE. THE FERRY ROUTE IS INDICATED ON THE FIELD SHEET. ✓

** NOTE: There is no acquired field data that supports this claim and the ferry route is not shown on the field sheet or smooth sheet*

O. STATISTICS

	VESNO: 2221	2223	2225	2226	TOTAL
POSITIONS	16	* 1979 916	62 58	1314	2070 1004
MAINScheme N MI	0	75.5	0	0	75.5
X-LINE N MI	0	8.1	0	0	8.1
DEVELOPMENT N MI	0	21.5	3.1	0	24.6

** Vessel #2223 acquired 979 positions and not 1979, 63 positions reported during position registration.*

	<u>VESNO:</u>	<u>2221</u>	<u>2223</u>	<u>2225</u>	<u>2226</u>	<u>TOTAL</u>
TOTAL N MI SOUNDINGS		0.7	105.1	3.1	BOTTOM SAMPLES	108.9
MISCELLANEOUS MILES		7.0	36.5	6.0	ONLY	49.5
MILES TO AND FROM		16.2	106.0	13.0	12	147.2
TOTAL MILES		23.9	247.6	22.1	0	293.6

P. MISCELLANEOUS

ON 1 SEPTEMBER 1983 A LORAN-C VERIFICATION WAS CONDUCTED BY MT MITCHELL PERSONNEL IN THE VICINITY OF ISLESBORO ISLAND IN PENOBSCOT BAY. VERIFICATION DATA WAS FORWARDED TO THE U.S. COAST GUARD, WASHINGTON, D.C. VIA THE ATLANTIC MARINE CENTER. ✓

BOTTOM SAMPLES WERE TAKEN THROUGHOUT THE SURVEY AREA AT 6 CM INTERVALS AT THE SCALE OF THE SURVEY. SAMPLES WERE LOGGED AND IDENTIFIED, THEN FORWARDED TO THE DIVISION OF PALEOBIOLOGY, SMITHSONIAN INSTITUTION, WASHINGTON, D.C. ✓

A DANGERS TO NAVIGATION REPORT DATED 30 AUGUST 1983 WAS FORWARDED TO THE ATLANTIC MARINE CENTER. A COPY OF THIS LETTER IS INCLUDED IN APPENDIX I OF THIS REPORT. *A negative report was made, no uncharted dangers exist.*

THERE WERE NO UNUSUAL CONDITIONS OR SIGNIFICANT EVENTS ENCOUNTERED DURING THIS SURVEY.

Q. RECOMMENDATIONS

IT IS RECOMMENDED THAT THIS SURVEY SUPERSEDE ALL PRIOR SURVEYS OF THE AREA. ✓

R. AUTOMATED DATA PROCESSING

THE FOLLOWING HYDROPLOT PROGRAMS WERE USED TO ACQUIRE AND PROCESS THE DATA:

<u>PROGRAM No.</u>	<u>PROGRAM NAME</u>	<u>VERSION</u>
RK 112	HYPERBOLIC, R/R HYDROPLOT	03/19/81
RK 116	RANGE/AZIMUTH REAL TIME HYDROPLOT	08/24/81
RK 201	GRID, SIGNAL, AND LATTICE PLOT	04/18/75
RK 210	HYPERBOLIC NON-REAL TIME PLOT	02/02/81
RK 211	RANGE/RANGE NON-REAL TIME PLOT	02/02/81
RK 212	VISUAL STATION TABLE LOAD AND PLOT	04/01/74
RK 216	RANGE/AZIMUTH POSITION & SOUNDING PLOT	02/09/81

<u>PROGRAM No.</u>	<u>PROGRAM NAME</u>	<u>VERSION</u>
RK 300	UTILITY COMPUTATIONS	10/21/80
RK 330	DATA REFORMAT AND CHECK	05/04/75
PM 360	ELECTRONIC CORRECTOR ABSTRACT	02/02/76
AM 500	PREDICTED TIDE GENERATOR	11/10/72
RK 530	VELOCITY CORRECTIONS COMPUTATIONS	05/10/76
RK 561	H/R GEODETIC CALIBRATION	02/19/76
RK 602	EXTENDED LINE ORIENTED EDITOR	05/20/75

