H10963

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey	Hydrographic\ Side Scan Sonar\ Multibeam
Field No.	N/A
Registry No.	H10963

LOCALITY

State	Maine
General Locality	Casco Bay
Locality	Hussey Sound

2000

CHIEF OF PARTY
LCDR J. S. Verlaque

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DATE October 18, 2001

NOAA FORM 77-28 (11-72)	U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION	REGISTER NO.
	HYDROGRAPHIC TITLE SHEET	H-10963
INSTRUCTIONS - The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.		FIELD NO. N/A

State: Maine

General locality: Casco Bay

Locality: Hussey Sound

Scale: 1:10,000 Date of survey: MARCH 22 - ~~April 4~~ - June 23, 2000

Instructions dated: July 28, 1998 Change# 1: March 29, 2000 Project No.: OPR-A329-RU-00

Vessel: NOAA Ship RUDE S590, EDP# 9040

Chief of party: LCDR James S. Verlaque, NOAA

Surveyed by: LCDR J. Verlaque, LT J. Crocker, ENS K. Slover, SST M. Chandler

Soundings taken by:(echo sounder,hand lead,pole): Reson Seabat 9003 SWMB

Graphic record scaled by: RUDE Personnel

Graphic record checked by: RUDE Personnel

Protracted by: N/A Automated plot by: N/A HEWLETT PACKARD DESIGNJET 2500 CP

Verification by: Atlantic Hydrographic Branch PERSONNEL

Soundings in (fathoms, feet, or meters at MLW or MLLW): FEET at MLLW

REMARKS: Hydrographic survey. All times recorded in UTC.

Soundings corrected using preliminary unverified tides.

HAND WRITTEN NOTES IN THE DESCRIPTIVE REPORT WERE MADE DURING OFFICE PROCESSING.

AWOIS/SURF ✓ 9/27/01, SJV

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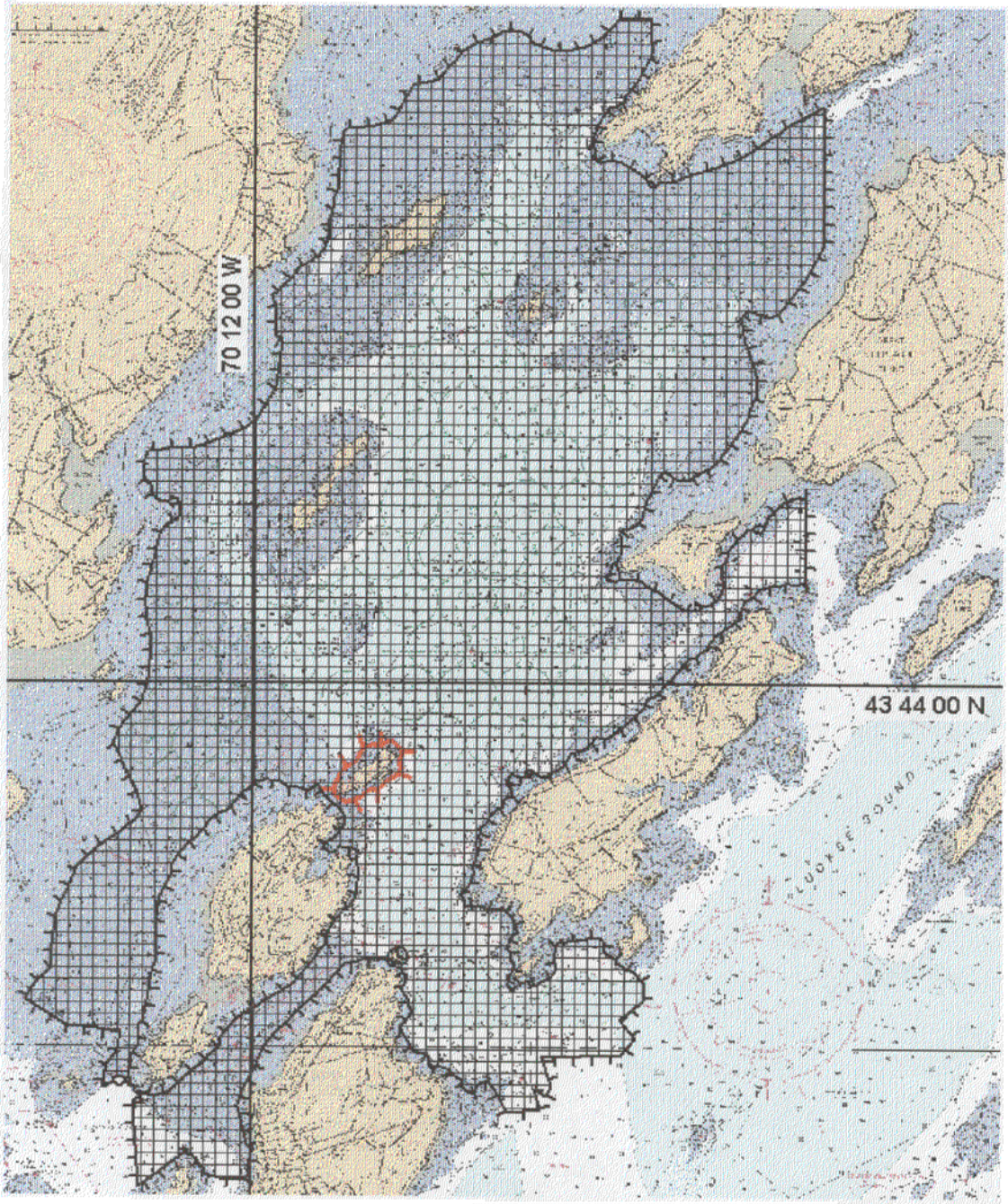
* DATA FILED WITH ORIGINAL FIELD RECORDS

Descriptive Report to Accompany Hydrographic Survey H-10963
Scale: 1:10,000 Year: 2000
NOAA Ship RUDE S590
LCDR James S. Verlaque, NOAA

A. AREA SURVEYED



A.1 The area surveyed is consistent with projects instructions dated July 28, 1998. Change Number One is dated March 29, 2000. Additional graphics depicting which sonar systems were used in the survey area are attached in Appendix V,* Supplemental Survey Records and Correspondences.

A.2 Full coverage of the survey area was not accomplished. Uncharted private mooring buoys discovered at various points throughout the survey, prevented safe acquisition of data within the private mooring areas. Refer to Appendix V* to view the location of these private mooring areas.

B. DATA ACQUISITION AND PROCESSING

B.1 EQUIPMENT

B.1a All hydrographic data acquisition for this survey was conducted from NOAA Ship RUDE (S-590, EDP #9040) and NOAA Launch *517*. RUDE conducted side scan, multi-beam, and single-beam hydrography, primarily outside the 30-foot contour. Launch 517 collected side scan data and single-beam data from the 30-foot contour shoreward up to the 12-foot contour unless safety to navigation was an issue.

The RUDE is 90 feet in length, with a 22-foot beam, and a 7-foot draft. Launch 517 is 21 feet in length, with a 6-foot beam, and a 1 ½-foot draft.

B.1b Vertical-beam echo sounding data were acquired on RUDE with an Odom Echo-Trac dual-beam echosounder (24 and 200 kHz) (S/N 9641) on RUDE. Launch 517 acquired vertical-beam echo sounding data with an Innerspace 448 single-beam echosounder (100kHz) (S/N 241).

B.1c RUDE side scan sonar data was acquired using and Edgetech (EG&G) Model 272 towfish (S/N 16630, 11902). An Edgetech Model 260-TH slant range correcting side scan sonar recorder (S/N 12106) was used to produce analog data. Side scan sonar data was recorded digitally using Triton ISIS software and archived in Extended Triton Format (*.XTF) format.

Launch 517 side scan sonar data was acquired using an Edgetech (EG&G) Model 272 towfish (S/N 16696). An Edgetech Model 260-TH slant range correcting side scan sonar recorder (S/N 10884) was used to produce analog data.

B.1d Single frequency (455kHz) multi-beam data were acquired with a Reson SeaBat 9003 (S/N 10496-447020) shallow water sonar system. The 9003's combined transmit and receive beams yield forty (40) soundings per ping, each formed from a 3° crosstrack X 1.5° alongtrack bottom footprint.

* DATA FILED WITH ORIGINAL FIELD RECORDS

B.1e Heave, pitch, and roll data for the RUDE were acquired using a Seatex Seapath Motion Reference Unit (MRU-5) (S/N 0544). No heave, pitch, nor roll data was acquired for Launch 517. Sea action was manually scanned-in during review of echogram records.

B.1f All positions for this survey were obtained from the NAVSTAR Global Positioning System (GPS) augmented with the U.S. Coast Guard Differential GPS service. On RUDE, GPS signals were acquired with a SeaPath 200GPS receiver (S/N 0347) with differential correctors acquired using Starlink DNAV-212G differential receiver (S/N 848). Both GPS signals and differential correctors were acquired using Starlink DNAV-212G differential receiver (S/N 853) on survey launch 517.

B.1g Sounding velocity data throughout the water column was acquired utilizing a SeaBird SBE19 Seacat Profiler (S/N 196721-1251). For RUDE multi-beam data acquisition, sound velocity casts were taken every 4 hours, or generally when surface velocity, determined by using the Odom Digibar Pro DB1200, (S/N 98013), differed by more than 2 meters/second. For Launch 517, sound velocity casts were conducted at no more than weekly intervals and daily when ship acquisition occurred on the same day as launch acquisition.

B.2 QUALITY CONTROL

B.2a A total of 19.6 nautical miles of cross-lines were acquired during H-10963, equating to 13.2% of the total nautical miles of hydrography. Cross-lines were accomplished according to NOS Specifications and Deliverables guidelines.

A visual comparison of multi-beam cross-lines and single-beam cross-lines was conducted in MapInfo. Comparison yielded excellent results, with discrepancies of not more than one foot observed. The Quality Control report within CARIS-HIPS was not utilized, as one hundred percent multi-beam coverage was not acquired throughout the survey area.

SEE ALSO THE EVALUATION REPORT

B.2b H-10963 junctions southwest of Great Diamond Island with H-10830. H-10830 is a hydrographic survey completed by the Atlantic Hydrographic Party from July - August, 1998. The scale of H-10830 is 1:10,000. Soundings between H-10963 and H-10830 are in excellent agreement. All soundings between surveys agree within one foot.

A 41-foot sounding from H-10830 was located in position 43°39'21.2" N, 070°12'45.1" W. During H-10963, the Portland Pilots requested NOS have RUDE investigate the sounding. On April 7, 2000 (DN 098), one hundred percent multi-beam was acquired from latitude 070°12'48.5" W westward to junction with the survey limits. Soundings of 40-feet were observed from RUDE data. The depth disparity maybe attributable to shifting sand waves which were apparent in the single-beam records. The hydrographer recommends present survey soundings supercede H-10830 data in the common area CONCUR WITH CLARIFICATION: 100 PER CENT MULTI-BEAM WAS AQUIRED FROM LONGITUDE 070°12'32.8"W WESTWARD TO JUNCTION WITH SURVEY H10830

H-10963 junctions with H-10831 east of Peaks Island at the entrance to Hussey Sound. H-10831 is a hydrographic survey conducted by RUDE in 1999. Sounding agreement between surveys is excellent, with sounding differences within two feet commonly observed. The hydrographer recommends that present survey data from H-10963 supercede data from H-10831 in common areas. CONCUR

B.2c Multi-beam quality control checks were accomplished on line. Multi-beam soundings were compared to single-beam soundings using the Bathymetry Confidence program within ISIS. Differences of 0.2 to 0.5 meters were observed during data acquisition.

B.3 DATA REDUCTION

B.3a No deviations from the prescribed method for data reduction were used during H-10963.

C. VERTICAL AND HORIZONTAL CONTROL SEE ALSO THE EVALUATION REPORT

C.1 Tidal zoning for this survey is consistent with the Project Instructions. During data acquisition, tide station Portland, ME (841-8150) was used as the reference station utilizing preliminary unverified tides.

Zone correctors were applied to the preliminary unverified tidal data from Portland, generating tide correctors. The conversion generated within CARIS-HIPS, and resulting correctors were applied to all SeaBat data. Preliminary tides were zone corrected within HP_Tools and applied to all single-beam data from both RUDE and Launch 517.

Time problems were observed during data acquisition on May 9, 2000 (DN 130). The ISIS computer time was set to improper time, resulting in multi-beam data being logged at –12 hours of actual acquisition time. SVP casts 58, 59 and 60 were altered by –12 hours. Preliminary unverified tides values were converted using the "tideconv" program by setting "time to UTC" at –12 hours. **The same procedure must be done used when applying smooth tides to the final multi-beam set for DN 130.**

NOTE: DO NOT reapply any correctors to multi-beam data in HPS, including verified smooth tides. Note that only preliminary unverified tidal values have been applied to all H-10963 data. Verified smooth tide values and correctors must be applied to the entire multi-beam set in CARIS-HIPS prior to conversion to HPS. Verified smooth tide values and correctors must be applied to Launch 517 single-beam data within HPS. APPROVED TIDES AND ZONES WERE REAPPLIED IN CARIS-HIPS AND IN HPS DURING OFFICE PROCESSING.

C.2 The horizontal reference station for this survey is the North American Datum of 1983 (NAD83). Geodesy parameters during data collection entailed the use of Universal

Transverse Mercator (UTM) Zone 19, WGS 84, Northern Hemisphere. No horizontal control stations were used for this survey.

C.3 The following USCG reference station beacons were used:

USCG DGPS Radio Beacon Broadcast Site						
Site	Freq.	Tran Rate (BPS)	Lat (N)	Long (W)	Range	Beacon ID
Brunswick, ME	316	100	43° 53.7'	69° 56.3'	115	800
Portsmouth, NH	288	100	43° 04.3'	70° 42.6'	100	801

D. RESULTS AND RECOMMENDATIONS

D.1 AUTOMATED WRECK AND OBSTRUCTION INFORMATION SYSTEM (AWOIS)

AWOIS items 10032, 10034, and 10551were assigned to H-10963. In addition to the three assigned AWOIS items, 22 additional significant features were located within the survey area. Copies of the completed AWOIS database records are included in Appendix V.* DATA FILED WITH ORIGINAL FIELD RECORDS

D.1a AWOIS NO 10032

ITEM DESCRIPTION: Wooden barge
SOURCE: LNM 46/71 .29 29.17
AWOIS POSITION: 43°40'18.0" N, 070°10'31.0"W
REQUIRED INVESTIGATION: SD, S2, MB, DI
CHARTS AFFECTED: 13288, 13290, 13292

INVESTIGATION
DATE (S) / DN (S): April 5, 6, 10, 11 and May 9, 18, 2000 / DN 96, 97,101,102,130,139
POSITION NUMBERS: N/A
INVESTIGATION USED: S2, MB
POSITION DETERMINED BY: DGPS

INVESTIGATION SUMMARY:
Hydrography started on April 5, 2000 (DN 96) within the prescribed search radius for the item investigation. Two hundred percent side scan sonar operations were completed on April 11, 2000 (DN 102). Multi-beam data were collected in conjunction with side scan operations. Completion of one hundred percent multi-beam coverage within the specified search radius was accomplished on May 9, 2000 (DN 130). Contacts discovered by side scan sonar within the search area were developed on May 18, 2000 (DN 139). Review of both side scan and multi-beam sonar data do not support the existence of a wooden barge.

CHARTING RECOMMENDATION:
The hydrographer recommends the removal of the charted text "PA" and the symbol "wreck, least depth unknown" at 43°40'18.0" N, 070°10'31.0"W from charts 13288, 13290, and 13292. Update the common area with present survey soundings. CONCUR

RECOMMENDED POSITION: N/A

RECOMMENDED LEAST DEPTH: N/A

COMPILATION NOTES:
DELETE PA

D.1b AWOIS 10034

ITEM DESCRIPTION: Obstruction
SOURCE: CL429/66, NM24/66, NM10/67
AWOIS POSITION: 43°39'50.0" N, 070°10'08.0" W
REQUIRED INVESTIGATION: MB, S2, DI
CHARTS AFFECTED: 13288, 13290, 13292.

INVESTIGATION
DATE(S)/DN(S): Mar 30, Apr 1,3,12, May 11,17,23 2000 / DN 90,92,94,103,132,138,144
POSITION NUMBERS: N/A
INVESTIGATION USED: MB, S2, DI
POSITION DETERMINED BY: DGPS

INVESTIGATION SUMMARY:
Launch 517 commenced side scan sonar operations in the prescribed radius on March 30, 2000 (DN 90). Two hundred percent coverage was acquired on April 3, 2000 (DN 94). RUDE acquired side scan coverage on April 12, 2000 (DN 103) in the search radius. One hundred percent multi-beam coverage was acquired on May 11 and 17, 2000 (DN's 132 and 138). Side scan sonar revealed a possible contact in position 43°39'45.1" N, 070°10'13.7" W. A dive investigation was performed on May 23, 2000 (DN 144) and divers discovered a rock outcrop. Side scan sonar and multi-beam data do not support the existence of the obstruction.

