

F00460

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

<i>Type of Survey</i>	Hydrographic\ Side Scan Sonar\ Multibeam
<i>Field No.</i>	N/A
<i>Registry No.</i>	F00460

LOCALITY

<i>State</i>	Maine
<i>General Locality</i>	Casco Bay
<i>Locality</i>	West Cod Ledge, SW End

2000

CHIEF OF PARTY
LCDR J. S. Verlaque

LIBRARY & ARCHIVES

DATE JUL 16 2001

HYDROGRAPHIC TITLE SHEET

~~F-00460~~
F00460

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 West Cod Ledge, SW End

Scale 1:10,000 Date of survey May 8 - May 31, 2000

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

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 2500CP

Verification by Atlantic Hydrographic Branch PERSONNEL

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

REMARKS: Field Examination. All times recorded in UTC.

Soundings processed using preliminary unverified tides.

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

ADD'S/S:RFV 0/20/01 SSV

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* DATA FILED WITH ORIGINAL FIELD RECORDS

OPR-A329-RU-00
F-00460

General Locality: Casco Bay, ME
Sublocality: West Cod Ledge, SW End

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

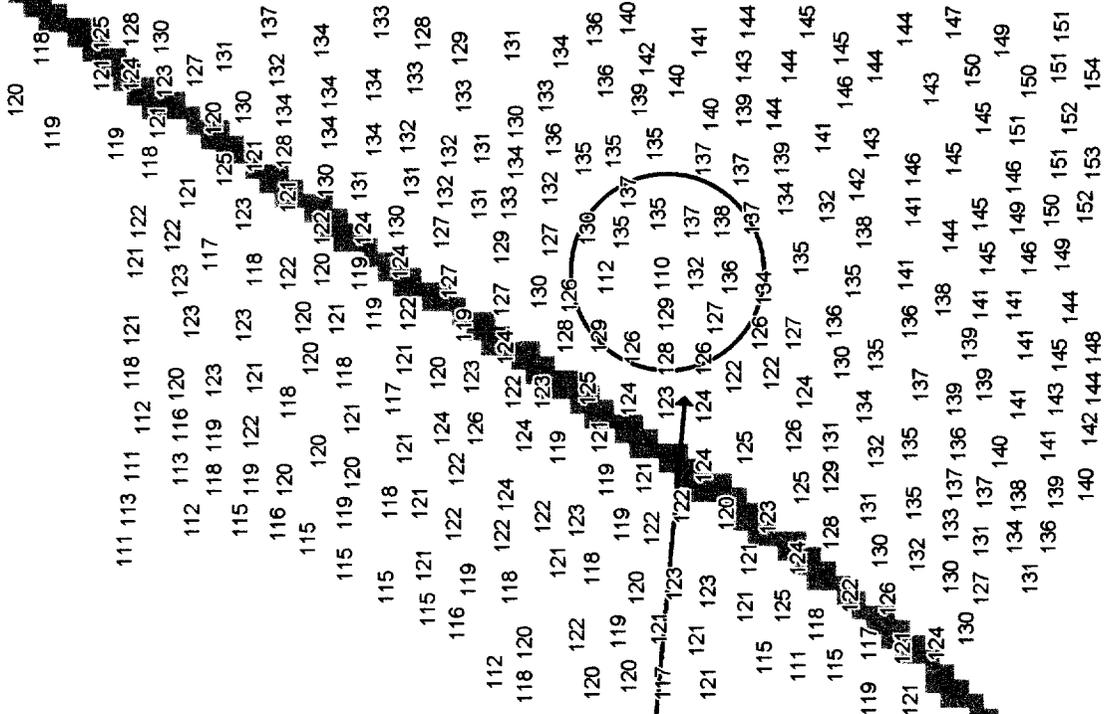
WK - F/V Jessica Ann

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 13280
33rd Ed., March 4, 2000