S. REFERRAL TO REPORTS

COAST PILOT REPORT
HORIZONTAL CONTROL REPORT
LORAN-C VERIFICATION REPORT

Respectfully submitted,



Craig N. McLean

Ensign, NOAA

APPENDIX B
FIELD TIDE NOTE

NOAA SHIP MT. MITCHELL S-222
 400 WEST YORK STREET
 NORFOLK, VIRGINIA 23510

07 SEP 83

To : Chief, Tides and Water Levels Division, N/OMBIZ

From : *[Signature]*
 Commanding Officer
 NOAA Ship Mt. Mitchell S-222

Subj. : Tidal Data for Hydrographic Survey H-10097
 OPR-A166-MI-83, Penobscot Bay, Maine

It is requested that verified hourly heights of Tides, using Coordinated Universal Time, from the Operating Tide Gages listed below, be forwarded to the Processing Division (MOA23), Atlantic Marine Center, Norfolk, VA. 23510

<u>GAGE NAME</u>	<u>NUMBER</u>	<u>LATITUDE</u>	<u>LONGITUDE</u>
ROCKLAND, ME (Control)	841-5490	44°06.2'N	069°06.1'W
PULPIT HARBOR, ME.	841-4888	44°09.4'N	068°53.2'W
PORTLAND, ME. (Reference)	877 (Tide- Tables)	43°40.0'N	070°15.0'W

It is requested that the Time and Height Correctors for each Gage be as per Project Instructions for the area described within the following points;

44°11'48"N, 68°36'24"W; 41°11'48"N, 69°03'15"W; 44°19'00"N, 69°03'15"W;
 44°19'00"N, 68°56'24"W.

15 June 0000 GMT through 23 June 2359 GMT, 1983.
 24 July 0000 GMT -2359 GMT, 1983.
 15 August 0000 GMT - 2359 GMT, 1983.

FIELD TIDE NOTE

Field tide reduction of soundings were based on Predicted Tides from Portland, Maine, and were corrected to Pulpit Harbor, Maine, utilizing a PDP8/E Computer and Program RK500. All times of both Predicted and Recorded Tides are Universal Coordinated Time (GMT).

The number and type of Tide Gages installed, their geographic locations, dates of installation/removal, Leveling, Plane of Reference and period of operation are appended to this note, along with a copy of a letter to OA/C23 requesting verified hourly heights of tides from gages listed in this report.

The respective gages reportedly operated properly/improperly during this Project, with any exceptions noted under "REMARKS" on the appended Tide Gage Sheets.

FIELD TIDE NOTE

TIDE GAGE REPORT

NOS TIDE TABLE NUMBER: 773 TIME MERIDIAN 60 ° WGEOGRAPHIC LOCALE: Coast Guard Base Rockland, MaineNAME: Rockland, Maine STATION NUMBER: 841-5490LATITUDE: 44 06.2' N LONGITUDE: 069 06.1' WTYPE OF GAGE: ☒ ADR, ☒ BUBBLER, ☐ OTHER ()PLANE OF REFERENCE: ☐ MLW, ☒ MLLW, ☐ GCLWD, ☐ OTHER, CORRESPONDSTO FEET ON THE TIDE STAFF FOR THE PERIOD TO DATED INSTALLED: 28 Oct 77 BY: AMC Tides PartyDATE REMOVED: BY: DATE LEVELED: 19 May 83 BY: NOAA Ship MT MITCHELL
2 Sep 83 NOAA Ship MT MITCHELLREMARKS: Rockland was the primary tide station for all survey work.

NOS TIDE TABLE NUMBER: 753 TIME MERIDIAN 60° W

GEOGRAPHIC LOCALE: Pulpit Harbor, North Island, Penobscot Bay Maine

NAME: Pulpit Harbor STATION NUMBER: 841-4888

LATITUDE: 44 09' 22" N , LONGITUDE: 068 53' 08"

TYPE OF GAGE: ADR, ☒ BUBBLER, OTHER ()

PLANE OF REFERENCE: MLW, x MLLW, GCLWD, OTHER, CORRESPONDS

TO FEET ON THE TIDE STAFF FOR THE PERIOD TO

DATED INSTALLED: 21 May 83 BY: NOAA Ship MT MITCHELL

DATE REMOVED: 1 Sep 83 BY: NOAA Ship MT MITCHELL

DATE LEVELED: 6 June 83 BY: NOAA Ship MT MITCHELL
1 Sep 83 NOAA Ship MT MITCHELL

REMARKS: The gage was replaced on 31 May 83 before the start of
hydrographic survey operations.