CHARTING RECOMMENDATION:
The hydrographer recommends the removal of the charted "Obstn rep PA" text and "obstruction" symbol at 43°39'50.0" N, 070°10'08.0" W from Charts 12392 and 13290, 13288. Update the common area with present survey soundings. CONCUR

RECOMMENDED POSITION: N/A

RECOMMENDED LEAST DEPTH: N/A

COMPILATION NOTES:

DELETE OBSTN REP PA

D.1c AWOIS 10551

ITEM DESCRIPTION: Wreck PA
SOURCE: Unknown
AWOIS POSITION: 43°40'09.0" N, 070°13'08.0" W
REQUIRED INVESTIGATION: MB, S2, DI
CHARTS AFFECTED: 13288, 13290, 13292.

INVESTIGATION 3 124
DATE(S)/DN(S): May 16, 2000 / DN 137
POSITION NUMBERS: 14422
INVESTIGATION USED: MB, S2
POSITION DETERMINED BY: DGPS

INVESTIGATION SUMMARY:
A "dangerous wreck, depth unknown PA" symbol is charted in position 43°40'08.6" N, 070°13'08.2" W. The item was contained within the sheet limits of H-10963. During Launch 517 survey operations, the wreck was visible at MLLW allowing RUDE survey personnel to acquire detached positions at either end of the wreck. A detached position was also acquired at the center of the wreck in position 43°40'08.6" N, 070°13'08.2" W with a least depth of –2 feet (bares 2 feet) (DTN #6). The wreck has a southwest-northeast orientation.

CHARTING RECOMMENDATION:
The hydrographer recommends removing the charted text "PA" and the symbol "dangerous wreck, least depth unknown" at position 43°~~39'50~~ 40'08 .0" N, 070°~~10~~ 08'08.0" W from Chart 13290. The hydrographer further recommends the addition of a "wreck showing any portion of hull or superstructure at level of chart datum" on charts 13290 and 13292. CONCUR

RECOMMENDED POSITION: 43°40'08.623" N, 070°13'08.2$\overset{0}{1}$3" W

RECOMMENDED LEAST DEPTH: $\overset{-3}{-2}$ feet MLLW

COMPILATION NOTES: REVISE : PA TO

D.1d

ITEM DESCRIPTION: Submerged pipes
SOURCE: New feature
AWOIS POSITION: N/A
REQUIRED INVESTIGATION: N/A
CHARTS AFFECTED: 13288, 13290, 13292.

INVESTIGATION
DATE(S)/DN(S): May 9, 16, 21-22,30 2000/ DN 130,137,142-143,151
POSITION NUMBERS: ~~296,747~~ 48156 AND 48146
INVESTIGATION USED: MB, S2, DI
POSITION DETERMINED BY: DGPS

INVESTIGATION SUMMARY:

Two submerged pipes were located in positions 43°45'~~11~~12.076".4" N, 070°09'~~29.8~~30.104" W and 43°45'~~11.6~~10.749" N, 070°09'~~30.5~~29.863" W during side scan sonar operations. These obstructions are positioned north of a charted pier on Birch Point. Side scan sonar operations on April 4, 2000 (DN 095) revealed a significant contact on line 116_1919. Development lines were run on May 3 and 16, 2000 (DN 124 and 137). Multi-beam data revealed two separate contacts in this location. A dive investigation was conducted on May 22, 2000 (DN 143) by RUDE personnel. Divers located two metal pipes, each two feet in diameter. The northern most pipe located in position 43°45'~~11.6~~12.076" N, 070°09'~~30.8~~30.104" W was 40 feet in length and with a nine-foot height. A least depth of 31 feet was determined by diver least depth gauge. The southern most pipe located in position 43°45'~~11.4~~10.749" N, 070°09'~~29.8~~29.863" W was measured as 10 feet long with a height off the bottom of 4-6 feet. RUDE notified the Portland Pilots and the Captain of the Port of these findings. The pipes were cut at their bases on May 30, 2000 (DN 151) by Water Works Diving, after which, one hundred percent multi-beam was acquired over the previous positions. The southern most pipe was cut 2 feet above the seafloor and the northern most pipe was cut 1 ½ feet above the seafloor. The new least depth of the southern most pipe is 36 feet (DTN #27), and the northern most pipe has a least depth of 37 feet. A letter from Water Works Diving giving a detailed explanation of the work completed on the pipes is supposed to be forwarded to RUDE. Upon receipt, a copy of the letter will be forwarded to the Atlantic Hydrographic Branch for inclusion into the Descriptive Report.* A point of contact for the work completed on the pipes is:

* REPORT NEVER RECEIVED BY NOAA SHIP RUDE OR THE ATLANTIC HYDROGRAPHIC BRANCH

Bob Porcaro
FPLE WF Wyman Station
Yarmouth, Maine 04096
(207) 846-8110

CHARTING RECOMMENDATION:
The hydrographer recommends charting "submerged pipes, least depth known" on charts 13288, 13290, and 13292. CONCUR

RECOMMENDED POSITION: 43°45'11.~~427~~642" N, 070°09'~~29.818~~30.630" W

RECOMMENDED LEAST DEPTH: ~~36~~35 feet MLLW

COMPILATION NOTES:

CHART 35 OBSTNS IN LAT. 43°45'11.642"N
LON. 070°09'30.630"W

SCALE OF CHART WILL NOT PERMIT CHARTING OF THE 36 OBSTN IN LAT. 43°45'11.443"N
LON. 070°09'29.817"W

D.1e

ITEM DESCRIPTION: Submerged Pile
SOURCE: New feature
AWOIS POSITION: N/A
REQUIRED INVESTIGATION: N/A
CHARTS AFFECTED: 13288, 13290, 13292.

INVESTIGATION
DATE(S)/DN(S): April 7, 2000 / 098
POSITION NUMBERS: ~~8578~~ 149740
INVESTIGATION USED: MB, S2, DI
POSITION DETERMINED BY: DGPS

INVESTIGATION SUMMARY:
A submerged metal pile was located on 517 single-beam records on DN 087 in position 43°44'59~~.6~~.5" N, 070°09'35.2" W. A diver investigation was conducted on April 7, 2000 (DN 098). The pile is described as one foot in diameter, 27.5 feet in length, standing off the bottom at approximately a 20 to 30 degree angle. The pile stands 8.5 feet off the bottom. The least depth measured by divers was 2.63 meters (8.6 feet). Corrected multi-beam data determined a least depth of 8 feet (DTN #26).

CHARTING RECOMMENDATION:
The hydrographer recommends charting a "submerged pile" on charts 13288, 13290, and 13292. CONCUR WITH CLARIFICATION - * SEE NOTE

RECOMMENDED POSITION: 43°44'59.~~632~~497" N, 070°09"35.~~193~~100" W

RECOMMENDED LEAST DEPTH: 8 feet MLLW

COMPILATION NOTES:

CHART : 8: OBSTN

THIS OBSTN IS PART OF AN OUTFALL. SEE PAGE 12 OF THIS REPORT.

* DIVE REPORT STATES THAT A PIPE WAS LOCATED.

D.1f

ITEM DESCRIPTION: Outfall
SOURCE: New feature
AWOIS POSITION: N/A
REQUIRED INVESTIGATION: N/A
CHARTS AFFECTED: 13288, 13290, 13292.

INVESTIGATION
DATE(S)/DN(S): : May 4, 2000 / DN125
POSITION NUMBERS ~~260,963~~ 377850
INVESTIGATION USED: MB, S2
POSITION DETERMINED BY: DGPS

INVESTIGATION SUMMARY:
An uncharted outfall was located during Launch 517 side scan sonar operations on DN 091. The side scan sonar data in the vicinity of the outfall was degraded (pos 11263-11264), and was subsequently rejected. RUDE re-acquired side scan sonar data with multi-beam data over the outfall. RUDE side scan sonar contact 125_218_1242_2 clearly depicts the outfall. Multi-beam development lines 821_2028, 822_2026, 826_2024, 826_2040, and 826_2046 were acquired on DN 125, yielding one hundred percent multi-beam coverage over the outfall. Multi-beam data reveals a least depth of 27 feet (DTN #25) at the western end.

CHARTING RECOMMENDATION:
The hydrographer recommends charting an "outfall" on charts 13288, 13290, and 13292. CONCUR WITH CLARIFICATION - SEE * NOTE *

RECOMMENDED POSITION: from 43°44'53.627" N, 070°09'42.062" W (pos # 260,963) to 43°44'59.0" N, 070°09'35.2" (scaled from charted shoreline)

RECOMMENDED LEAST DEPTH: 27 feet MLLW at the western end.

COMPILATION NOTES: * CHART 27 OBSTN IN
LAT. 43° 44' 53.61" N
LON. 070° 09' 42.05" W

REVIEW DRAWINGS SUBMITTED BY FLORIDA POWER AND LIGHT AND REVISE CHART AS NEEDED.

D.1g

ITEM DESCRIPTION: Submerged Wreck
SOURCE: New feature
AWOIS POSITION: N/A
REQUIRED INVESTIGATION: N/A
CHARTS AFFECTED: 13288, 13290, 13292.

INVESTIGATION
DATE(S)/DN(S): May 5, 2000 / DN 126
POSITION NUMBERS: ~~261,115~~ 44509
INVESTIGATION USED: MB, S2, DI
POSITION DETERMINED BY: DGPS

INVESTIGATION SUMMARY:
A wreck was located during side scan operations in position 43°44'50.9" N, 070°08'24.5" W. Two hundred percent side scan sonar and multi-beam data were acquired over the wreck. Lines 109_1516 April 18, 2000 (DN 109) and 219_1552 April 19, 2000 (DN 110) show a small object resembling a wreck. Divers investigated the side scan sonar contact on May 5, 2000 (DN 126). Divers described the wreck as a small, aluminum skiff, approximately 15 feet long, standing one foot above the sea floor. Multi-beam development line 800_2111 on May 4, 2000 (DN 125) reveal a least depth of 21 feet (DTN #22).

CHARTING RECOMMENDATION:
The hydrographer recommends charting a "wreck, least depth known" on charts 13288, 13290, and 13292. DO NOT CONCUR

RECOMMENDED POSITION: 43°44'~~50.902~~ 51.35" N, 070°08'24.47~~3~~" W

RECOMMENDED LEAST DEPTH: ~~21~~ 22 feet MLLW

COMPILATION NOTES: THIS WRECK IS IN AN AREA OF SHOALER SOUNDINGS OF 19 TO 21 FEET AND IS CONSIDERED INSIGNIFICANT.

DO NOT CHART.

D.1h

ITEM DESCRIPTION: Submerged wreck
SOURCE: New feature
AWOIS POSITION: N/A
REQUIRED INVESTIGATION: N/A
CHARTS AFFECTED: 13288, 13290, 13292.

INVESTIGATION
DATE(S)/DN(S): May 5, 2000 / DN 126
POSITION NUMBERS: 44505
INVESTIGATION USED: MB, S2, DI
POSITION DETERMINED BY: DGPS

INVESTIGATION SUMMARY:
A wreck was located during side scan operations at 43°44'12.5" N, 070°08'18.0" W. Two hundred percent side scan sonar and multi-beam data were acquired over the object. Side scan contacts numbers 105_116_1411_5, 105_118_1431_2, and 109_200_1700_6 were labeled as obstructions. Development lines 003_1425 May 5, 2000 (DN 126) and 801_2142, 801_2145, 801_2148, and 801_2151 May 4, 2000 (DN 125) were acquired yielding a least depth of 25 feet (DTN #20). The least depth from multi-beam data acquired on May 5, 2000 (DN 126), warranted an investigative dive. On May 5, 2000 (DN 126), divers determined the feature as the remains of an old wooden barge with no apparent height compared with the surrounding bottom.

CHARTING RECOMMENDATION:
The hydrographer recommends charting a "wreck, least depth known" on charts 13288, 13290, and 13292. DO NOT CONCUR

RECOMMENDED POSITION: 43°44'12.46½" N, 070°08'18.0~~12~~°" W

RECOMMENDED LEAST DEPTH: 2~~5~~6 feet MLLW

COMPILATION NOTES: WRECK IS IN AN AREA OF SHOALER DEPTHS OF 23 TO 25 FEET AND IS CONSIDERED INSIGNIFICANT. DO NOT CHART.

D.1i

ITEM DESCRIPTION: Obstruction
SOURCE: New feature
AWOIS POSITION: N/A
REQUIRED INVESTIGATION: N/A
CHARTS AFFECTED: 13288, 13290, 13292.

INVESTIGATION
DATE(S)/DN(S): May 23, 2000 / DN 144
POSITION NUMBERS: 51311
INVESTIGATION USED: MB, S2, DI
POSITION DETERMINED BY: DGPS

INVESTIGATION SUMMARY:
An obstruction was located during multi-beam sounding development in position 43°44'20.7" N, 070°08'20.3" W. A sounding anomaly was observed in a preliminary review of sounding data. Upon further investigation with multi-beam development (line numbers 815_1606, 815_1629, 815_1632, 815_1634, 815_1642, and 815_1645), a man-made object was suspected. A dive investigation on May 23, 2000 (DN 144) was conducted. Divers discovered a large metal box, possibly an engine block, in a scour with a least depth of 25 feet (DTN #19).

CHARTING RECOMMENDATION:
The hydrographer recommends charting an "obstruction, least depth known" on charts 13288, 13290, and 13292. DO NOT CONCUR

RECOMMENDED POSITION: 43°44'20.~~656~~66" N, 070°08'20.~~309~~30"

RECOMMENDED LEAST DEPTH: ~~25~~27 feet MLLW.

COMPILATION NOTES:

THIS FEATURE IS IN AN AREA OF SHOALER DEPTHS, 24 TO 25 FEET; IS CONSIDERED INSIGNIFICANT. DO NOT CHART.

D.1j

ITEM DESCRIPTION: Rock
SOURCE: New feature
AWOIS POSITION: N/A
REQUIRED INVESTIGATION: N/A
CHARTS AFFECTED: 13288, 13290, 13292.

INVESTIGATION 10 1
DATE(S)/DN(S): May ~~11~~, 2000 / DN 13~~2~~
POSITION NUMBERS: ~~280,988~~ 4/7066
INVESTIGATION USED: MB, S2, DI
POSITION DETERMINED BY: DGPS

INVESTIGATION SUMMARY:
A rock was located using side scan sonar in position 43°42'04.4" N, 070°09'32.8" W. In review of one hundred percent and two hundred side scan sonar records, three significant contacts were viewed in close proximity to each other. Contact number 102_107_1241_6, 102_215_2031_3, and 102_218_2045_1, each with heights greater than 1.5 meters. A multi-beam investigation conducted on May 11, 2000 (DN 132) revealed a least depth of 41 feet (DTN #9). Reference lines 801_1558, 801_1602, and 801_1605 clearly depicted the contact. A dive investigation was conducted on May 11, 2000 (DN 132) to investigate the nature of the object. Divers found a large rock, approximately 15 feet long, 4 feet wide, and 6 feet high, with a least depth determined by diver least depth gauge of 13.03 meters (42.7 feet).

CHARTING RECOMMENDATION:
The hydrographer recommends charting a "dangerous rock with least depth known" on charts 13288, 13290, and 13292. CONCUR WITH ~~CHRT~~ CLARIFICATION - SEE NOTE *

RECOMMENDED POSITION: 43°42'04.~~404~~.39" N, 070°09'32.~~810~~.79" W

RECOMMENDED LEAST DEPTH: 41 feet MLLW

COMPILATION NOTES: * DIVER REPORT STATES THAT AN UNIDENTIFIABLE OBSTN WAS LOCATED. CHART 41' OBSTN

D.1k

ITEM DESCRIPTION: Rock outcrop
SOURCE: New feature
AWOIS POSITION: N/A
REQUIRED INVESTIGATION: N/A
CHARTS AFFECTED: 13288, 13290, 13292.

INVESTIGATION
DATE(S)/DN(S): May 15, 2000 / DN 136
POSITION NUMBERS: ~~293,738~~ 44438
INVESTIGATION USED: MB, S2
POSITION DETERMINED BY: DGPS

INVESTIGATION SUMMARY:
A rock outcrop was discovered during the course of multi-beam operations in the vicinity of 43°42'36.2' N, 070°08'36.6" W. Resulting depths from this outcrop ranged from 17 to 23 feet (DTN #8). These soundings are outside the 18-foot contour. One hundred percent multi-beam was acquired over the outcrop. The digital terrain model produced from multi-beam data shows the outcrop having a northeast-southwest orientation.

CHARTING RECOMMENDATION:
The hydrographer recommends charting a "rock, least depth known" on charts 13288, 13290 and 13292. CONCUR

RECOMMENDED POSITION: 43°42'36.~~195~~20" N, 070°08'36.~~624~~60" W

RECOMMENDED LEAST DEPTH: 17 feet MLLW

COMPILATION NOTES: CHART 17 RK

D.11

ITEM DESCRIPTION: Obstruction
SOURCE: New Feature
AWOIS POSITION: N/A
REQUIRED INVESTIGATION: N/A
CHARTS AFFECTED: 13288, 13290, 13292.