OPR-A329-RU-00
F-00460

General Locality: Casco Bay, ME
Sublocality: West Cod Ledge, SW End

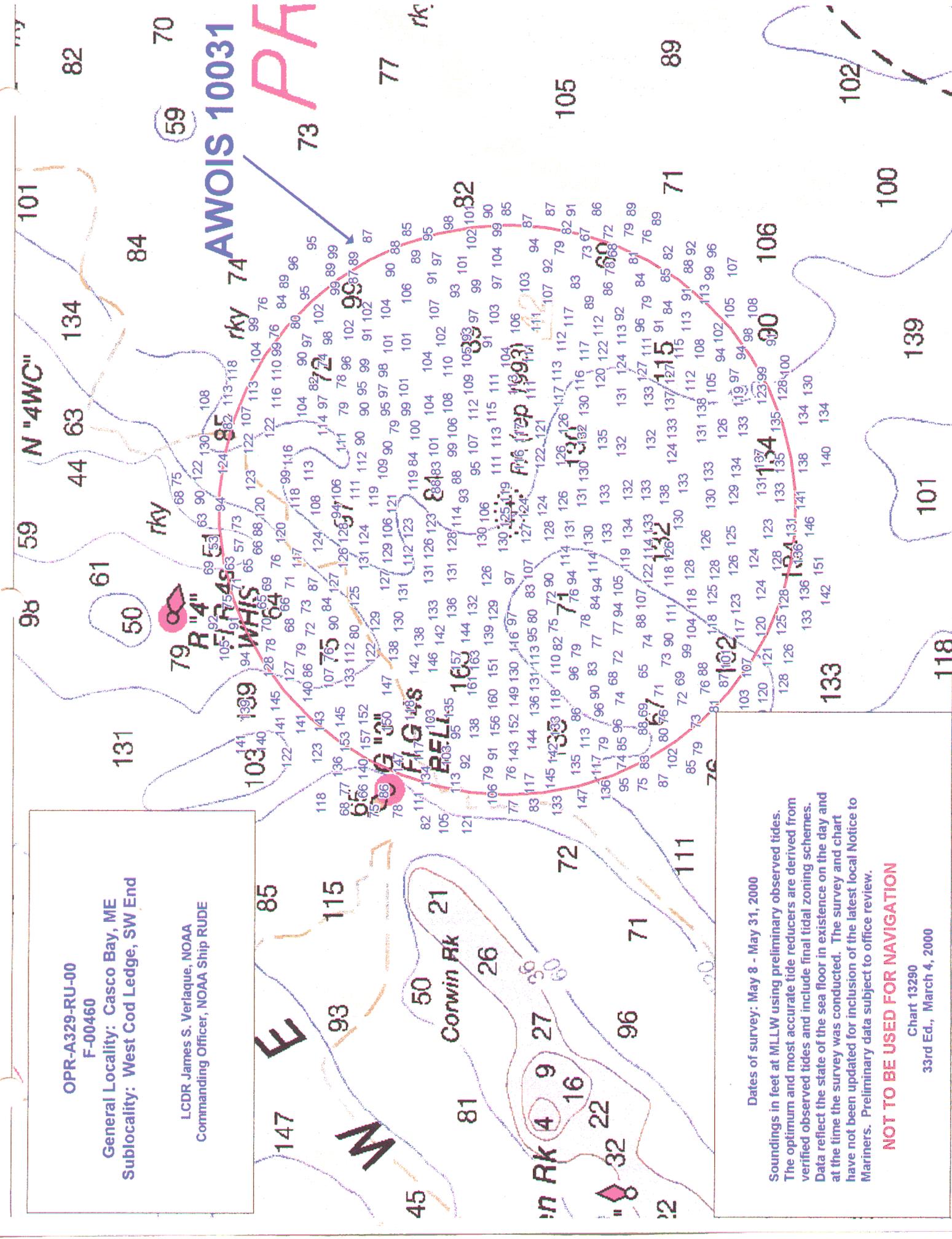
LCDR James S. Verlaque, NOAA
Commanding Officer, NOAA Ship RUDE