February 8, 1984

U.S. DEPT. OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL TIDE GAUGE SERVICE

TIDE NOTE FOR HYDROGRAPHIC SHEET

Marine Center: Atlantic

OPR: A166

HYDROGRAPHIC SHEET: H - 10097

Locality: Penobscot Bay, Maine

Time Period: June 15 - August 4, 1983

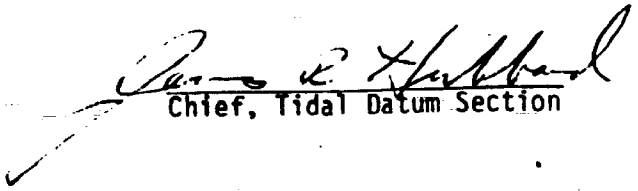
Tide Station Used: 841-4888, Pulpit Harbor, Maine

Plane Of Reference (Mean ~~Lower~~ Low Water): 2.70 Ft.

Height Of Mean High Water Above Plane Of Reference: 9.8 Ft.

Remarks: Recommended Zoning:

Zone Direct


Chief, Tidal Datum Section

APPENDIX F
LIST OF STATIONS

SIGNAL LIST MI 10-3-33

311	4	44	16	50112	059	00	20356	243	0000	000000
316	4	44	17	30019	068	56	19223	139	0000	000000
031	4	44	12	09314	069	03	13354	243	0000	000000
034	4	44	15	37468	063	57	49914	243	0000	000000
040	4	44	12	55155	069	02	36513	243	0000	000000
043	4	44	17	42851	063	53	46640	243	0000	000000
052	4	44	12	04634	069	02	57760	139	0000	000000
054	4	44	13	21753	069	04	10320	139	0000	000000
055	4	44	17	26390	069	00	31376	139	0000	000000
057	4	44	12	30430	069	02	49330	139	0000	000000
103	4	44	19	00379	068	55	53997	139	0009	000000

APPENDIX I
LANDMARKS FOR CHARTS

(There were no landmarks in this survey area)

APPENDIX J
APPROVAL SHEET

APPROVAL SHEET

The field work on this Hydrographic Survey was under my daily supervision. The boat sheet and records have been reviewed and approved by me.

L. Austin Yeager
Commanding Officer

Atmosp

OCEAN SURVEY

NOAA Ship MT MITCHELL S-222
General Delivery
Rockland, Maine 04841

August 30, 1983

TO: Chart Information Section, N/CG222
THRU: Director, Atlantic Marine Center, MOA
FROM: *A. L. G. G. G.*
Commanding Officer
NOAA Ship MT MITCHELL
SUBJECT: Dangers to Navigation Report

Please be advised that upon completion of Survey H-10097, W. Penobscot Bay, Spruce Head to Northeast Point, no dangers to navigation were observed which were not already charted.



GEOGRAPHIC NAMES

H-10097

Name on Survey	ON CHART NO. 13305 ON PREVIOUS SURVEY NO. CON U.S. QUADRANGLE MAPS FROM LOCAL INFORMATION ON LOCAL MAPS P.O. GUIDE OR MAP RAND MCNALLY ATLAS U.S. LIGHT LIST									
	A	B	C	D	E	F	G	H	K	
Ducktrap Harbor	X									1
Haddock Ledge	X 13309									2
Lincolnville	X 13309									3
Spruce Head	X 13309									4
West Penobscot Bay	X									5
										6
										7
										8
										9
										10
										11
										12
										13
										14
										15
										16
										17
										18
										19
										20
										21
										22
										23
										24
										25

HYDROGRAPHIC SURVEY STATISTICS

H-10097

RECORDS ACCOMPANYING SURVEY: To be completed when survey is processed.