INVESTIGATION
DATE(S)/DN(S): May 11, 2000 / DN 132
POSITION NUMBERS: 47630
INVESTIGATION USED: MB, S2, DI
POSITION DETERMINED BY: DGPS

INVESTIGATION SUMMARY:
An obstruction was located during side scan sonar operations at 43°41'45.7 N, 070°09'49.0" W. Two hundred percent side scan and one hundred percent multi-beam was acquired over the item. Contact numbers 102_104_1330_10 and 108_208_1821_1 were labeled as obstructions in side scan processing. Development lines 804_1517, 804_1520 and 804_1527 were run on May 11, 2000 (DN 132) to investigate the item. Using the side scan image produced by multi-beam, an item was clearly defined in the development lines, though the nature of the item was not distinguishable. An investigative dive was performed on May 11, 2000 (DN 132). The divers located a 15-meter long pile laying horizontally on the bottom with a least depth of 45 feet (DTN #10). The height of the pile off the bottom was approximately one foot.

CHARTING RECOMMENDATION:
The hydrographer recommends charting an "obstruction, least depth known" on charts 13288, 13290, and 13292. CONCUR

RECOMMENDED POSITION: 43°41'45.747" N, 070°09'49.016" W

RECOMMENDED LEAST DEPTH: 45 feet MLLW.

COMPILATION NOTES: CHART 45 OBSTN

D.1m

ITEM DESCRIPTION: Submerged wreck
SOURCE: New feature
AWOIS POSITION: N/A
REQUIRED INVESTIGATION: N/A
CHARTS AFFECTED: 13288, 13290, 13292.

INVESTIGATION
DATE(S)/DN(S): May 22, 2000 / DN 143
POSITION NUMBERS: 51132
INVESTIGATION USED: MB, S2, DI
POSITION DETERMINED BY: DGPS

INVESTIGATION SUMMARY:
A wreck was located using side scan sonar at 43°40'07.3" N, 070°13'14.8" W. Launch 517 side scan sonar contacts 13879.3p and 15453.2p, acquired on May 3 and 5, 2000 (DN 124 and 126), were labeled as wrecks. Multi-beam development lines 811_1413, 811_1419, 811_1421, 811_1423, 805_2213, and 805_2222 were run on May 16 and 22, 2000 (DN 137 and 143). Data from these lines positively identified the wreck, though a definitive least depth could not be determined from the multi-beam. A dive investigation was conducted on May 22, 2000 (DN 143) to determine a least depth. Divers located a square wooden barge, mostly buried in the sand, with a least depth of ~~18~~ 16 feet (DTN #5).

CHARTING RECOMMENDATION:
The hydrographer recommends charting a "wreck, least depth known" on charts 13290 and 13292. CONCUR

RECOMMENDED POSITION: 43°40'07.~~271~~ 22" N, 070°13'14.87~~8~~ 4" W

RECOMMENDED LEAST DEPTH: ~~18~~ 16 feet MLLW

COMPILATION NOTES: CHART : 16 : WK

D.1n

ITEM DESCRIPTION: Submerged wreck
SOURCE: New feature
AWOIS POSITION: N/A
REQUIRED INVESTIGATION: N/A
CHARTS AFFECTED: 13288, 13290, 13292.

INVESTIGATION 9 130
DATE(S)/DN(S): May ~~5~~, 2000 / DN ~~126~~
POSITION NUMBERS: ~~277,421~~ 410066
INVESTIGATION USED: MB, S2, DI
POSITION DETERMINED BY: DGPS

INVESTIGATION SUMMARY:
A wreck was located using side scan sonar at 43°42'29.3" N, 070°11'39.1" W, although side scan sonar contact 122_200_1759_4 was labeled as a large rock with a height of 4.5 meters, classifying it as a significant contact. Development line 001_1305 was run on May 5, 2000 (DN 126) to determine a least depth of 20 feet (DTN #16). A dive investigation was performed on May ~~5~~ 7, 2000 (DN ~~126~~ 128). Divers found a rectangular wreck with a southeast to northwest orientation. Two masts were identified as the shoalest points on the wreck. The least depth was acquired by the divers of 6.35 meters (21 feet) on one of the masts.

CHARTING RECOMMENDATION:
The hydrographer recommends charting a "wreck, least depth known" on charts 13290 and 13292. CONCUR

RECOMMENDED POSITION: 43°42'29.29~~5~~" N, 070°11'39.08~~7~~" W

RECOMMENDED LEAST DEPTH: ~~20~~ 19 feet MLLW

COMPILATION NOTES: CHART 19 WK

D.1o

ITEM DESCRIPTION: Obstruction
SOURCE: New feature
AWOIS POSITION: N/A
REQUIRED INVESTIGATION: N/A
CHARTS AFFECTED: 13288, 13290, 13292.

INVESTIGATION 21
DATE(S)/DN(S): May 30, 2000 / DN ~~151~~ 142
POSITION NUMBERS: ~~309,112~~ 470981
INVESTIGATION USED: MB, S2, DI
POSITION DETERMINED BY: DGPS

INVESTIGATION SUMMARY:
An obstruction was located using side scan sonar in position 43°42'30.2" N, 070°11'29.2" W. Contacts 124_100_2133_1 and 122_201_1810_3 were deemed significant, with heights greater than 3 meters. Development lines 706_1851 and 706_1853 run on May 21, 2000 (DN 142) acquired a least depth of ~~41~~ 42 feet (DTN #17). A diver investigation was performed on May 30, 2000 (DN 151). Divers found a large cylindrical object, approximately 10 feet in diameter and 14 feet high with a diver least depth of 42 feet.

CHARTING RECOMMENDATION:
The hydrographer recommends charting an "obstruction, least depth known" on charts 13288, 13290, and 13292. CONCUR
RECOMMENDED POSITION: 43°42'30.~~166~~ 18" N, 070°11'29.~~198~~ 18" W

RECOMMENDED LEAST DEPTH: ~~41~~ 40 feet MLLW

COMPILATION NOTES:
CHART : 40 : OBSTN

D.1p

ITEM DESCRIPTION: Submerged wreck
SOURCE: New feature
AWOIS POSITION: N/A
REQUIRED INVESTIGATION: N/A
CHARTS AFFECTED: 13288, 13290, 13292.

INVESTIGATION
DATE(S)/DN(S): May 22, 2000 / DN 143
POSITION NUMBERS: ~~310,502~~ 5182
INVESTIGATION USED: MB, S2, DI
POSITION DETERMINED BY: DGPS

INVESTIGATION SUMMARY:
A wreck was located using side scan sonar, contact number 103_242_1426_4, in position 43°43'22.3" N, 070°11'08.6" W. Development line 802_2140 May 22, 2000 (DN 143) determined a least depth by multi-beam of 5 feet (DTN #18)at the top of a sloping bottom. A diver investigation was performed on May 22, 2000 (DN 143). Divers discovered a large, wooden wreck laying parallel to the shore on a steep slope. The wreck was approximately 30 feet wide and 100 feet in length. Frames were found protruding from the bottom.

CHARTING RECOMMENDATION:
The hydrographer recommends charting a "wreck, least depth known" on charts 13288, 13290, and 13292. CONCUR

RECOMMENDED POSITION: 43°43'22.~~297~~26" N, 070°11'08.~~626~~31" W

RECOMMENDED LEAST DEPTH: 5 feet MLLW

COMPILATION NOTES:
CHART : 5: WK

D.1q

ITEM DESCRIPTION: Rock
SOURCE: New feature
AWOIS POSITION: N/A
REQUIRED INVESTIGATION: N/A
CHARTS AFFECTED: 13290, 13292.

INVESTIGATION
DATE(S)/DN(S): April 28, May 16-17 / DN 119,137-138
POSITION NUMBERS: ~~295,835~~ 445265
INVESTIGATION USED: MB, S2
POSITION DETERMINED BY: DGPS

INVESTIGATION SUMMARY:
During side scan sonar operations, Launch 517 located a significant rock (contact # 12434.4s). An 18-foot sounding (DTN #15), in position 43°41'52.5" N, 070°12'39.3", was observed during RUDE multi-beam development of the contact on May 16 (DN 137). On May 17, 2000 (DN 138), a second multi-beam development line (line 829_1701), shows a significant near-nadir hit at PR# 192 validating the 18 foot sounding.

CHARTING RECOMMENDATION:
The hydrographer recommends charting a "rock, least depth known" on charts 13290 and 13292. CONCUR

RECOMMENDED POSITION: 43°41'52.~~506~~ .49" N, 070°12'39.~~317~~ .31"W

RECOMMENDED LEAST DEPTH: 18 feet MLLW

COMPILATION NOTES: CHART 18' RK

D.1r

ITEM DESCRIPTION: Rock
SOURCE: New Feature
AWOIS POSITION: N/A
REQUIRED INVESTIGATION: MB, S2, DI
CHARTS AFFECTED: 13290, 13292.

INVESTIGATION
DATE(S)/DN(S): April 28, May 16 / DN 119, 137
POSITION NUMBERS: ~~295,791~~ 44583
INVESTIGATION USED: MB, S2
POSITION DETERMINED BY: DGPS

INVESTIGATION SUMMARY:
An 18-foot sounding (DTN #14) was observed during RUDE multi-beam development of Launch 517 contact # 12859.1s in position 43°41'44.2" N, 070°12'45.2" W. This sounding is a result of development line 828_1630 on May 16, 2000 (DN 137), which was run to develop contact 12859.1s. A near nadir hit at PR# 363 on line 828_1630, indicates a significant isolated rock at this location.

CHARTING RECOMMENDATION:
The hydrographer recommends charting a "rock, least depth known" on charts 13290 and 13292. CONCUR

RECOMMENDED POSITION: 43°41'44.~~150~~14" N, 070°12'45.~~148~~12" W

RECOMMENDED LEAST DEPTH: 18 feet MLLW

COMPILATION NOTES:
CHART 18 RK

D.1s

ITEM DESCRIPTION: Rock
SOURCE: New Feature
AWOIS POSITION: N/A
REQUIRED INVESTIGATION: N/A
CHARTS AFFECTED: 13290, 13292.

INVESTIGATION
DATE(S)/DN(S): May 1, 23 / DN 143, 122
POSITION NUMBERS: ~~310,355~~ 473302
INVESTIGATION USED: MB, S2
POSITION DETERMINED BY: DGPS

INVESTIGATION SUMMARY:
Contact number 12836.0s was flagged in Launch 517 data as being significant. Multi-beam development of this contact was conducted by RUDE on May 22, 2000 (DN 143). Line 809_2009 shows a significant isolated rock at PR# 877, revealing a least depth of 17 feet (DTN #13).

CHARTING RECOMMENDATION:
The hydrographer recommends charting a "rock, least depth known" on charts 13290 and 13292. CONCUR

RECOMMENDED POSITION: 43°41'35.~~964~~97" N, 070°12'46.~~457~~43" W

RECOMMENDED LEAST DEPTH: 17 feet MLLW

COMPILATION NOTES: CHART 17 RK

D.1t

ITEM DESCRIPTION: Rock outcrop
SOURCE: Chart 13290
AWOIS POSITION: N/A
REQUIRED INVESTIGATION: MB, S2, DI
CHARTS AFFECTED: 13288, 13290, 13292.

INVESTIGATION
DATE(S)/DN(S): May 3, 15, 18, 24 2000 / DN 124, 136, 139, 145
POSITION NUMBERS: ~~290,365~~ 479514
INVESTIGATION USED: MB, S2
POSITION DETERMINED BY: DGPS

INVESTIGATION SUMMARY:
A rock with a least depth of four feet is charted in the vicinity of Upper Clapboard Island Ledge in position 43°43'55.1" N, 070°10'35.3" W. Two hundred percent side scan sonar and one hundred percent multi-beam sonar coverage was acquired over the charted sounding. Multi-beam depths within the common area revealed a least depth of eight feet. A diver investigation was conducted on May 23, 2000 (DN 144). Divers located a rock outcrop and found a least depth using the diver's least depth gauge of ~~10~~ 8 feet (~~3.15~~ 2.5m).

CHARTING RECOMMENDATION:
The hydrographer recommends removal of the charted label "rk" and the corresponding depth of four-feet. The hydrographer further recommends charting a "rock, least depth known" on charts 13288, 13290, 13292. CONCUR

RECOMMENDED POSITION: 43°43'55.~~456~~.43" N, 070°10'34.~~864~~.91" W

RECOMMENDED LEAST DEPTH: 8 feet MLLW

COMPILATION NOTES:
CHART 8 RK

D.1u

ITEM DESCRIPTION: Rock
SOURCE: New feature
AWOIS POSITION: N/A
REQUIRED INVESTIGATION: N/A
CHARTS AFFECTED: 13288, 13290, 13292

INVESTIGATION 09 136
DATE(S)/DN(S): May ~~21~~, 2000 / DN ~~142~~
POSITION NUMBERS: ~~269,283~~ 393788
INVESTIGATION USED: MB, S2
POSITION DETERMINED BY: DGPS

INVESTIGATION SUMMARY:
A previously uncharted rock ledge was observed in multi-beam data at position 43°39'57.3" N, 070°10'31.4" W. Charted soundings in the general vicinity of this ledge are 46-feet. Two hundred percent side scan and one hundred percent multi-beam sonar data were acquired over this feature. The outcrop is clearly visible in the multi-beam digital terrain model. A least depth of 26 feet was determined from multi-beam data (DTN #2).

CHARTING RECOMMENDATION
The hydrographer recommends charting a "rock, least depth known" on charts 13288, 13290, 13292. CONCUR

RECOMMENDED POSITION: 43°39'57.~~345~~ .19" N, 070°10'31.~~448~~ .17" W

RECOMMENDED LEAST DEPTH: 26 feet MLLW

COMPILATION NOTES:
CHART 26 RK

D.1v

ITEM DESCRIPTION: Rock ledge
SOURCE: N/A
AWOIS POSITION: N/A
REQUIRED INVESTIGATION: N/A
CHARTS AFFECTED: 13288, 13290, 13292

INVESTIGATION 10 131
DATE(S)/DN(S): May ~~11~~, 2000 / DN ~~132~~
POSITION NUMBERS: ~~270,781~~ 420283
INVESTIGATION USED: MB, S2
POSITION DETERMINED BY: DGPS

INVESTIGATION SUMMARY:
A previously uncharted rock ledge was observed in multi-beam data at position 43°41'50.2" N, 070°11'06.6" W. Charted soundings in the general vicinity of this ledge are 57 feet. Two hundred percent side scan and one hundred percent multi-beam sonar data were acquired over this feature. The outcrop is clearly visible in the multi-beam digital terrain model. A least depth of ~~39~~ 37 feet was determined from multi-beam data (DTN #12).

CHARTING RECOMMENDATION
The hydrographer recommends charting a "rock, least depth known" on charts 13288, 13290, 13292. CONCUR

RECOMMENDED POSITION: 43°41'50.~~169~~ 14" N, 070°11'06.~~609~~ 58" W

RECOMMENDED LEAST DEPTH: ~~39~~ 37 feet MLLW

COMPILATION NOTES:
CHART 37 RK

D.1w

ITEM DESCRIPTION: Rock outcrop
SOURCE: N/A
AWOIS POSITION: N/A
REQUIRED INVESTIGATION: N/A
CHARTS AFFECTED: 13288, 13290, 13292

INVESTIGATION
DATE(S)/DN(S): May 17, 2000 / DN 139
POSITION NUMBERS: ~~229,910~~ 46036
INVESTIGATION USED: MB, S2
POSITION DETERMINED BY: DGPS

INVESTIGATION SUMMARY:
A previously uncharted rock outcrop was discovered during the course of multi-beam sonar operations at position 43°44'17.3" N, 070°09'35.3" W. Charted soundings in the vicinity of this rocky outcrop are 20 feet. Two hundred percent side scan and one hundred percent multi-beam sonar was acquired over this feature. Multi-beam development lines 603_1706 and 603_1715 reveal a least depth of 17 feet (DTN #23).

CHARTING RECOMMENDATION
The hydrographer recommends charting a "rock, least depth known" " on charts 13288, 13290, 13292. CONCUR

RECOMMENDED POSITION: 43°44'17.32~~7~~.33" N, 070°09'35.3~~51~~" W

RECOMMENDED LEAST DEPTH: 17 feet MLLW

COMPILATION NOTES:
CHART 17 RK

D.1x

ITEM DESCRIPTION: Rock outcrop
SOURCE: N/A
AWOIS POSITION: N/A
REQUIRED INVESTIGATION: N/A
CHARTS AFFECTED: 13288, 13290, 13292

INVESTIGATION
DATE(S)/DN(S): May 17, 2000 / DN 139
POSITION NUMBERS: ~~303,763~~ 460592
INVESTIGATION USED: MB, S2
POSITION DETERMINED BY: DGPS

INVESTIGATION SUMMARY:
A previously uncharted rock outcrop was discovered during the course of multi-beam sonar operations at position 43°44'27.6" N, 070°09'38.2" W. Charted soundings in the vicinity of this rocky outcrop are 20 feet. Two hundred percent side scan and one hundred percent multi-beam sonar was acquired over this feature. Multi-beam development lines 601_1732 reveal a least depth of 17 feet (DTN # 24).