Dates of survey: May 8 - May 31, 2000

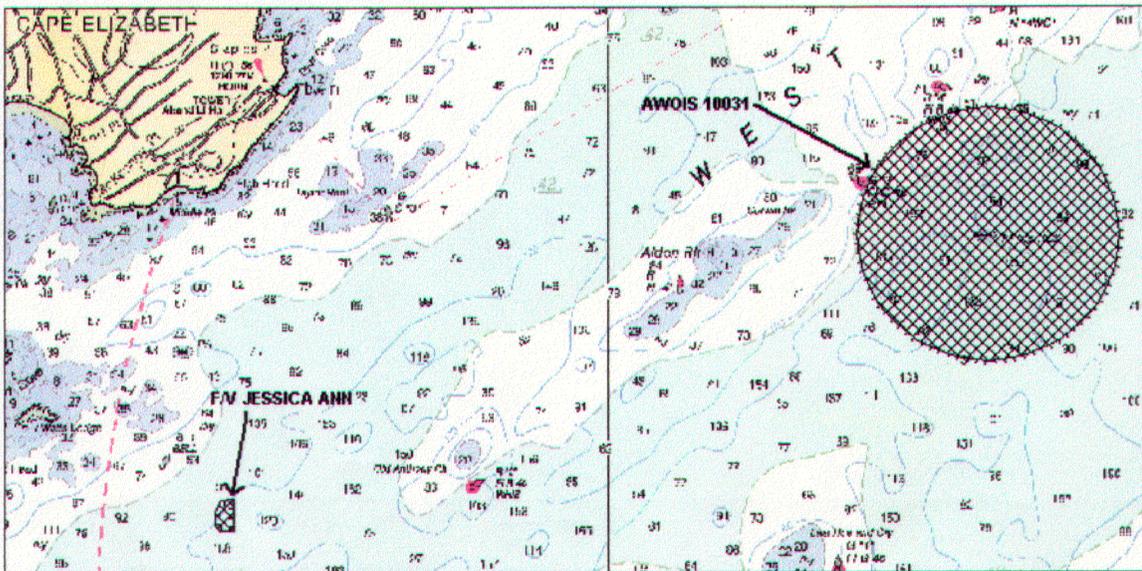
Soundings in feet at MLLW using preliminary observed tides.
The optimum and most accurate tide reducers are derived from
verified observed tides and include final tidal zoning schemes.
Data reflect the state of the sea floor in existence on the day and
at the time the survey was conducted. The survey 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



Descriptive Report to Accompany Field Examination Survey F-00460
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. In addition, the wreck of the fishing vessel *Jessica Ann* was located in accordance with a request from the United States Coast Guard Marine Safety Office, Portland, Maine. Additional graphics depicting which sonar systems were used in the survey area are attached in Appendix V, Supplemental Survey Records and Correspondence.

B. DATA ACQUISITION AND PROCESSING *SEE ALSO THE EVALUATION REPORT*

B1. EQUIPMENT

B.1a All hydrographic data acquisition for this survey was conducted from NOAA Ship RUDE (s590, EDP #9040). RUDE is 90 feet in length, with a 22-foot beam, and a 7-foot draft.

B.1b Vertical-beam echo sounding data were acquired with an Odom Echo-Trac dual-beam echosounder (24 and 200 kHz) (S/N 9641).

** DATA FILED WITH ORIGINAL FIELD RECORDS*

- B.1c** RUDE side scan sonar data was acquired using an 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.
- 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.
- B.1e** Heave, pitch, and roll data were acquired using a Seatex Seapath Motion Reference Unit (MRU-5) (S/N 0544).
- 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. 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).
- B.1g** Sounding velocity data throughout the water column was acquired utilizing a SeaBird SBE19 Seacat Profiler (S/N 196721-1251). 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.

B.2 QUALITY CONTROL

- B.2a** No cross-lines were acquired for F-00460.
- B.2b** F-00460 junctions with H-10831 (surveyed 1998, scale 1:10,000) in the vicinity of West Cod Ledge. Because of the extreme variation in bathymetry in this area, direct comparison of F-00460 data with adjacent soundings from H-10831 for quality control purposes is not always practical. However, in general sounding agreement between the surveys is excellent, with differences typically within two feet. The hydrographer recommends that the current data from F-00460 supercede that of H-10831 in the common area.

B.3 DATA REDUCTION

- B.3a** No deviations from the prescribed method for data reduction were used during F00460.

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.