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT
SMOOTH SHEET		1	SMOOTH OVERLAYS: POS., ARC, EXCESS		2
DESCRIPTIVE REPORT		1	FIELD SHEETS AND OTHER OVERLAYS		2
DESCRIP- TION	DEPTH/POS RECORDS	HORIZ. CONT. RECORDS	SONAR- GRAMS	PRINTOUTS	ABSTRACTS/ SOURCE DOCUMENTS
ACCORDIAN FILES	1				
ENVELOPES					
VOLUMES	3				
CAHIERS					
BOXES					

SHORELINE DATA

SHORELINE MAPS(List):

PHOTOBATYMETRIC MAPS(List):

NOTES TO THE HYDROGRAPHER(List):

SPECIAL REPORTS(List):

NAUTICAL CHARTS(List): Enlargement of Charts 13305 (24th Ed) and 13309 (22nd Ed)

OFFICE PROCESSING ACTIVITIES

The following statistics will be submitted with the cartographer's report on the survey

PROCESSING ACTIVITY* * hours reflect PMC activity	AMOUNTS		
	VERIFICATION	EVALUATION	TOTALS
POSITIONS ON SHEET			1004
POSITIONS REVISED	20		20
SOUNDINGS REVISED	190		190
CONTROL STATIONS REVISED			
	TIME-HOURS		
	VERIFICATION	EVALUATION	TOTALS
PRE-PROCESSING EXAMINATION			
VERIFICATION OF CONTROL	8		8
VERIFICATION OF POSITIONS	18		18
VERIFICATION OF SOUNDINGS	160		160
VERIFICATION OF JUNCTIONS	5.0		5.0
APPLICATION OF PHOTOBATYMETRY			
SHORELINE APPLICATION/VERIFICATION			
COMPILATION OF SMOOTH SHEET	18.0		18.0
COMPARISON WITH PRIOR SURVEYS AND CHARTS		22	22
EVALUATION OF SIDESCAN SONAR RECORDS			
EVALUATION OF WIRE DRAGS AND SWEEPS			
EVALUATION-REPORT Verification/Evaluation Rpt	4	14	18
OTHER:	5		5
Digitization			14.5
TOTALS	218	36	250.5
Pre-processing Examination by AMC	Beginning Date 11/4/84	Ending Date 5/16/85	
Verification of Field Data by R.N. Mihailov	Time(Hours) Begin 11/4/84	Ending Date 5/16/85	
Verification Check by S.H. Otsubo, J.S. Green B.A. Olmstead	Time(Hours) 62	Ending Date 6/14/85	
Evaluation and Analysis by G.F. Kay	Begin Date 5/15/85	Ending Date 6/14/85	
Inspection by D.J. Hill	Time(Hours) 3	Ending Date 6/14/85	

PACIFIC MARINE CENTER
EVALUATION REPORT

H-10097

1. INTRODUCTION

H-10097 was accomplished by NOAA Ship Mt. Mitchell in accordance with the following project instructions:

OPR-A166-MI-83, dated December 29, 1982
Change No. 1, dated May 24, 1983

This is a basic survey of West Penobscot Bay, Maine. Position verification was accomplished at the Atlantic Marine Center, Norfolk, Virginia. The data was then transferred to the Pacific Marine Center, Seattle, Washington, where sounding verification, smooth sheet plotting and evaluations were performed (see N/MOP letter, dated August 31, 1984 and N/CG2 letter, dated October 2, 1984, attached).

Predicted tides based on the Portland, Maine gage were used during field processing. Tide correctors used for the reduction of final soundings reflect hourly heights zoned from Pulpit Harbour #841-4888.

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

The TC/TI correctors were revised during office processing to reflect vessel drafts and changes in launch displacement.

Velocity table 4 was revised to be consistent with other tables for the survey based on the same Nansen cast.

2. CONTROL AND SHORELINE

Hydrographic control and positioning are adequately discussed in Descriptive Report (sections F and G) and Horizontal and Electronic Control Reports for OPR-A166-MI-83.

Geodetic positions for control stations used during hydrography are preliminary adjusted, field and photogrammetric (aerotriangulation) positions adjusted to the North American 1927 datum.