CHARTING RECOMMENDATION
The hydrographer recommends charting a "rock, least depth known" " on charts 13288, 13290, 13292.

RECOMMENDED POSITION: 43°44'27.~~571~~58" N, 070°09'38.~~178~~15" W

RECOMMENDED LEAST DEPTH: 17 feet MLLW

COMPILATION NOTES: CHART "17" RK

D.1y

ITEM DESCRIPTION: Wreck
SOURCE: N/A
AWOIS POSITION: N/A
REQUIRED INVESTIGATION: N/A
CHARTS AFFECTED: 13288, 13290, 13292

INVESTIGATION
DATE(S)/DN(S): May 7, 2000 / DN 128
POSITION NUMBERS: ~~266,523~~ 388377
INVESTIGATION USED: MB, S2
POSITION DETERMINED BY: DGPS

INVESTIGATION SUMMARY:
A wreck was discovered during the course of side scan sonar operations at position 43°42'58.5" N, 070°08'05.9" W. Two hundred percent side scan sonar was acquired over this feature. Lines 103_1754 and 112_1806 on DN 128 reveal the small wreck. Line 112_1806 shows the wreck 14 meters from nadir. Multi-beam data shows the wreck has no height off the bottom. Multi-beam depths in the area from H-10963 data are 35 feet (DTN #7).

CHARTING RECOMMENDATION
The hydrographer recommends charting a "wreck, least depth known" on charts 13288, 13290, and 13292. DO NOT CONCUR - SEE NOTE *

RECOMMENDED POSITION: 43°42'58.~~557~~11" N, 070°08'05.~~713~~74" W

RECOMMENDED LEAST DEPTH: 35 feet MLLW

COMPILATION NOTES: * WRECK IS LOCATED IN AN AREA OF SHOALER SOUNDINGS OF 33 TO 35 FEET AND IS CONSIDERED INSIGNIFICANT.

DO NOT CHART

D.2 COMPARISON WITH THE CHART SEE ALSO THE EVALUATION REPORT

D.2a Three charts are affected by H-10963:

Chart 13288	39th Edition	November 6, 1999	1:80,000
Chart 13290	33rd Edition	March 4, 2000	1:40,000
Chart 13292	35th Edition	March 4, 2000	1:20,000

D.2b Chart 13288 contains 112 soundings within the survey limits of H-10963. Twenty-eight charted soundings are in agreement with H-10963 soundings. Eighteen charted soundings are one foot shoaler than present survey soundings. Thirteen charted soundings are one foot deeper than present survey soundings. Nine charted soundings are two feet shoaler than present survey soundings. Thirteen charted soundings are two feet deeper than present survey soundings. The remaining 41 soundings show differences from 3-20 feet between charted soundings and survey soundings. These differences may be attributed to the irregular terrain and the prior sounding methods used (leadline, single-beam) as opposed to the multi-beam technology used to acquire data on the present survey.

In addition to the AWOIS items and new features described in section D.1 the following changes to Chart 13288 were found.

A 48-foot sounding is charted in the vicinity of R"4" at 43°40'04.7" N, 070°09'47.5 W. Multi-beam data from H-10963 reveal least depths of 46 feet in the common area. Two hundred percent side scan and one hundred percent multi-beam sonar data was acquired in this area. These depth can be attributed to a charted ridge in this area. The hydrographer recommends updating Chart 13288 with present survey soundings. CONCUR - SEE ALSO PAGES 34 & 36

A 12-foot sounding is charted between Great Diamond Island and Cow Island in position 43°41'19.1" N, 070°11'23.9" W. Multi-beam data in the common area show present survey soundings as shoal as nine feet around the 12-foot sounding. Two hundred percent side scan sonar coverage and one hundred percent multi-beam coverage were acquired in the Pass between the two islands. The hydrographer recommends updating Chart 13288 with present survey soundings. CONCUR - SEE ALSO PAGES 35 & 38

A charted nine-foot sounding is located in the vicinity of Cow Island Ledge in position 43°42'21.0 N, 070°11'12.8" W. Single-beam data acquired with Launch 517 revealed a 16-foot sounding. Two hundred percent side scan sonar coverage was acquired over the sounding. Sonar records indicate the existence of rocky area. Due to the nature of the shoal and charted kelp in the vicinity, RUDE did not develop the area. The hydrographer recommends retaining the charted nine-foot sounding and adding present survey sounds around the charted nine-foot sounding from H-10963. CONCUR - SEE ALSO PAGES 34 & 37

A 49-foot sounding (DTN #11) was observed during data acquisition southwest of G"11" from H-10963 data in position 43°42'00.2" N, 070°10'41.1" W. Two hundred percent side scan sonar and one hundred percent multi-beam sonar was acquired in this area. Data reflects that the 49-foot sounding is associated with a shoal in the general area. The hydrographer recommends updating Chart 13288 with H-10963 data. CONCUR - SEE ALSO PAGES 35&38

A six-foot sounding was observed during data acquisition in the vicinity of College Island in position 43°40'46.2" N, 070°10'24.9" W. Resulting depths from this outcrop are between 16 and 23 feet. These soundings lay outside the 18-foot contour. One hundred percent multi-beam was acquired over this outcrop. The digital terrain model produced from multi-beam data show the outcrop laying in a northeast-southwest orientation. The hydrographer recommends updating Chart 13288 with survey data in the common area. CONCUR - SEE ALSO PAGES 35&37

A 17-foot sounding was observed during 517 side scan sonar operations in the vicinity north of Sturdivant Island in position 43°45'01.6" N, 070°10'57.8" W. Single-beam records indicate a small ridge at fix number 18544 on May 17, 2000 (DN 138). A review of the side scan records in that vicinity show no significant contacts in this location. The hydrographer recommends updating Chart 13288 with H-10963 soundings in the common area. CONCUR - SEE ALSO PAGES 35&38

An 18-foot sounding was observed during 517 side scan sonar operations in the vicinity north of Sturdivant Island in position 43°44'57.1" N, 070°11'01.8" W. Single-beam records indicate a small ridge at fix number 18394 on May 16, 2000 (DN 137). A review of the side scan records in that vicinity show no significant contacts in this location. The hydrographer recommends updating Chart 13288 with H-10963 soundings in the common area. CONCUR - SEE ALSO PAGES 35&38

A ~~43~~ 44-foot sounding was observed in position 43°43'34.1" N, 070°11'13.1" W. Two ~~43~~ 44 hundred percent side scan sonar was acquired in the vicinity of this sounding. The ~~43~~ 44-foot sounding can be attributed to a ridge in the sea floor that was observed by multi-beam data acquired in this area. The hydrographer recommends updating Chart 13288 with H-10963 soundings in the common area. CONCUR - SEE ALSO PAGES 36&38 AND DTN #21

D.2c Chart 13290 contains 418 soundings within the survey limits of H-10963. One hundred and nine charted sounding were the same as present survey soundings. Fifty-nine charted soundings were 1-2 feet shoaler than present survey soundings. One hundred fifty-five charted soundings were 1-2 feet deeper than present survey soundings. Seventeen charted soundings were deeper by more than 3 feet than present survey soundings. Seventy-eight charted soundings were 3 to 7 feet shoaler than present survey soundings.

In addition to the AWOIS items and new features discussed in section D.1 the following changes to Chart 13290 were found.

An "obstruction reported" is charted south of Clapboard Island in approximate position 43°42'31.6" N, 070°11'40.8". There is no symbol indicated on the chart, only the words "Obstn Rep" are charted. Two hundred percent side scan sonar was acquired to the 18-foot contour by RUDE in the location of the item. No evidence of an obstruction was noted in the survey records. On June 12, per telephone conversation with Stephen Verry, Coast Survey, the "Obstn rep" is a cartographic error dating from 1959, and the words are scheduled for removal on the next edition of the chart.

Two submerged piers are charted in position 43°41'35.8" N, 070°09'59.6" W and 43°41'35.4" N, 070°09'54.0"W. Two hundred percent side scan sonar was acquired over the charted features. Side scan sonar records indicate the existence of the piers. The ~~western~~ EASTERN most pier is labeled with "35 feet rep" at the offshore end. Survey soundings over the pier ruins indicate that the least depth is 37 feet. The hydrographer recommends retaining the symbol "submerged pier" in positions at 43°41'35.8" N, 070°09'59.6 W and 43°41'35.4" N, 070°09'54.0"W. The hydrographer further recommends removing the label "35 feet rep" and updating Chart 13290 with H-10963 soundings in the common area. CONCUR - SEE ALSO PAGE 36

A 48-foot sounding (DTN #1) is charted in the vicinity of R"4" at 43°40'04.7" N, 070°09'47.5 W. Multi-beam data from H-10963 reveal least depths of 46 feet in the common area. Two hundred percent side scan and one hundred percent multi-beam sonar data was acquired in this area. These depth can be attributed to a charted ridge in this area. The hydrographer recommends updating Chart 13290 with present survey soundings. CONCUR - SEE PAGES 32 & 36

A charted nine-foot sounding is located in the vicinity of Cow Island Ledge in position 43°42'21.0 N, 070°11'12.8" W. Single-beam data acquired with Launch 517 revealed a 16-foot sounding. Two hundred percent side scan sonar coverage was acquired over the sounding. Sonar records indicate the existence of rocky area. Due to the nature of the shoal and charted kelp in the vicinity, RUDE did not develop the area. The hydrographer recommends retaining the charted nine-foot sounding and adding present survey sounds around the charted nine-foot sounding from H-10963. CONCUR - SEE ALSO PAGES 32 & 37

A charted nine-foot sounding is located at the southern entrance of Diamond Island Pass in position 43°39'46.5" N, 070°12'21.1" W. Ferry traffic frequently passes over this sounding, with ferries drawing up to 7 ½ feet. Survey soundings of 8 feet (DTN #3) were found in the vicinity of the nine-foot charted sounding. One hundred percent multi-beam was acquired in the area. The hydrographer recommends updating Chart 13290 with survey data. CONCUR - SEE ALSO PAGE 38

A 41-foot sounding is charted at 43°39'21.2" N, 070°12'45.0" W, in the Diamond Island Road anchorage. One hundred percent multi-beam sonar data was acquired over this area. Multi-beam data reveal a 40-foot sounding (DTN #4) in the common area

around the charted 41-foot sounding. The hydrographer recommends updating Chart 13290 with survey data. CONCUR - SEE ALSO PAGE 38

A 12-foot sounding is charted between Great Diamond Island and Cow Island in position 43°41'19.1" N, 070°11'23.~~3~~9 W. Multi-beam data in the common area show present survey soundings as shoal as nine feet around the 12-foot sounding. Two hundred percent side scan sonar coverage and one hundred percent multi-beam coverage were acquired in the Pass between the two islands. The hydrographer recommends updating Chart 13290 with present survey soundings. CONCUR - SEE ALSO PAGE 38

A six-foot sounding was observed during data acquisition in position 43°40'46.2" N, 070°10'24.9" W. The sounding is a result of a boulder in an outcrop in this area. The six foot sounding is positioned between the 12- and 18-foot contour. The hydrographer recommends updating Chart 13290 with survey data. CONCUR - SEE ALSO PAGE 39

A six-foot sounding was observed during data acquisition in the vicinity of College Island in position 43°~~42'36.3~~ 42'36.1" N, 070°~~08'36.5~~ 08'39.9" W. Resulting depths from this outcrop are between 16 and 23 feet. These soundings lay outside the 18-foot contour. One hundred percent multi-beam was acquired over this outcrop. The digital terrain model produced from multi-beam data show the outcrop laying in a northeast-southwest orientation. The hydrographer recommends updating Chart 13290 with survey data in the common area. CONCUR - SEE ALSO PAGES 33 & 37

A 49-foot sounding (DTN #11) was observed during data acquisition southwest of G"11" from H-10963 data in position 43°42'00.2" N, 070°10'41.1" W. Two hundred percent side scan sonar and one hundred percent multi-beam sonar was acquired in this area. Data reflects that the 49-foot sounding is associated with a shoal in the general area. The hydrographer recommends updating Chart 13290 with H-10963 data. CONCUR - SEE ALSO PAGES 33 & 38

A 17-foot sounding was observed during Launch 517 side scan sonar operations in the vicinity north of Sturdivant Island in position 43°45'01.6" N, 070°10'57.8" W. Single-beam records indicate a small ridge at fix number 18544 on May 17, 2000 (DN 138). A review of the side scan records in that vicinity show no significant contacts in this location. The hydrographer recommends updating Chart 13290 with H-10963 soundings in the common area. CONCUR - SEE ALSO PAGES 33 & 38

An 18-foot sounding was observed during Launch 517 side scan sonar operations in the vicinity north of Sturdivant Island in position 43°44'57.1" N, 070°11'01.8" W. Single-beam records indicate a small ridge at fix number 18394 on May 16, 2000 (DN 137). A review of the side scan records in that vicinity show no significant contacts in this location. The hydrographer recommends updating Chart 13290 with H-10963 soundings in the common area. CONCUR - SEE ALSO PAGES 33 & 38

A 44-foot sounding (DTN #21) was observed in position 43°43'34.1" N, 070°11'13.1" W. Two hundred percent side scan sonar was acquired in the vicinity of this sounding. The 44-foot sounding can be attributed to a ridge in the sea floor that was observed by multi-beam data acquired in this area. The hydrographer recommends updating Chart 13290 with H-10963 soundings in the common area. CONCUR - SEE ALSO PAGES 33 & 38

A 16-foot sounding (DTN # 28) was observed during data acquisition at position 43°45'02.8"N, 070°10'20.8" W. Charted soundings within this area are 21 feet. Two hundred percent side scan was acquired over this general area. On May 16, 2000 (DN 137), development line 842_1802 was acquired to determine the validity and source of this sounding. Multi-beam data reveals this 16-foot sounding can be attributed to a ridge in the floor. The hydrographer recommends updating Chart 13290 with survey soundings in the common area. CONCUR - SEE ALSO PAGE 39

D.2d Sounding comparison between Chart 13292 and survey data from H-10963 shows excellent comparison, with sounding differences of 1-2 feet commonly observed. In addition to the AWOIS items and new features described in section D.1 the following changes to Chart 13288 were found. Exceptions were observed in several occasions.

A pipe is charted in position 43°45'03.9" N, 070°09'33.1" W. A full investigation of this charted feature was not accomplished, as vessel safety was a concern. The pipe is charted in close proximity to a dolphin. The hydrographer recommends retaining the pipe as charted on Chart 13292. CONCUR

Two submerged piers are charted in position 43°41'35.8" N, 070°09'59.6" W and 43°41'35.4" N, 070°09'54.0"W. Two hundred percent side scan sonar was acquired over the charted features. Side scan sonar records indicate the existence of the piers. The ~~western~~ EASTERN most pier is labeled with "35 feet rep" at the offshore end. Survey soundings over the pier ruins indicate that the least depth is 37 feet. The hydrographer recommends retaining the symbol "submerged pier" in positions at 43°41'35.8" N, 070°09'59.6 W and 43°41'35.4" N, 070°09'54.0"W. The hydrographer further recommends removing the label "35 feet rep" and updating Chart 13292 with H-10963 soundings in the common area. CONCUR - SEE ALSO PAGE 34

A 48-foot sounding (DTN#1) is charted in the vicinity of R"4" at 43°40'04.7" N, 070°09'47.5 W. Multi-beam data from H-10963 reveal least depths of 46 feet in the common area. Two hundred percent side scan and one hundred percent multi-beam sonar data was acquired in this area. These depth can be attributed to a charted ridge in this area. The hydrographer recommends updating Chart 13292 with present survey soundings. CONCUR - SEE ALSO PAGES 32 & 34

A 23-foot sounding is charted in position 43°44'27.3" N, 070°09'39.3" W. Two hundred percent side scan sonar and one hundred percent multi-beam was acquired over this sounding. Survey data indicates that the least depth in the common area is 17

feet, in association with a rocky ledge extending from Upper Basket Ledge. The hydrographer recommends updating Chart 13292 with H-10963 in the common area. CONCUR - SEE ALSO PAGE 30

A 41-foot sounding is charted in position 43°44'05.0" N, 070°08'35.7" W. Data from H-19063 indicates soundings of 38 feet in the common area. Two hundred percent side scan sonar and one hundred percent multi-beam sonar was acquired in this area. Survey data indicates a sandy bottom to the north of the area. Currents in the area can exceed one knot, which can cause sand to deposit in this area. The hydrographer recommends updating Chart 13292 with soundings from H-10963 in the common area. CONCUR

A 44-foot sounding is charted in position 43°43'19.3" N, 070°09'05.9" W. H-10963 data shows soundings significantly shoaler in this area, with a least depth of ~~38~~ 37 feet. Two hundred percent side scan and one hundred percent multi-beam data were acquired over this area. The shoal soundings are located to the west of a significant ridge. With an ebbing current, sand would be deposited in this area causing the general shoaling. The hydrographer recommends updating Chart 13292 with H-10963 data in the common area. CONCUR

A 59-foot sounding is charted in position 43°42'00.0" N, 070°10'43.4" W. Two hundred percent side scan and one hundred percent multi-beam sonar was acquired over this sounding. Least depths from H-10963 in this area are 67 feet. A review of the side scan sonar records do not support the 59-foot sounding. The hydrographer recommends updating Chart 13292 with H-10963 data. CONCUR

A charted nine-foot sounding is located in the vicinity of Cow Island Ledge in position 43°42'21.0 N, 070°11'12.8" W. Single-beam data acquired with Launch 517 revealed a 16-foot sounding. Two hundred percent side scan sonar coverage was acquired over the sounding. Sonar records indicate the existence of rocky area. Due to the nature of the shoal and charted kelp in the vicinity, RUDE did not develop the area. The hydrographer recommends retaining the charted nine-foot sounding and adding present survey sounds around the charted nine-foot sounding from H-10963. CONCUR - SEE ALSO PAGES 32 & 34

A pier is charted in position 43°39'25.1" N, 070°11'58.0" W. The chart does not accurately depict the shape nor size of the pier. Detached positions,11717- 11720, (DSN 61-64) on April 4, 2000 (DN 094), were taken at the corners of the pier to delineate the pier. The hydrographer recommends revising the extents of the pier as delineated on the present survey. DO NOT CONCUR - POSITIONS 11717- 11720 ARE DETACHED POSITIONS ON PILES ONLY. CHART PILES AS SHOWN ON PRESENT SURVEY.

A six-foot sounding was observed during data acquisition in the vicinity of College Island in position 43°~~42'36.5~~ 42'36.1" N, 070°~~08'36.5~~ 08'37.2" W. Resulting depths from this outcrop are between 16 and 23 feet. These soundings lay outside the 18-foot contour. One hundred percent multi-beam was acquired over this outcrop. The digital terrain model produced from multi-beam data show the outcrop laying in a northeast-southwest

orientation. The hydrographer recommends updating Chart 13292 with survey data in the common area. CONCUR - SEE ALSO PAGES 33 & 35

A 49-foot sounding (DTN #11) was observed during data acquisition southwest of G"11" from H-10963 data in position 43°42'00.2" N, 070°10'41.1" W. Two hundred percent side scan sonar and one hundred percent multi-beam sonar was acquired in this area. Data reflects that the 49-foot sounding is associated with a shoal in the general area. The hydrographer recommends updating Chart 13292 with H-10963 data. CONCUR - SEE ALSO PAGES 33 & 35

A 17-foot sounding was observed during Launch 517 side scan sonar operations in the vicinity north of Sturdivant Island in position 43°45'01.6" N, 070°10'57.8" W. Single-beam records indicate a small ridge at fix number 18544 on May 17, 2000 (DN 138). A review of the side scan records in that vicinity revealed no significant contacts in this location. The hydrographer recommends updating Chart 13292 with H-10963 soundings in the common area. CONCUR - SEE ALSO PAGES 33 & 35

An 18-foot sounding was observed during Launch 517 side scan sonar operations in the vicinity north of Sturdivant Island in position 43°44'57.1" N, 070°11'01.8" W. Single-beam records indicate a small ridge at fix number 18394 on May 16, 2000 (DN 137). A review of the side scan records in that vicinity revealed no significant contacts in this location. The hydrographer recommends updating Chart 13292 with H-10963 soundings in the common area. CONCUR - SEE ALSO PAGES 33 & 35

A ~~43~~ 44-foot sounding (DTN #21) was observed in position 43°43'34.1" N, 070°11'13.1" W. Two hundred percent side scan sonar was acquired in the vicinity of this sounding. The ~~43~~ 44-foot sounding can be attributed to a ridge in the sea floor that was observed by multi-beam data acquired in this area. The hydrographer recommends updating Chart 13292 with H-10963 soundings in the common area. CONCUR - SEE ALSO PAGES 33 & 36

A charted nine-foot sounding at the southern entrance of Diamond Island Pass in position 43°39'46.5" N, 070°12'21.1" W. Ferry traffic frequently passes over this sounding, with ferries drawing up to 7-½ feet. Survey soundings of 8 feet (DTN #3) were found in the vicinity of the nine-foot charted sounding. One hundred percent multi-beam was acquired in the area. The hydrographer recommends updating Chart 13292 with survey data. CONCUR - SEE ALSO PAGE 34

A 41-foot sounding is charted at 43°39'21.2" N, 070°12'45.0" W, in the Diamond Island Road anchorage. One hundred percent multi-beam sonar data was acquired over this area. Multi-beam data reveal a 40-foot sounding (DTN #4) in the common area around the charted 41-foot sounding. The hydrographer recommends updating Chart 13292 with survey data. CONCUR - SEE ALSO PAGE 34

A 12-foot sounding is charted between Great Diamond Island and Cow Island in position 43°41'19.1" N, 070°11'23.3 9" W. Multi-beam data in the common area show

present survey soundings as shoal as nine feet around the 12-foot sounding. Two hundred percent side scan sonar coverage and one hundred percent multi-beam coverage were acquired in the Pass between the two islands. The hydrographer recommends updating Chart 13292 with present survey soundings. CONCUR - SEE ALSO PAGE 35

A six-foot sounding was observed during data acquisition in position 43°40'46.2" N, 070°10'24.9" W. The sounding is a result of a boulder associated on an outcrop in this area. The six foot sounding is positioned between the 12- and 18-foot contours. The hydrographer recommends updating Chart 13292 with survey data. CONCUR - SEE ALSO PAGE 35

A 16-foot sounding (DTN # 28) was observed during data acquisition at position 43°45'02.8"N, 070°10'20.8" W. Charted soundings within this area are 21 feet. Two hundred percent side scan was acquired over this general area. On May 16, 2000 (DN 137), development line 842_1802 was acquired to determine the validity and source of this sounding. Multi-beam data reveals this 16-foot sounding can be attributed to a ridge in the floor. The hydrographer recommends updating Chart 13292 with survey soundings in the common area. CONCUR - SEE ALSO PAGE 36

Target moorings are depicted on the Chart 13292 in position 43°42'26.7" N, 070°11'30.3" W. This mooring was not visually observed during H-10963 operations. Two hundred percent side scan sonar coverage was acquired in the general vicinity of this target mooring. No evidence of an anchor block for this target mooring was observed from side scan sonar records. The hydrographer recommends the removal of the mooring buoy symbol and the label "target moorings" in position 43°42'26.7" N, 070°11'30.3" W. DO NOT CONCUR - RETAIN AS CHARTED UNLESS OTHER INFORMATION INDICATES OTHERWISE.

A mooring buoy is charted in position 43°42'24.6" N, 070°10'15.8" W. This mooring buoy was not visually observed during survey operations. Two hundred percent side scan in this area shows no evidence of the block that would be associated with this buoy. The hydrographer recommends the removal of the mooring buoy symbol from 43°42'24.6" N, 070°10'15.8" W. DO NOT CONCUR - RETAIN AS CHARTED UNLESS OTHER INFORMATION INDICATES OTHERWISE.

The green tint on chart 13292, covering the majority of Hussey Sound, denoting an area surveyed by wire drag with depths from a wire drag survey, should be removed and replaced by present survey data in the common area. CONCUR

D. 2e Submarine cables and pipelines are contained throughout the survey area. These items were not specifically addressed during survey operations. However, several pipelines were identifiable in side scan records and multi-beam data.

A submarine pipeline is charted in approximate position 43°39'51.5" N, 070°12'10.6" W. Multi-beam data within the limits of the pipeline indicate the existence of this pipeline. Two pipelines can be viewed in the multi-beam Digital Terrain Model (DTM) within the extent of the charted position. The hydrographer

recommends retaining the pipeline area at approximate position 43°39'51.5" N, 070°12'10.6" W, as charted. CONCUR

An abandoned pipeline area is charted in position approximate position 43°41'02.7" N, 070°10'50.2" W. The multi-beam DTM shows evidence of the pipeline within the charted limits. The hydrographer recommends retaining the limits of the abandoned pipeline area as charted. CONCUR

A pipeline area and cable area is charted in position approximate position 43°41'02.7" N, 070°12'59.2" W. Side scan records indicate the existence of the pipeline in this area. Multi-beam lines in this area clearly depict the pipeline. The hydrographer recommends retaining the charted position of the pipeline area and cable area as charted. CONCUR

All other charted submarine cables and pipelines in the area were not evident in sonar records. The hydrographer recommends retaining these features as charted. CONCUR

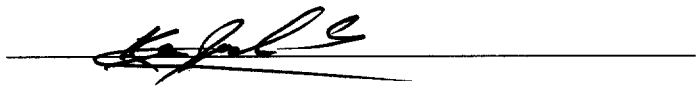
There are 47 floating aids to navigation within the survey limits. The charted positions of these aids were confirmed by acquiring detached positions on the buoys and computing the survey positions to charted positions, or, by selecting the anchor block on side scan sonar records, computing the survey positions within HPS, and comparing the survey positions to charted positions. All 47 floating aids adequately serve their intended purpose. CONCUR

The hydrographer recommends the addition of two buoys within Diamond Island Pass. The addition of a green buoy in position 43°40'12.1"N, 070°11'54.3"W; the two existing buoys do not completely delineate the shoal on the south side of the Pass. The hydrographer recommends the addition of a red buoy in position 43°39'44.8" N, 070°12'19.0" W to delineate the 8-9 foot shoal in the center of the Pass. CONCUR

D.3 DANGERS TO NAVIGATION

Twenty-nine Dangers to Navigation were reported to US Coast Guard First District, Boston MA as a result of H-10963. A copy of this letter can be found in Appendix I.

This report and accompanying field sheets are respectfully submitted.



Ensign Kevin Slover, NOAA
Field Operations Officer
NOAA Ship RUDE

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Office of NOAA Corps Operations
NOAA Ship RUDE S-590
439 W. York Street
Norfolk, VA 23510-1114

June 28, 2000

Commander
First Coast Guard District
Aids to Navigation Office
408 Atlantic Avenue
Boston, Massachusetts 02110-3350

REPORT OF DANGERS TO NAVIGATION

Dear Sir:

The NOAA Ship RUDE has recently completed a hydrographic survey of Hussey Sound, Maine. During the course of multi-beam and side scan sonar operations, twenty-nine Dangers to Navigation were discovered which merit immediate publication in the Local Notice to Mariners. This information affects the following charts:

Chart 13288	39th Edition	November 6, 1999	1:80,000
Chart 13290	33rd Edition	March 4, 2000	1:40,000
Chart 13292	35th Edition	March 4, 2000	1:20,000
Chart 13286	28th Edition	April 20, 1996	1:80,000

ID	Feature	Depth*	Latitude (NAD 83)**	Longitude (NAD 83)**	Charts Affected
1	Sounding	46	43°40'06.3" N	070°09'48.7" W	13288, 13290, 13292
2	Rock	26	43°39'57.3/2" N	070°10'31.4/1" W	13288, 13290, 13292
3	Sounding	8	43°39'46.8/4" N	070°12'~~21~~ 20.1/9" W	13290, 13292
4	Sounding	40	43°39'21.2" N	070°12'43.0" W	13290, 13292
5	Wreck	16 ~~18~~	43°40'07.3/2" N	070°13'14.8" W	13290, 13292
6	Wreck	-3 ~~-2~~	43°40'08.6" N	070°13'08.2" W	13290, 13292
7	Wreck	36 ~~35~~	43°42'58.5" N	070°08'05.9" W	13288, 13290, 13292
8	Rock	17	43°42'36.4/2" N	070°08'36.8/6" W	13288, 13290, 13292
9	~~Rock~~ OBSTN	41	43°42'04.4" N	070°09'32.8" W	13288, 13290, 13292
10	Obstruction	45	43°41'45.8/7" N	070°09'49.0" W	13288, 13290, 13292
11	Sounding	49	43°42'00.2" N	070°10'41.1" W	13288, 13290, 13292
12	Rock	37 ~~39~~	43°41'50.2/1" N	070°11'06.6" W	13288, 13290, 13292
13	Rock	17	43°41'~~36.0~~ 35.9" N	070°12'46.8/4" W	13290, 13292
14	Rock	18	43°41'44.2/1" N	070°12'45.2/1" W	13290, 13292
15	Rock	18	43°41'52.8/4" N	070°12'39.3" W	13290, 13292
16	Wreck	19 ~~20~~	43°42'29.3" N	070°11'39.1" W	13288, 13290, 13292
17	Obstruction	40 ~~41~~	43°42'30.2" N	070°11'29.2" W	13288, 13290, 13292
18	Wreck	5	43°43'22.3" N	070°11'08.~~6~~3" W	13288, 13290, 13292
19	Obstruction	27 ~~25~~	43°44'20.7" N	070°08'20.3" W	13288, 13290, 13292
20	Wreck	26 ~~25~~	43°44'12.5" N	070°08'18.0" W	13288, 13290, 13292
21	Sounding	44 ~~43~~	43°43'34.1" N	070°11'13.1" W	13288, 13290, 13292
22	Wreck	22 ~~21~~	43°44'~~50.3~~ 51.3" N	070°08'24.8/4" W	13288, 13290, 13292
23	Rock	17	43°44'17.3" N	070°09'35.3" W	13288, 13290, 13292

ID	Feature	Depth*	Latitude (NAD 83)**	Longitude (NAD 83)**	Charts Affected
24	Rock	17	43°44'27.6" N	070°09'38.~~2~~1" W	13288, 13290, 13292
25	Outfall/OBSTN	27	43°44'53.6" N	070°09'42.1" W	13288, 13290, 13292
26	Subm ~~Pile~~ OBSTN PIPE	8	43°44'59.~~8~~4" N	070°09'35.2" W	13288, 13290, 13292
27	Obstruction	~~35~~ 36	43°45'11.~~4~~6" N	070°09'~~29.8~~38.6" W	13288, 13290, 13292
28	Sounding	16	43°45'02.8" N	070°10'20.8" W	13290, 13292
29	Wreck - SEE F00460	110	43°32'06.8" N	070°12'14.1" W	13286, 13288, 13290

* Updated depths are reduced to feet at MLLW using preliminary unverified tides and should be viewed as preliminary information, subject to office review.

** All positions were acquired using Differential GPS.

Contact either of the following personnel for further information:

Commanding Officer
NOAA Ship RUDE
439 West York Street
Norfolk, VA 23510
(757) 615-6465

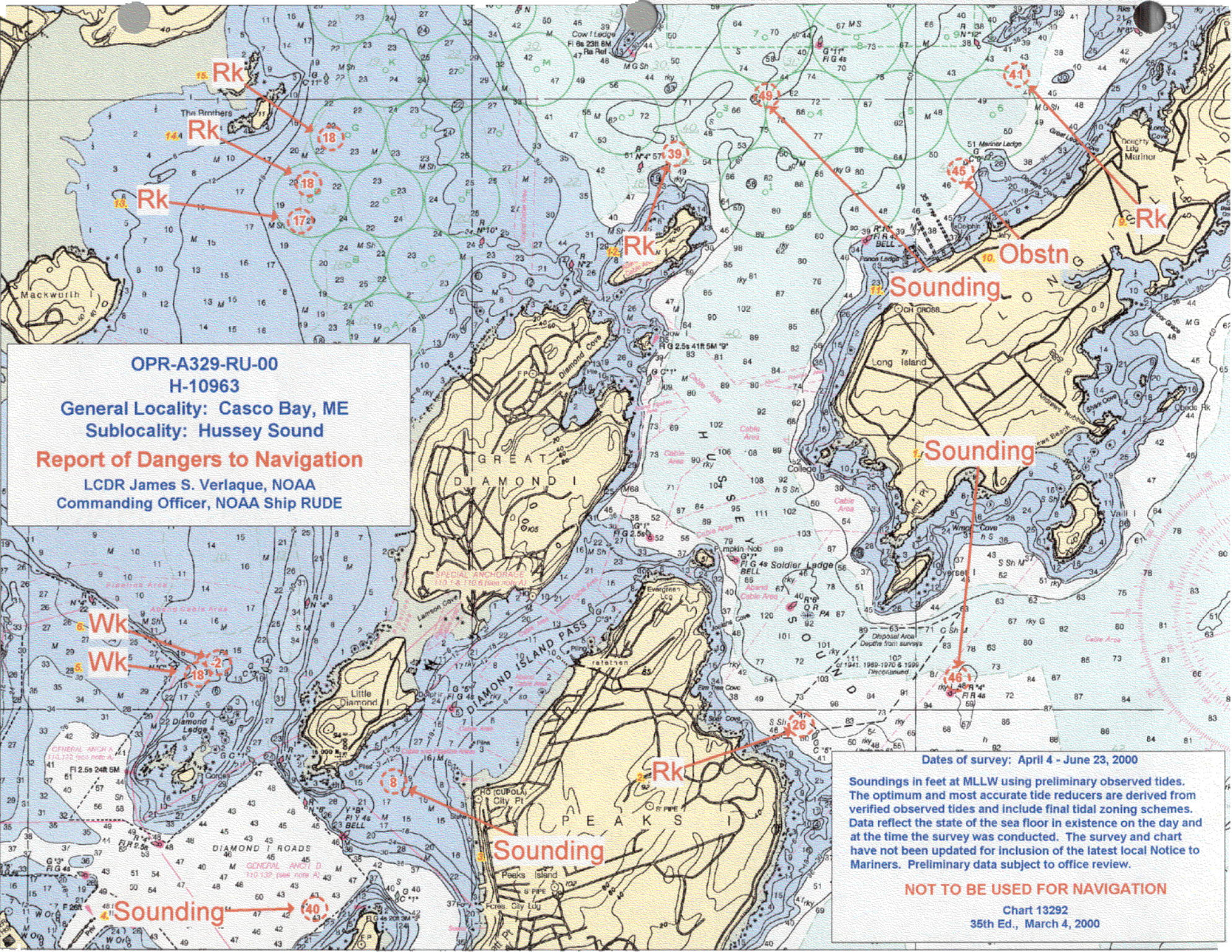
Chief, Atlantic Hydrographic Branch
Marine Operation Center, Atlantic
439 W. York Street
Norfolk, VA 23510
(757) 441-6746