The following reviewed Class III photogrammetric manuscripts (scale 1:20,000) were used for location of offshore features:

	<u>TP-01113</u>	<u>TP-01114</u>
Dates of Photography	June, July 1982	June, July 1982
Date of Field Edit	none	none

Shoreline and most geographic names are not shown on the smooth sheet in an effort to expedite office processing (see memorandum Reduction of Marine Center Hydrographic Survey Processing Backlog, February 16, 1984).

3. HYDROGRAPHY

Soundings at line crossings are in good agreement.

Delineation of the bottom configuration, development of shoal soundings, determination of least depths, and delineation of standard depth curves are adequate.

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 3, except as noted in the Preprocessing Examination Report, dated February 13, 1984, the Field Procedures Officer's Report, dated March 16, 1984, and as follows:

- a. The junction survey H-7830 (1950) includes two shoal soundings (Dillingham Ledge):

<u>Depth (feet)</u>	<u>Latitude North</u>	<u>Longitude West</u>
10	44°13'42.5"	69°01'58"
9	44°13'38.0"	69°01'59"

These soundings are in the junction area but, because of age of this junction survey (33 years), this shoal needed to be investigated to determine its least depths.

"Within the sounding area, the development of shoals and dangers to navigation shall be basic as instructed in sections 1.4.3, 4.5.9, and 4.5.10" - Hydrographic Manual 4.11.2.2.

- b. A submarine cable area referenced in the Descriptive Report (section N, page 10) was not investigated to determine its end points.

"Location of bridges, overhead cables and shore ends of submarine cables shall be determined and shown on field sheet with descriptive notes." - Hydrographic Manual 4.5.14

- c. A floating aid to navigation (Lincolnville Bellbuoy 7) located in the junction area with H-8178 (1954), presently charted at latitude 44°16'40"N, longitude 68°59'45"W, was not investigated during this survey.

"Floating Aids. Position and depth at all floating aids to navigation in the project area shall be determined during the hydrographic survey." - Hydrographic Manual 4.5.13.2; also references in HM 1.6.5 and 4.1.1.3.

- d. The final field sheet contained plotted depths in only one third of Ducktrap Harbor. The remainder of sounding information was plotted on a

supplemental overlay, but the shoal depths were not transferred to the final field sheet.

"Critical or least depths on items located must be transferred from the overlays to the field sheet." - AMC Op Order 76 II, dated February 10, 1982

5. JUNCTIONS

H-10097 junctions with the following surveys:

<u>Survey</u>	<u>Year</u>	<u>Scale</u>	<u>Color</u>	<u>Note</u>	<u>Junction</u>
H-7830	1950	1:10,000	red	Adjoins	South
H-8178	1954	1:5,000	violet	Adjoins	East
H-10109	1983	1:10,000	orange	Joins	North

A formal junction has not been effected with H-7830 and H-8178 since these surveys have been previously forwarded to headquarters. Soundings and depth curves are in agreement.

The junction has been adequately effected with H-10109.

6. COMPARISON WITH PRIOR SURVEYS

H-1143 (1871) 1:20,000

Present survey data does compare well with this prior survey. Refer to Descriptive Report (section K) for a few noted exceptions along with a comparison.

H-10097 is adequate to supersede the prior survey within their common areas.

7. COMPARISON WITH CHART

Chart 13305, 24th Edition, dated February 13, 1982; scale 1:40,000
Chart 13309, 22nd Edition, dated February 20, 1982; scale 1:40,000

a. Hydrography - Most charted information originates with the prior survey and junction surveys discussed in section 5 and section 6 of this report. Other charted features originate with miscellaneous sources not readily ascertainable. For more detail see Descriptive Report (section L).

The following charted rocks (source unknown) were neither verified nor disproven during the course of this survey and should remain as charted unless otherwise disproven.

<u>Feature</u>	<u>Latitude North</u>	<u>Longitude West</u>
rock	44°17'54"	68°59'05"
rock	44°17'53"	68°59'22"
rock	44°17'17"	69°00'15"

The Descriptive Report (section L, page 9) discusses "rocks awash" charted at latitude 44°17'19"N, longitude 69°00'01"W. During hydrographic operations only one rock was located: position #1549 at latitude 44°17'20.83"N, longitude 69°00'04.13"W. The two rocks charted should be superseded by this rock (position #1549) as shown on the smooth sheet.