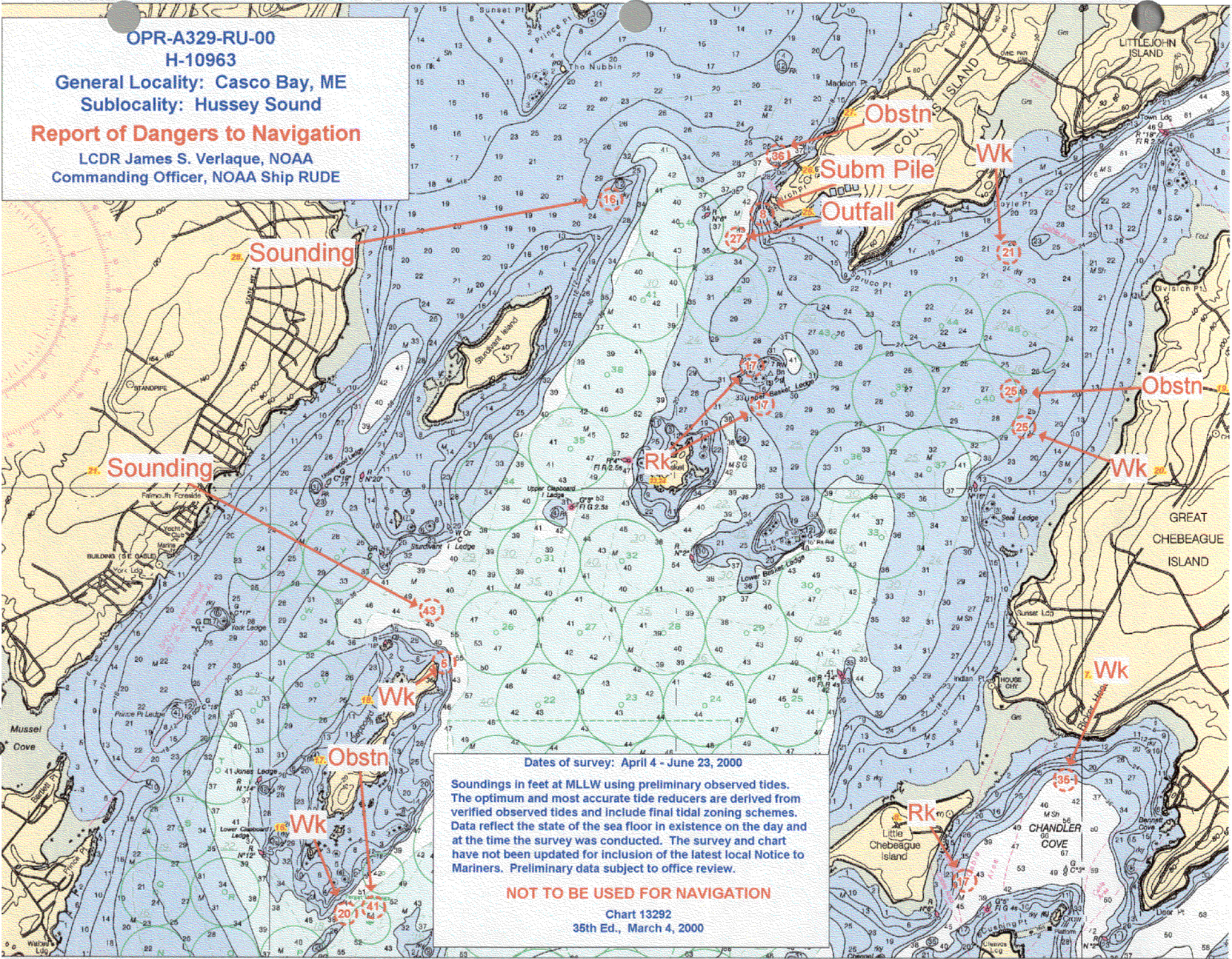
Sincerely,

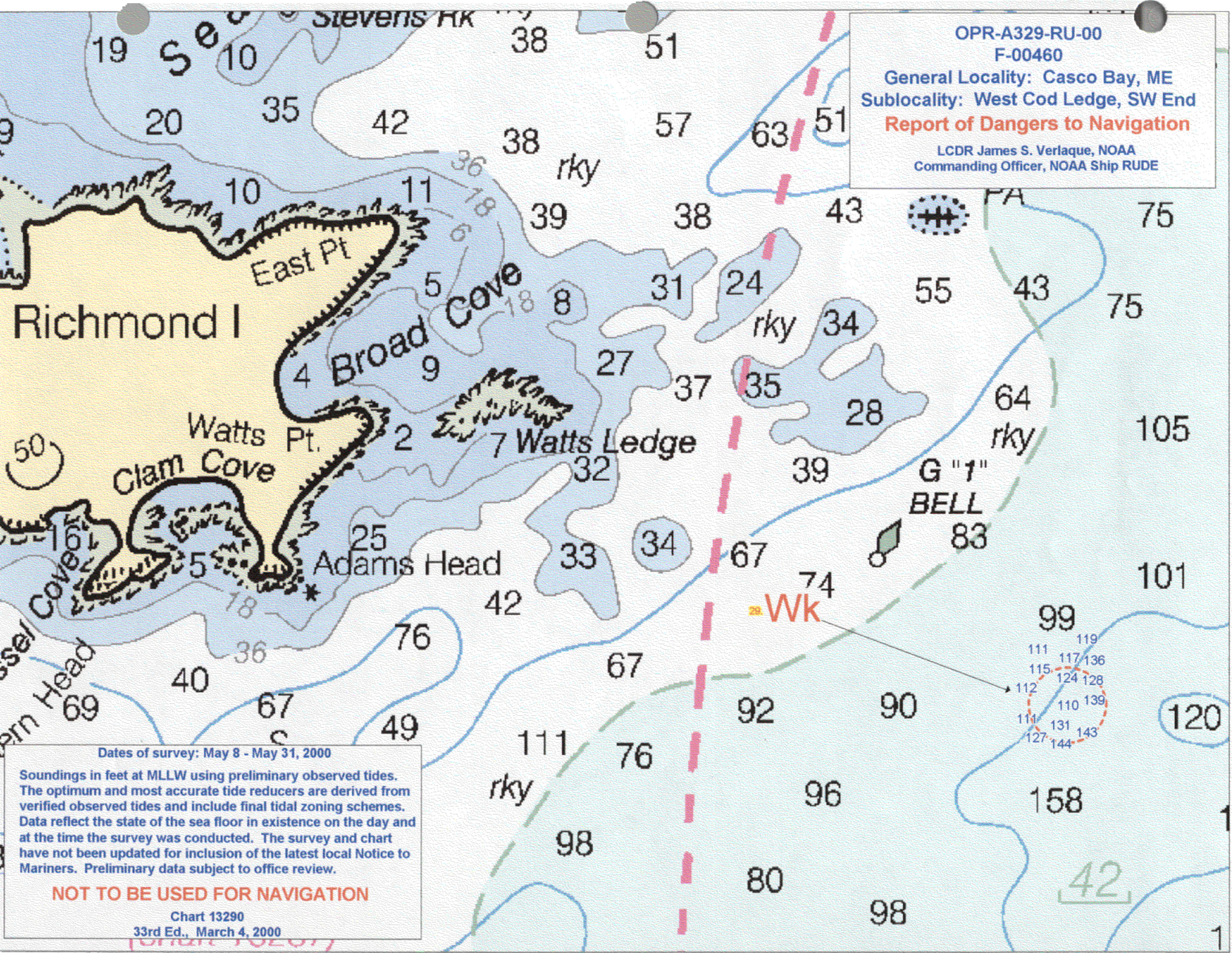
James S. Verlaque

James S. Verlaque, LCDR, NOAA
Commanding Officer
NOAA Ship RUDE

Attachment
cc: N/CS, N/CS3, N/CS33, NIMA, USCG MSO Portland, Portland Pilots Assoc., ACOE


OPR-A329-RU-00
H-10963
General Locality: Casco Bay, ME
Sublocality: Hussey Sound
Report of Dangers to Navigation
LCDR James S. Verlaque, NOAA
Commanding Officer, NOAA Ship RUDE
Rk
Rk
Rk
Rk
Rk
Rk
Obstn
Sounding
Sounding
Sounding
Sounding
Wk
Wk
Dates of survey: April 4 - June 23, 2000
Soundings in feet at MLLW using preliminary observed tides. The optimum and most accurate tide reducers are derived from verified observed tides and include final tidal zoning schemes. Data reflect the state of the sea floor in existence on the day and at the time the survey was conducted. The survey and chart have not been updated for inclusion of the latest local Notice to Mariners. Preliminary data subject to office review.
NOT TO BE USED FOR NAVIGATION
Chart 13292
35th Ed., March 4, 2000


OPR-A329-RU-00
H-10963
General Locality: Casco Bay, ME
Sublocality: Hussey Sound
Report of Dangers to Navigation
LCDR James S. Verlaque, NOAA
Commanding Officer, NOAA Ship RUDE
Obstn
Wk
Subm Pile
Outfall
Sounding
Sounding
Rk
Obstn
Wk
Wk
Obstn
Wk
Rk
Dates of survey: April 4 - June 23, 2000
Soundings in feet at MLLW using preliminary observed tides. The optimum and most accurate tide reducers are derived from verified observed tides and include final tidal zoning schemes. Data reflect the state of the sea floor in existence on the day and at the time the survey was conducted. The survey and chart have not been updated for inclusion of the latest local Notice to Mariners. Preliminary data subject to office review.
NOT TO BE USED FOR NAVIGATION
Chart 13292
35th Ed., March 4, 2000
GREAT CHEBEAGUE ISLAND
LITTLEJOHN ISLAND
Little Chebeague Island
CHANDLER COVE
Mussel Cove


OPR-A329-RU-00
F-00460
General Locality: Casco Bay, ME
Sublocality: West Cod Ledge, SW End
Report of Dangers to Navigation
LCDR James S. Verlaque, NOAA
Commanding Officer, NOAA Ship RUDE
Richmond I
East Pt
Broad Cove
Watts Pt.
Clam Cove
Watts Ledge
Adams Head
G "1"
BELL
Wk
rky
Dates of survey: May 8 - May 31, 2000
Soundings in feet at MLLW using preliminary observed tides. The optimum and most accurate tide reducers are derived from verified observed tides and include final tidal zoning schemes. Data reflect the state of the sea floor in existence on the day and at the time the survey was conducted. The survey and chart have not been updated for inclusion of the latest local Notice to Mariners. Preliminary data subject to office review.
NOT TO BE USED FOR NAVIGATION
Chart 13290
33rd Ed., March 4, 2000

APPROVAL SHEET

LETTER OF APPROVAL

REGISTRY NO. H-10963

Field operations contributing to the accomplishment of this Navigable Area survey were conducted under my direct supervision with frequent personal checks of progress and adequacy. All field sheets and reports were reviewed in their entirety and all supporting records were checked as well.

This survey is more than adequate to supersede ALL prior surveys in common areas. This survey is considered complete and adequate for nautical charting.

James S. Verlaque, LCDR, NOAA
Commanding Officer
NOAA Ship RUDE

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Silver Spring, Maryland 20910

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: July 6, 2000

HYDROGRAPHIC BRANCH: Atlantic
HYDROGRAPHIC PROJECT: OPR-A329-RU-2000
HYDROGRAPHIC SHEET: H-10963

LOCALITY: Casco Bay, Hussey Sound, ME
TIME PERIOD: March 22 - May 30, 2000

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

REMARKS: RECOMMENDED ZONING
Use zone(s) identified as: ATL187, ATL189, ATL191 & ATL192.

Refer to attachments for zoning information.

Note 1: Provided time series data are tabulated in metric units (meters), relative to MLLW and on Greenwich Mean Time.

Thomas N. Neu 7/6/00

CHIEF, REQUIREMENTS AND DEVELOPMENT DIVISION

NOAA FORM 76-155
(11-72)

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

GEOGRAPHIC NAMES

SURVEY NUMBER

H-10963

Name on Survey

Name on Survey	A ON CHART NO. 13292, 13290, 13288	B ON PREVIOUS SURVEY NO.	C ON U.S. QUADRANGLE MAPS	D FROM LOCAL INFORMATION	E ON LOCAL MAPS	F P.O. GUIDE OR MAP	G RAND MCNALLY ATLAS	H U.S. LIGHT LIST	K	
ANDERSON ROCK	X		X							1
BARTLETT POINT	X		X							2
BASKET ISLAND	X		X							3
BIRCH POINT	X		X							4
BRACKETT POINT	X		X							5
BROAD COVE	X		X							6
BROTHERS, THE	X		X							7
CASCO BAY	X		X							8
CHANNEL ROCKS	X		X							9
CHANDLER COVE	X		X							10
CITY POINT	X		X							11
CLAPBOARD ISLAND	X		X							12
CLEAVES LANDING	X		X							13
COLLEGE ISLAND	X		X							14
COW ISLAND	X		X							15
COW ISLAND LEDGE	X		X							16
CROW ISLAND	X		X							17
CROW ISLAND	X		X							18
CUSHING POINT	X		X							19
COUSINS ISLAND	X		X							20
DIAMOND COVE	X		X							21
DIAMOND ISLAND LEDGE	X		X							22
DIAMOND ISLAND PASS	X		X							23
DIAMOND ISLAND ROADS	X		X							24
DORSEYS COVE	X		X							25

NOAA FORM 76-155
(11-72)

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

SURVEY NUMBER

H-10963

GEOGRAPHIC NAMES

Name on Survey

Page 2 of 4

Name on Survey	A ON CHART NO. 1292, 1290, 1288	B ON PREVIOUS SURVEY NO.	C ON U.S. QUADRANGLE MAPS	D FROM LOCAL INFORMATION	E ON LOCAL MAPS	F P.O. GUIDE OR MAP	G RAND MCNALLY ATLAS	H U.S. LIGHT LIST	K	
DOUGHTY LANDING	X		X							1
DOYLE POINT	X		X							2
EAST END BEACH	X		X							3
ECHO POINT	X		X							4
ELM TREE COVE	X		X							5
EVERGREEN LANDING	X		X							6
FALMOUTH FORESIDE	X		X							7
FOREST CITY LANDING	X		X							8
FORT GORGES	X		X							9
FORT SCAMMEL	X		X							10
GREAT CHEBEAGUE ISLAND	X		X							11
GREAT DIAMOND ISLAND	X		X							12
GREAT LEDGE COVE	X		X							13
HOUSE ISLAND	X		X							14
HUSSEY SOUND	X		X							15
INDIAN POINT	X		X							16
JERRY POINT	X		X							17
JONES LEDGE	X		X							18
JOSIAHS COVE	X		X							19
LAMSON COVE	X		X							20
LITTLE CHEBEAGUE ISLAND	X		X							21
LITTLE DIAMOND ISLAND	X		X							22
LITTLEJOHN ISLAND	X		X							23
LONG COVE	X		X							24
LONG ISLAND (ppl)	X		X							25

NOAA FORM 76-155
(11-72)

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

SURVEY NUMBER

H-10963

GEOGRAPHIC NAMES

Name on Survey

Name on Survey	A ON CHART NO. 13262, 13290, 13288	B ON PREVIOUS SURVEY NO.	C ON U.S. QUADRANGLE MAPS	D FROM LOCAL INFORMATION	E ON LOCAL MAPS	F P.O. GUIDE OR MAP	G RAND MCNALLY ATLAS	H U.S. LIGHT LIST	K	
LONG ISLAND	X		X							1
LOWER BASKET LEDGE	X		X							2
LOWER CLAPBOARD ISLAND LEDGE	X		X							3
MADELON POINT	X		X							4
MAINE (title)	X		X							5
MARINER LEDGE	X		X							6
MUSSEL COVE	X		X							7
NUBBIN, THE	X		X							8
OVERSET ISLAND	X		X							9
PEAKS ISLAND (ppl)	X		X							10
PEAKS ISLAND	X		X							11
~~PEAKS ISLAND PASS~~	X		X	REMOVED PER 12/11/2000		CHIEF GEOGRAPHER				12
PONCE LANDING	X		X							13
PONCE LEDGE	X		X							14
PRINCE POINT	X		X							15
PRINCE POINT	X		X							16
PRINCE POINT LEDGE	X		X							17
PUMPKIN NOB	X		X							18
RICKER HEAD	X		X							19
ROCK POINT	X		X							20
SEAL LEDGE	X		X							21
SOLDIER LEDGE	X		X							22
SPAR COVE	X		X							23
SPRUCE POINT	X		X							24
STURDIVANT ISLAND	X		X							25