H-10097 is adequate to supersede charted hydrography within the common area.

There have been no dangers to navigation identified or reports submitted by the ship or during office processing of this survey.

b. Controlling Depths - There are no controlling depths within the limits of this survey.

c. Aids to Navigation - There are no fixed aids and only three floating aids within the limits of this survey. For an adequate discussion of aids, refer to Descriptive Report (section N), supplemented as follows; Light List #269, Lincolnville Bellbuoy 7, charted latitude 44°16'40"N, longitude 68°59'45"W falls in the junction area of this survey and was not investigated. It should continue to be charted.


The geographic names shown on the smooth sheet originate from these charts.

8. COMPLIANCE WITH INSTRUCTIONS

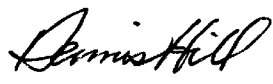
H-10097 adequately complies with the project instructions as amended and noted in Section 1 of this report.

9. ADDITIONAL FIELD WORK

This is an adequate basic survey. No additional field work is recommended.


Gordon L. Kay
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
Chief, Hydrographic Section



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration

Date : 7 November 1984

To : LCDR David MacFarland
Chief, Hydrographic Survey Branch

From : *Shawn R. Bass* *CCDR, NOAA*
Commanding Officer
NOAA Ship Mt. Mitchell S-222

Subject : Survey Launch TRA Measurements

Following a remeasurement of the transducer drafts on VESNO's 2223, 2224, 2225 and 2226, a TRA of 1.8 feet (0.3 fathoms) was found to exist on all launches.

Previous work showing a TRA of 2.1 feet is incorrect and should be updated to reflect the 1.8 feet value.

cc:
MOA2x1
MOP2x1



OCEAN SURVEY

NOAA Ship MT MITCHELL S-222
General Delivery
Rockland, Maine 04841

August 30, 1983

TO: Chart Information Section, N/CG222

THRU: Director, Atlantic Marine Center, MOA

FROM: *V. Andrew G. [Signature]*
Commanding Officer
NOAA Ship MT MITCHELL

SUBJECT: Dangers to Navigation Report

Please be advised that upon completion of Survey H-10097, W. Penobscot Bay, Spruce Head to Northeast Point, no dangers to navigation were observed which were not already charted.

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
OFFICE OF CHARTING AND GEODETIC SERVICES
ROCKVILLE, MARYLAND 20852

N/CG24:RKM

OCT 2 1984

RECEIVED

OCT 5 - 1984

PACIFIC MARINE CENTER

MOP 21

Dennis: FYI

TO: N/MOA - Wesley V. Hull
N/MOP - Robert L. Sandquist
FROM: N/CG2 - C. William Hayes *C. William Hayes*
SUBJECT: Pacific Marine Center Processing of Atlantic Marine Center Surveys
REF: N/MOP21/DWY memo, 8/13/84

The referenced memorandum recommending procedures for transferring surveys from the Atlantic Marine Center (AMC) to the Pacific Marine Center (PMC) will form the basis for transfer.

The eight items listed will be followed. Deviations from these procedures will be discussed and worked out by the following representatives:

AMC - Rudolph Sanocki, N/MOA232
PMC - Dennis Hill, N/MOP211

If additional discussion is necessary, the respective Branch Chiefs and Chief, Hydrographic Surveys Branch (N/CG24), will resolve the issue.

CC:
N/MO



National Ocean Service
Pacific Marine Center
1801 Fairview Avenue East
Seattle, Washington 98102-3767

AUG 13 1984 N/MOP21/DWY

TO: N/MD - Robert C. Munson

FROM: N/MOP - Robert L. Sandquist

SUBJECT: Pacific Marine Center Processing of Atlantic Marine Center Surveys

REF: N/OG Memorandum of July 16, 1984 "Marine Center Hydrographic Survey Processing"

The referenced memorandum provides guidance for implementation of Task Group recommendations for increasing survey processing rates and reduction of ~~Marine Center inventories. One of the specific recommendations provided was~~ for the AMC survey processing load to be shared by the Pacific Marine Center. Accordingly, the following information is provided as recommended criteria and procedures for use in transferring and accounting for such survey data:

1. The Pacific Marine Center inventory is at a point where additional data is necessary to be entered into the system to begin the processing cycle for efficient personnel utilization. It is proposed that the Atlantic Marine Center forward seven to nine surveys (the entire project) for Penobscot Bay, Maine, to the Pacific Marine Center within the next 30 days or as soon as possible. It is also requested that accounting of receipt or transmittal of these surveys in current MBO statistics be delayed until a point after September 15, 1984. This will allow a definite starting point for MBO accounting and simplify recording, as well as allow current inventory projections to be met.
2. A change to project instructions for this project should be issued to reflect PMC processing responsibility for any survey from this project remaining in the field. After this initial influx it is proposed that the Pacific Marine Center be forwarded additional surveys in accordance with the schedule provided in attachment (1). Continuous liaison will be necessary to insure coordination and responsiveness to production increases (i.e., the capability must exist to further supplement the inventory with AMC surveys if production rates significantly increase).
3. Surveys transferred to PMC should be recently acquired or current-generation surveys (no survey acquisition pre-dating 1984). These surveys are not to include wire-drag, photobathymetry or HDEG category work.

4. It is requested that future surveys transferred (after the initial seven) be on a project basis and be primarily Navy surveys. (D registry numbers) from the Bahamas or Honduras. Project instructions should be changed to reflect this consideration.

In this case copies of the final processing agreement, special processing considerations, "understandings," etc., should be forwarded with the surveys. Additionally, the U.S. Naval Oceanographic Office should be informed that the single point of contact regarding these surveys at the Pacific Marine Center is Lt. Cdr. David W. Yeager, Chief, Nautical Chart Branch (N/MOP21) FTS 392-6835. It is our opinion that these surveys are ideal for transfer to PMC due to the balance they will provide with complex inshore surveys in inventory or scheduled by Pacific Marine Center units. They will also be acquired at the desired rate for efficient entry into the system.

5. Pre-processing Critiques will be accomplished (for all surveys not already critiqued) by the Pacific Marine Center (in accordance with standard practice for our own surveys). However, critiques will be transmitted to the Director, Atlantic Marine Center for further distribution as he may deem desirable. Critiques will not be directly forwarded to field units.
6. It is requested that "spooling" be accomplished at the Atlantic Marine Center if possible. Spooling should not include pre-scanning, etc., as presently accomplished, but should include "flagging" of "not to be smooth plotted" data as indicated in attachment (2). If this process is not possible, alternatives can be arranged.
7. Present plans are for processing of fourteen surveys during FY 85 and ten in FY 86. Should production levels and MBO objectives permit, additional surveys will be requested from the Atlantic Marine Center.
8. It is requested that a point-of-contact be established at each Marine Center to resolve any technical details concerning format types or other technical questions. The PMC contacts for these items are Mr. Dennis Hill, Chief, Hydrographic Section or Lt. Maureen Kenny, Technical Assistant.

These criteria are considered necessary to permit effective transfer and efficient handling of these surveys. If additional discussion is necessary, direct contact between the respective Nautical Chart Branches is recommended to ensure resolution.

Attachments (2)

cc: N/CG2
N/CG24
N/MOA

ATTACHMENT TO DESCRIPTIVE REPORT FOR H-10097

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.

David W. Jensen 6/19/85
Chief, Nautical Chart Branch (Date)

CLEARANCE:

SIGNATURE AND DATE:

N/MOP2:LWMordock

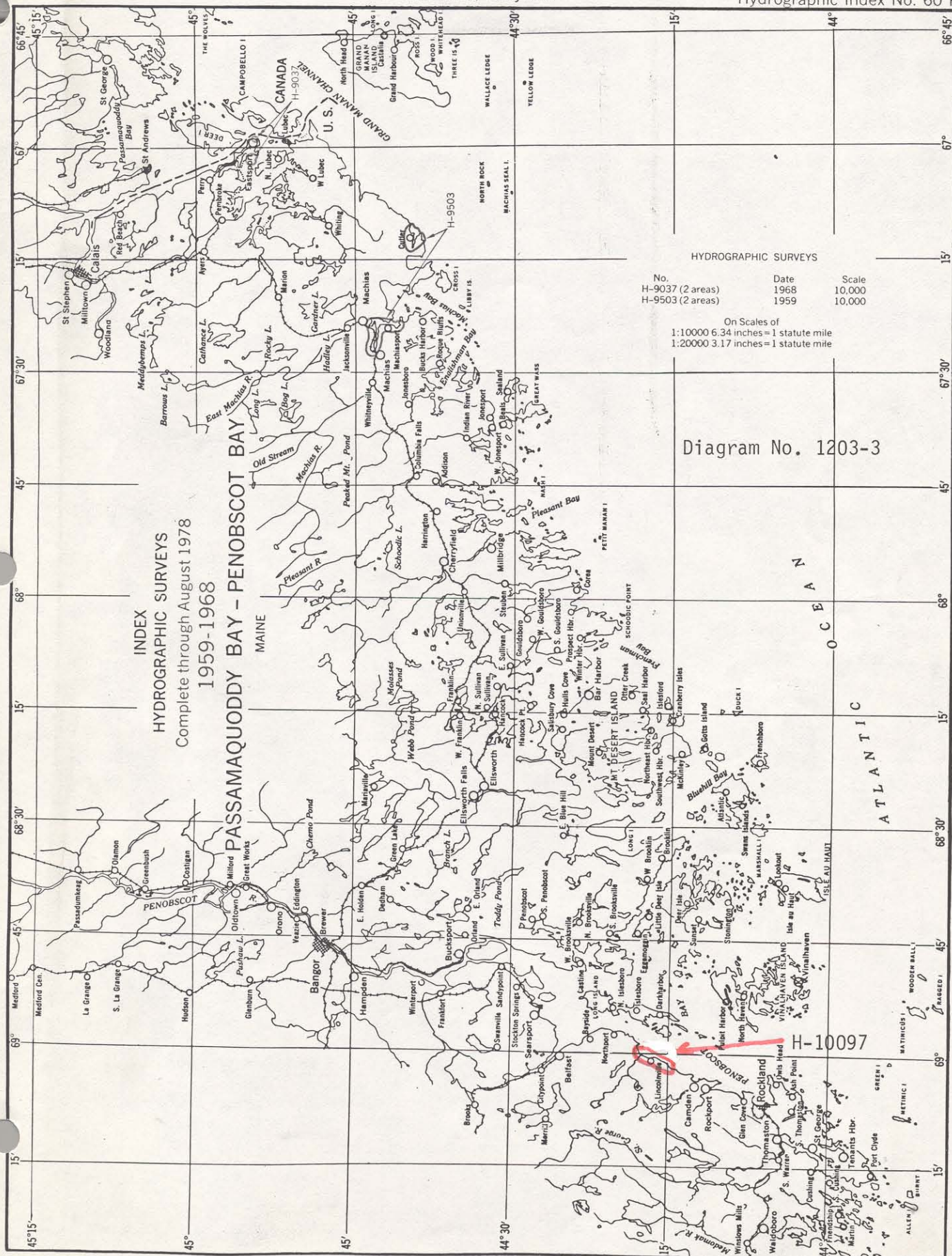
Langford Mordock 6/20/85

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.

Robert L. Sandert 6-20-85
Director, Pacific Marine Center (Date)

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

Hydrographic Index No. 60 H



MARINE CHART BRANCH
RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-10097

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
13307	7-8-87	L.P. LaBrosse	Full Part Before After Marine Center Approval Signed Via Drawing No. 10 Bulk Pab'd @ A.I.S workstation 4.6.88 - work appears fully app'd on 13307 XDWG.
13309	7-8-87	L.P. LaBrosse	Full Part Before After Marine Center Approval Signed Via Drawing No. 35 / was revised thru 13307 on previous DWG all work completed
13305	7-8-87	L.P. LaBrosse	Full Part Before After Marine Center Approval Signed Via Drawing No. 35 was revised thru 13309 overlap and 13307 overlap and directly
13302	9-20-89		Full Part Before After Marine Center Approval Signed Via EXAMINED FOR NM Drawing No. 32 GORU HSC 9-20-89 HCL Scit 9-23-89
			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.
			STANDARDS CC'D 7-12-85 C. Loy