NOAA FORM 76-155
(11-72)

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

GEOGRAPHIC NAMES

SURVEY NUMBER

H10963

Name on Survey	A ON CHART NO. 13292, 13290, 13288	B ON PREVIOUS SURVEY NO.	C ON U.S. QUADRANGLE MAPS	D FROM LOCAL INFORMATION	E ON LOCAL MAPS	F P.O. GUIDE OR MAP	G RAND MCNALLY ATLAS	H U.S. LIGHT LIST	K	
STURDIVANT ISLAND LEDGE	X		X							1
SUNSET LANDING	X		X							2
SUNSET POINT	X		X							3
TREFETHEN	X		X							4
UNDERWOOD LEDGE	X		X							5
UPPER BASKET LEDGE	X		X							6
UPPER CLAPBOARD ISLAND LEDGE	X		X							7
VAILL ISLAND	X		X							8
WAITES LANDING	X		X							9
WEST POINT	X		X							10
WHARF COVE	X		X							11
WRECK COVE	X		X							12
YORK LANDING	X		X							13
YORK LEDGE	X		X							14
										15
										16
										17
				Chief Cartographer						18
										19
										20
										21
										22
										23
										24
										25

Dennis J. Dorenkamp

SEP 21 2000

NOAA FORM 61-29
(12-71)

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

LETTER TRANSMITTING DATA

REFERENCE NO.
N/CS33-43-01

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

- [ ] ORDINARY MAIL
- [ ] AIR MAIL
- [ ] REGISTERED MAIL
- [X] EXPRESS
- [ ] GBL (Give number)_____

DATE FORWARDED 08/29/2001

NUMBER OF PACKAGES 1

TO:

CHIEF, DATA CONTROL GROUP, N/CS3x1
NOAA / NATIONAL OCEAN SERVICE
STATION 6815, SSMC3
1315 EAST-WEST HIGHWAY
SILVER SPRING, MARYLAND 20910-3282

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

H10963

Maine, Casco Bay, Hussey Sound

ONE TUBE CONTAINING THE FOLLOWING:

1 SMOOTH SHEET FOR SURVEY H10963
1 ORIGINAL DESCRIPTIVE REPORT
1 RECORD OF APPLICATION TO CHART FORM (NOAA FORM #75-96)
1 H-DRAWING ON MYLAR FOR NOS CHART 13292
1 COMPOSITE DRAWING (in three parts) ON PAPER
1 SET OF DRAWINGS FOR A DIFFUSER/DISCHARGE PIPELINE

FROM: (Signature) Richard Blevins

RECEIVED THE ABOVE
(Name, Division, Date)

Return receipted copy to:

NOAA \ NATIONAL OCEAN SERVICE
ATLANTIC HYDROGRAPHIC BRANCH N/CS33
439 WEST YORK STREET
NORFOLK, VA. 23510-1114

08/29/2001

HYDROGRAPHIC SURVEY STATISTICS
REGISTRY NUMBER: H10963

NUMBER OF CONTROL STATIONS	2
NUMBER OF POSITIONS	234335
NUMBER OF SOUNDINGS	234335

	TIME-HOURS	DATE COMPLETED
PREPROCESSING EXAMINATION	21.0	08/23/2000
VERIFICATION OF FIELD DATA	292.0	05/31/2001
QUALITY CONTROL CHECKS	107.0	
EVALUATION AND ANALYSIS	7.0	
FINAL INSPECTION	27.0	02/14/2001
COMPILATION	286.0	06/18/2001
TOTAL TIME	740.0	

ATLANTIC HYDROGRAPHIC BRANCH APPROVAL 02/27/2001

ATLANTIC HYDROGRAPHIC BRANCH
EVALUATION REPORT FOR H10963 (2000)

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

B. AUTOMATED DATA ACQUISITION AND PROCESSING

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

Hydrographic Processing System
NADCON, version 2.10
MicroStation 95, version 5.05
I/RAS B, version 5.01
CARIS HIPS/SIPS

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

JUNCTIONS

H10830 (1998) to the south southwest
H10831 (1999) to the south southeast

A standard junction could not be effected between the present survey and H10830 (1998) and H10831 (1999). The junctional surveys are archived at NOS headquarters, Silver Spring, Maryland. Any adjustments to the depth curves in the junctional areas will have to be made on the chart during compilation.

There are no junctional surveys to the north, east, or west. Present survey depths are in harmony with the charted hydrography to the north, east, and west.

C. CONTROL STATIONS

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

To place this survey on the NAD 27, move the projection

lines 0.295 seconds (9.094 meters or 9.09 mm at the scale of the survey) north in latitude, and 1.827 seconds (40.903 meters or 4.09 mm at the scale of the survey) west in longitude.

D. COMPARISON WITH CHART 13292 (35th Edition, Mar 4/00)

Hydrography

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

1) Two charted visible wrecks, in Latitude 43°40'08.5"N, Longitude 70°12'10.8"W, were located in their charted position by the hydrographer. The hydrographer confirmed that these wrecks are visible at all stages of the tide. No change in charting status is recommended.

2) Numerous small craft mooring buoys were located by the hydrographer in the near shore area of the survey. Due to the number of these buoys and the scale of the charts in the area, it is recommended that these buoys not be charted.

3) A rock with a depth of 26 feet (7^9 m), in Latitude 43°41'34.74"N, Longitude 70°11'39.13"W was located by the hydrographer. It is recommended that this rock be charted as shown on the present survey.

4) A rock with a depth of 3 feet (1^1 m), in Latitude 43°43'12.35"N, Longitude 70°12'26.92"W, was located by the hydrographer. It is recommended that this rock be charted as shown on the present survey.

5) A rock, covered 2 feet at MLLW (0^8 m), in Latitude 43°43'02.85"N, Longitude 70°11'47.04"W, was located by the hydrographer. It is recommended that this rock be charted as shown on the present survey.

6) A rock, with a depth of 4 feet (1^2 m), in Latitude 43°43'59.75"N, Longitude 70°11'45.93"W, was located by the hydrographer. It is recommended that this rock be charted as shown on the present survey.

7) A charted submerged rock with a depth of 12 ft, in

Latitude 43°45'31"N, Longitude 70°09'28"W, was investigated by the hydrographer. A rock with a depth of 12 feet (3^7 m), in Latitude 43°45'31.96"N, Longitude 70°09'28.79"W, was located. It is recommended that the position of this charted rock be revised as shown on the present survey.

8) The following features where noted during office processing. It is recommended that these features be charted as shown on the present survey.

Feature	Depth ft/m	Latitude (N)	Longitude (W)
Rock	$58/17^7$	43°41'27.98"	70°10'53.27"
Rock	$24/7^3$	43°41'31.05"	70°11'32.48"
Obstr	$28/8^3$	43°43'16.38"	70°12'10.42"
Rock	$11/3^2$	43°44'01.95"	70°11'31.68"
Rock	$9/2^7$	43°45'41.09"	70°09'10.25"
Rock	cov 1 ft/0^3 at MLLW	43°41'22.03"	70°12'02.35"
Rock	bares 3 ft/0^8 at MLLW	43°43'20.04"	70°11'09.06"
Rock	awash	43°43'20.93"	70°11'09.16"
Rock	bares 3 ft/0^8 at MLLW	43°40'32.01"	70°10'56.99"

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

E. MISCELLANEOUS

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

13292 (35th Edition, Mar. 4/00)

SHORELINE

Brown shoreline originates with National Ocean Service (NOS) chart 13292, (35th Edition, Mar 4/00) and is for orientation purposes only.

COMPARISON WITH PRIOR SURVEYS

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

ADEQUACY OF SURVEY

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

Robert Snow

Robert Snow
Cartographic Technician
Verification of Field Data
Evaluation and Analysis

REPORT OF DANGERS TO NAVIGATION

Hydrographic Survey Registry Number: H10963

Survey Title: State: Maine
Locality: Casco Bay
Sublocality: Hussey Sound

Project Number: OPR-A329-RU

Field Unit: NOAA Ship RUDE

Survey Dates: April 4 - June 23, 2000

Soundings are reduced to Mean Lower Low Water (MLLW) using approved tides.
Horizontal datum is North American Datum 83 (NAD 83).

Charts affected:
13286 28th Edition April 20, 1996 Scale 1:80,000 NAD83
13288 39th Edition November 6, 1999 Scale 1:80,000 NAD83
13290 34rd Edition February 24, 2001 Scale 1:40,000 NAD83
13292 35th Edition March 4, 2000 Scale 1:20,000 NAD83

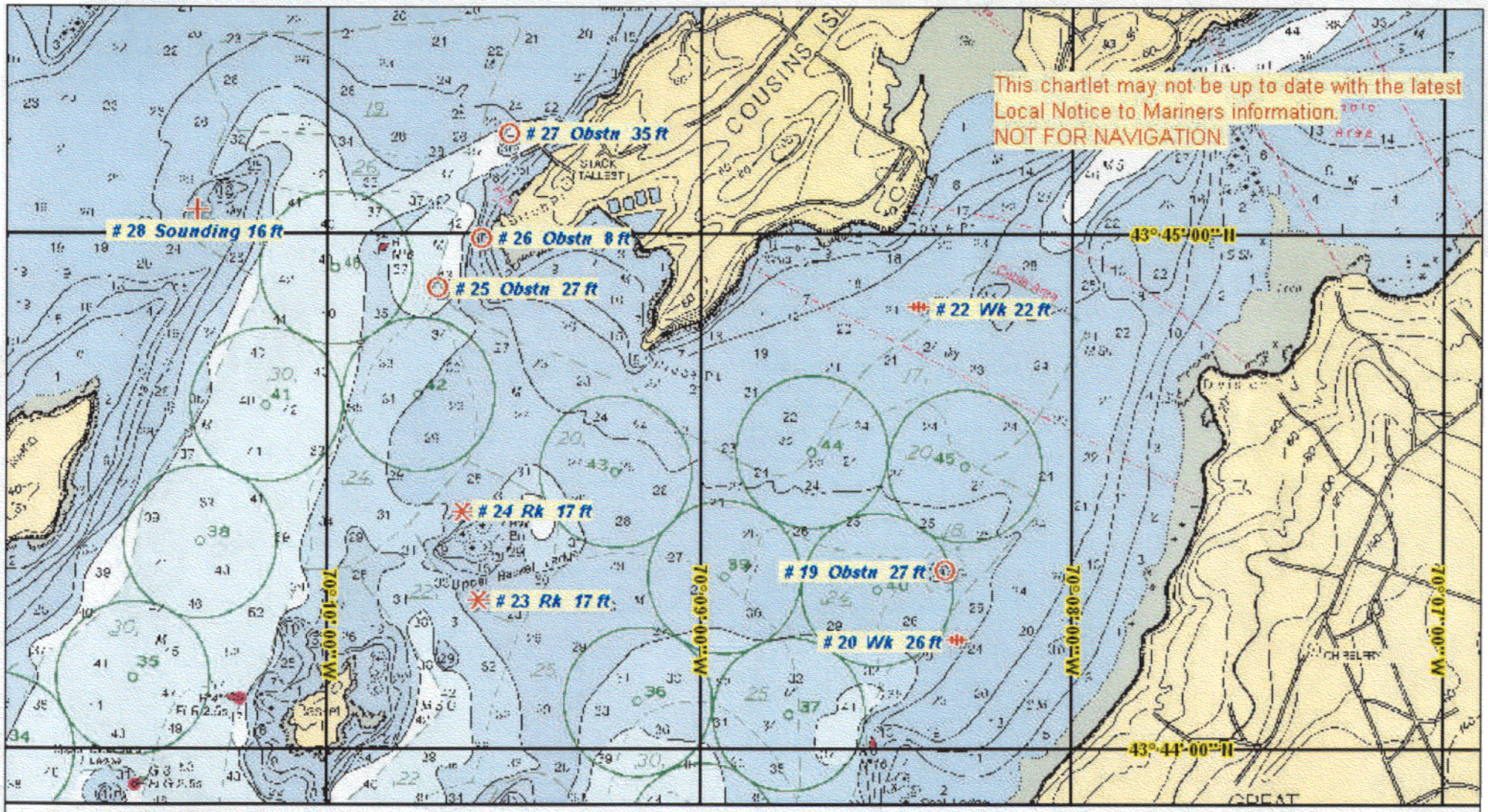
DANGERS TO NAVIGATION

	Feature	Depth (FT)	Latitude (N)	Longitude (W)
1.	Sounding	46	43°40'06.3"	070°09'48.7"
2.	Rock	26	43°39'57.2"	070°10'31.1"
3.	Sounding	8	43°39'46.4"	070°12'20.9"
4.	Sounding	40	43°39'21.2"	070°12'43.0"
5.	Wreck	16	43°40'07.2"	070°13'14.8"
6.	Wreck	-3	43°40'08.6"	070°13'08.2"
7.	Wreck	36	43°42'58.5"	070°08'05.9"
8.	Rock	17	43°42'36.2"	070°08'36.6"
9.	Obstruction	41	43°42'04.4"	070°09'32.8"
10.	Obstruction	45	43°41'45.7"	070°09'49.0"
11.	Sounding	49	43°42'00.2"	070°10'41.1"
12.	Rock	37	43°41'50.1"	070°11'06.6"
13.	Rock	17	43°41'35.9"	070°12'46.4"
14.	Rock	18	43°41'44.1"	070°12'45.1"
15.	Rock	18	43°41'52.4"	070°12'39.3"
16.	Wreck	19	43°42'29.3"	070°11'39.1"
17.	Obstruction	40	43°42'30.2"	070°11'29.2"
18.	Wreck	5	43°43'22.3"	070°11'08.3"
19.	Obstruction	27	43°44'20.7"	070°08'20.3"
20.	Wreck	26	43°44'12.5"	070°08'18.0"

DANGERS TO NAVIGATION

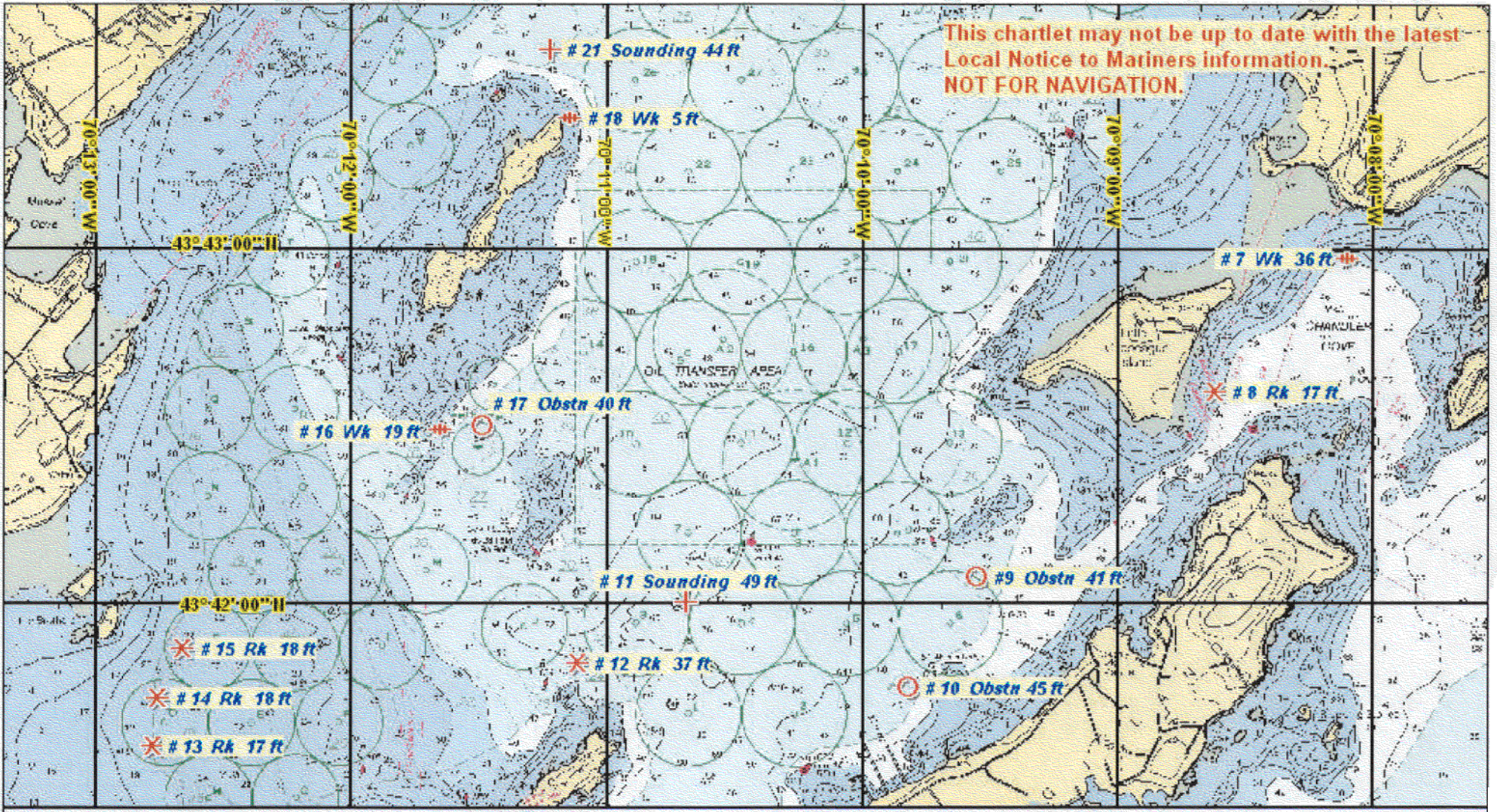
	Feature	Depth (FT)	Latitude (N)	Longitude (W)
21.	Sounding	44	43°43'34.1"	070°11'13.1"
22.	Wreck	22	43°44'51.3"	070°08'24.4"
23.	Rock	17	43°44'17.3"	070°09'35.3"
24.	Rock	17	43°44'27.6"	070°09'38.1"
25.	Obstruction/Outfall	27	43°44'53.6"	070°09'42.1"
26.	Obstruction/Pipe	8	43°44'59.4"	070°09'35.1"
27.	Obstruction	35	43°45'11.6"	070°09'30.6"
28.	Sounding	16	43°45'02.8"	070°10'20.8"
29.	Wreck	110	43°32'06.8"	070°12'14.1"

Questions concerning this report should be directed to the Chief, Atlantic Hydrographic Branch at (757) 441-6746.



Chartlet 1 of 5 *Affected Charts 13286, 13288, 13290, 13292*

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SERVICE	Project: *OPR-A329-RU* Survey: *H-10963* State: *Maine* Locality: *Casco Bay* Sub-locality: *Hussey Sound* Survey Scale: *1:10,000*	Sounding Units: *Feet* Sounding Datum: *MLLW* Horizontal Datum: *NAD 83* Projection: *UTM 19* Central Meridian: *069° 00 00* Scale Factor: *0.9996*	**NOAA Ship RUDE** **LCDR James Verlaque** **Commanding** April 4 to June 23, 2000



Chartlet 2 of 5

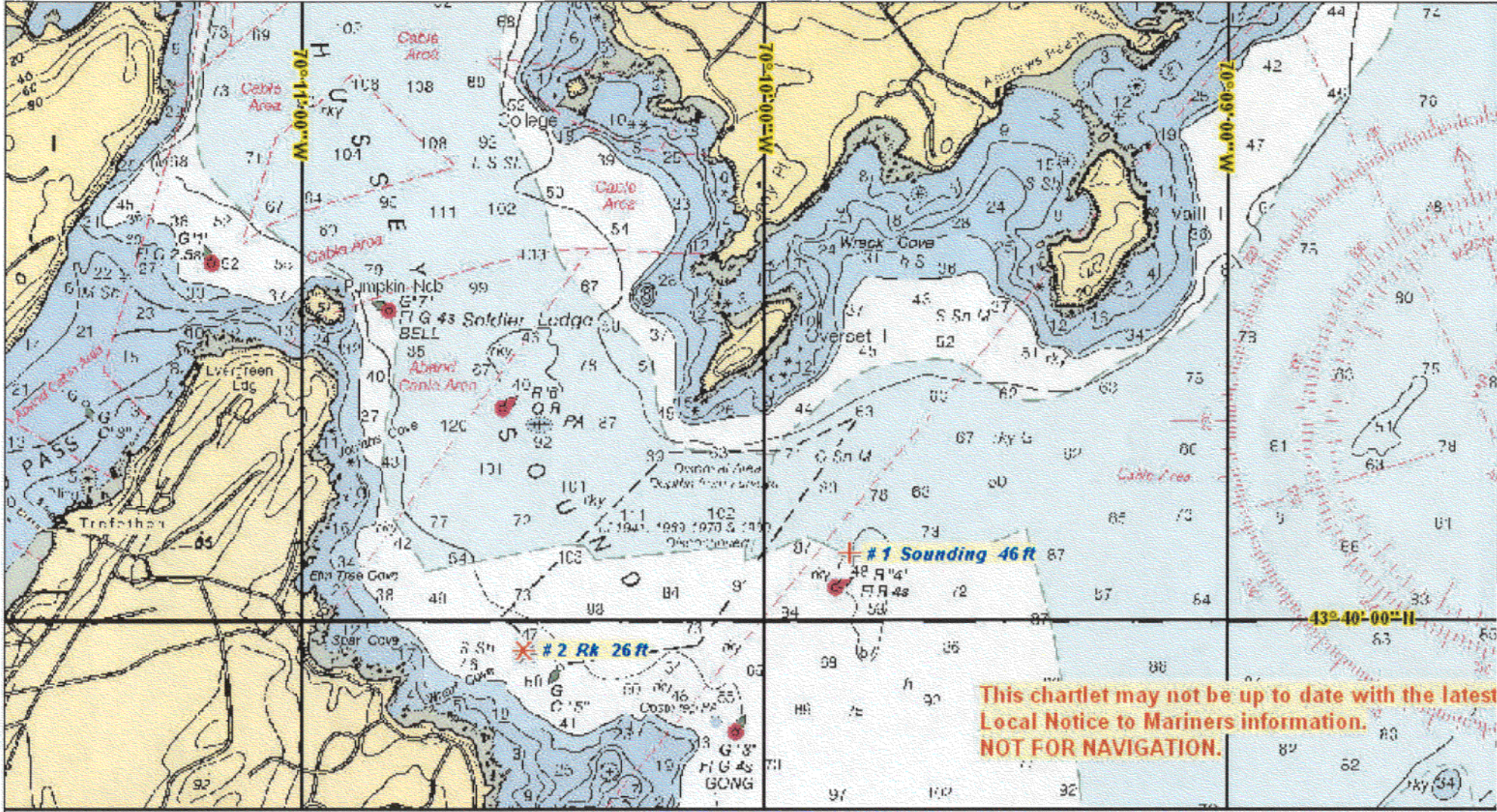
Affected Charts 13286, 13288, 13290, 13292
13292 - displayed in Chartlet

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE

Project: *OPr-A329-RU*
Survey: *H10963*
State: *Maine*
Locality: *Casco Bay*
Sub-locality: *Hussey Sound*
Survey Scale: *1:10,000*

Sounding Units: *Feet*
Sounding Datum: *MLLW*
Horizontal Datum: *NAD 83*
Projection: *UTM 19*
Central Meridian: *069° 00 00*
Scale Factor: *0.9996*

NOAA Ship RUDE
LCDR James Verlaque
Commanding
April 4 to
June 23, 2000



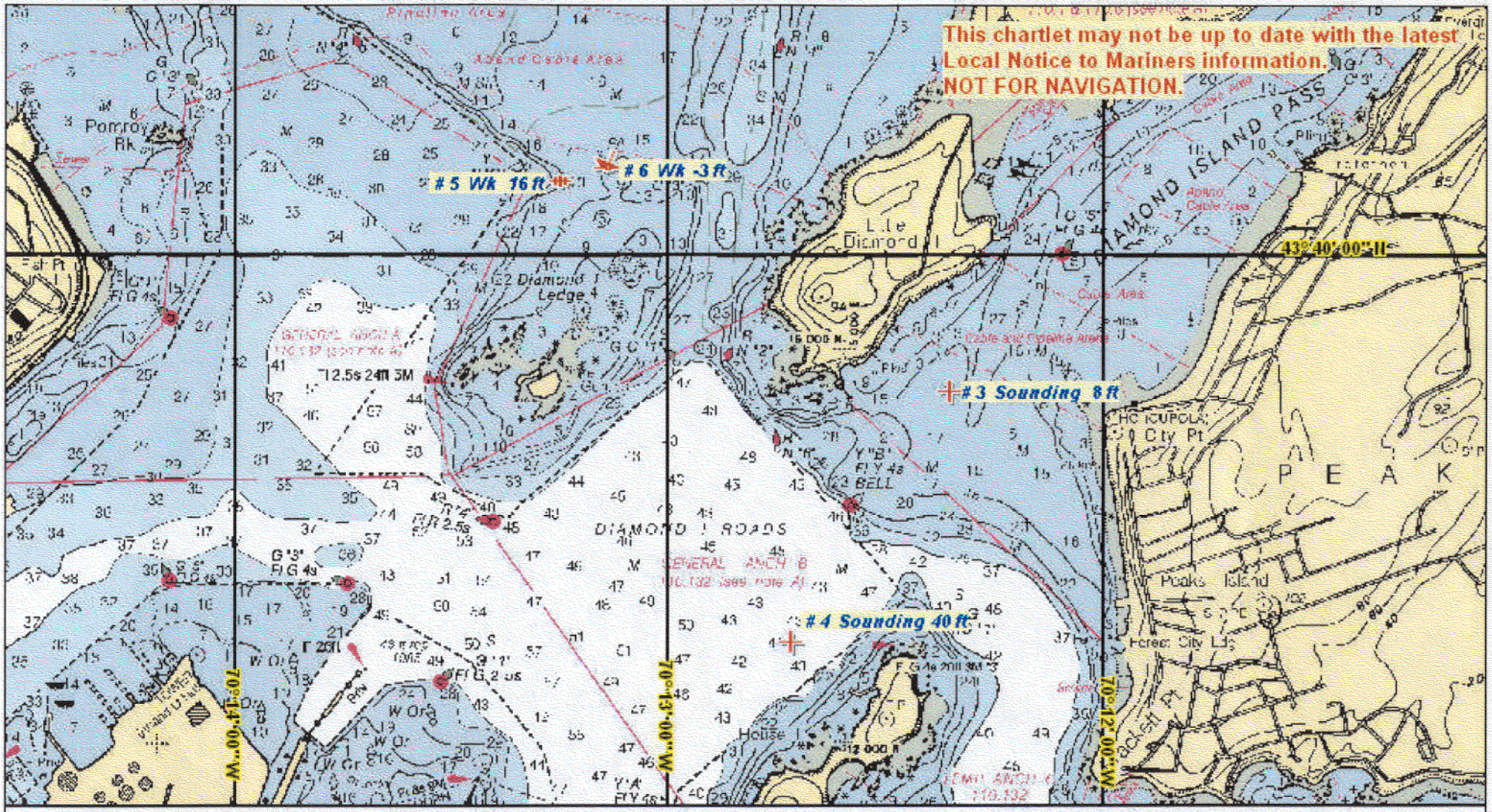
Chartlet 3 of 5 *Affected Charts 13286, 13288, 13290, 13292*

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE

Project: *OPr-A329-RU*
Survey: *H-10963*
State: *Maine*
Locality: *Casco Bay*
Sub-locality: *Hussey Sound*
Survey Scale: *1:10,000*

Sounding Units: *Feet*
Sounding Datum: *MLLW*
Horizontal Datum: *NAD 83*
Projection: *UTM 19*
Central Meridian: *069° 00 00*
Scale Factor: *0.9996*

NOAA Ship RUDE
LCDR James Verlaque
Commanding
April 4 to
June 23, 2000



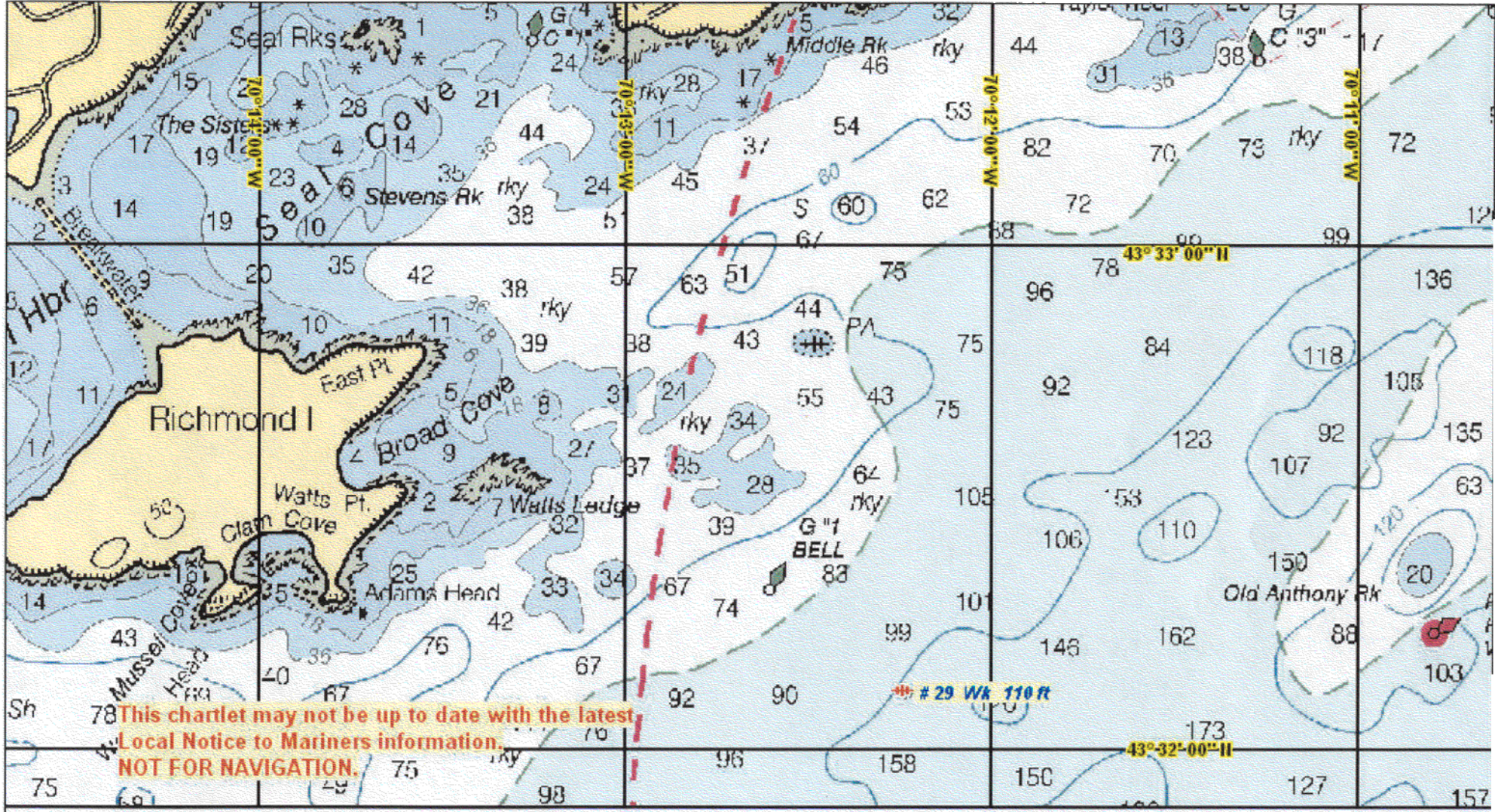
Chartlet 4 of 5 *Affected Charts 13286, 13288, 13290, 13292*

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE

Project: *OPr-A329-RU*
Survey: *H-10963*
State: *Maine*
Locality: *Casco Bay*
Sub-locality: *Hussey Sound*
Survey Scale: *1:10,000*

Sounding Units: *Feet*
Sounding Datum: *MLLW*
Horizontal Datum: *NAD 83*
Projection: *UTM 19*
Central Meridian: *069° 00 00*
Scale Factor: *0.9996*

NOAA Ship RUDE
LCDR James Verlaque
Commanding
April 4 to
June 23, 2000



Chartlet 5 of 5 *Affected Charts 13286, 13288, 13290*

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE

Project: *OPr-A329-RU*
Survey: *H-10963*
State: *Maine*
Locality: *Casco Bay*
Sub-locality: *Hussey Sound*
Survey Scale: *1:10,000*

Sounding Units: *Feet*
Sounding Datum: *MLLW*
Horizontal Datum: *NAD 83*
Projection: *UTM 19*
Central Meridian: *069° 00 00*
Scale Factor: *0.9996*

NOAA Ship RUDE
LCDR James Verlaque
Commanding
April 4 to
June 23, 2000

APPROVAL SHEET
H10963

Initial Approvals:

The completed survey has been inspected with regard to survey coverage, delineation of depth curves, development of critical depths, cartographic symbolization, and verification or disproval of charted data. The digital data have been completed and all revisions and additions made to the smooth sheet during survey processing have been entered in the digital data for this survey. The survey records and digital data comply with NOS requirements except where noted in the Evaluation Report.

Richard W. Blevins Date: 15 FEB. 2001

Richard W. Blevins
Cartographer
Atlantic Hydrographic Branch

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

Andrew L. Beaver Date: 2/27/2001

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

****

Final Approval:

Approved: Samuel P. De Bow Date: 10/18/01

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

NOAA FORM 75-96
(10-83)

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

MARINE CHART BRANCH

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H10963

INSTRUCTIONS

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

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

CHART	DATE	CARTOGRAPHER	REMARKS
13292	06/18/01	Richard Bleum	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
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SUPERSEDES C&GS FORM 8352 WHICH MAY BE USED.