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 F-00460 data. Verified smooth tide values and correctors need to be applied to the entire multi-beam set in CARIS-HIPS prior to conversion to HPS. APPROVED TIDES AND ZONES WERE APPLIED 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 was 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

D. RESULTS AND RECOMMENDATIONS

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

AWOIS item 10031 was assigned to F-00460. In addition, the wreck of the F/V *Jessica Ann* was located within the survey area.

D.1a AWOIS NO 10031**ITEM DESCRIPTION:** unknown**SOURCE:** LNM 03/94**AWOIS POSITION:** 43°33'18.0" N, 070°07'48" W**REQUIRED INVESTIGATION:** SD, S2, MB, DI**CHARTS AFFECTED:** 13290, 13286, 13288, 13260, 13009, 13006, 13003**INVESTIGATION****DATE(S) / DN(S):** May 8, 9, 22, 31 / DN 129, 130, 143, 152**POSITION NUMBERS:** 45287-46618, 1-157, 50982-51063, 51801-52132**INVESTIGATION USED:** S2, MB, DI**POSITIONS DETERMINED BY:** DGPS**INVESTIGATION SUMMARY:**

Hydrography started on May 8, 2000 (DN 129) within the prescribed search radius for the item investigation. Two hundred percent side scan sonar operations were completed on May 9, 2000 (DN 130). Multi-beam data were collected in conjunction with side scan operations. One hundred percent multi-beam coverage of the survey area was acquired on May 31, 2000 (DN 152). Side scan sonar revealed a possible target in position 43°33'38.0" N, 070°08'15.0" W, which was investigated by divers on May 22, 2000 (DN 143). The divers discovered a large cable on the bottom, but found no sign of a wreck. Side scan and multi-beam sonar data did not reveal the presence of a wreck in the prescribed search radius area.

CHARTING RECOMENDATION:

The hydrographer recommends the removal of the "Dangerous Wreck, Depth Unknown" symbol and "PA (rep 1993)" text at 43°33'18.0" N, 070°07'48" W from charts 13290, 13286, 13288, and 13260, the removal of the "Dangerous Wreck, Depth Unknown" symbol and "(rep PA)" text from chart 13009, and the "Dangerous Wreck, Depth Unknown" symbol from charts 13006 and 13003. The hydrographer further suggests that the common area be updated with the present survey soundings. *CONCUR*

RECOMMENDED POSITION: N/A**RECOMMENDED LEAST DEPTH:** N/A**COMPILATION NOTES:**

*DELETE 'H' PA (rep 1993)
ON CHARTS 13290, 13288, AND 13260
DELETE 'H' rep PA
ON CHARTS 13009, 13006, AND 13003*

D.1b**ITEM DESCRIPTION:** Wreck of Fishing Vessel *Jessica Ann***SOUCE:** USCG Safety Zone Report, received from USCG MSO Portland May 10, 2000**REPORTED POSITION:** 43°31.9' N, 070°11.8' W**REQUIRED INVESTIGATION:** SD, MB, S1**CHARTS AFFECTED:** 13290, 13288, 13286

INVESTIGATION**DATE(S) / DN(S):** May 12, 2000 / DN 133**POSITION NUMBERS:** 66 – 157**INVESTIGATION USED:** SD, MB, S1**POSITION DETERMINED BY:** DGPS

INVESTIGATION SUMMARY

The F/V *Jessica Ann* reportedly sank February 20, 2000 in approximately 136 feet of water south of Cape Elizabeth. On May 10, 2000, RUDE received a request from the USCG Marine Safety Office, Portland, to acquire a Differential GPS position and least depth on the wreck for charting and to facilitate recovery of the diesel fuel aboard. One hundred percent side scan and multi-beam sonar coverage was acquired on May 12, 2000 (DN133). These data indicate that the *Jessica Ann* is lying on her side oriented along an axis of approximately 020°/200° True. The bathymetry data suggest an otherwise flat, gently sloping bottom with an average depth of 130 feet in the area of the wreck. The wreck is approximately 25 meters long, with a least depth of 110 feet at the southwest end at 43°32'06.8" N, 070°12'14.1" W. A diver investigation was not conducted because of the water depth.

CHARTING RECOMENDATION:

The hydrographer recommends adding the symbol for "wreck, least depth known" to charts 13290, 13288, and 13286. The hydrographer further suggests that the common area be updated with the present survey soundings. *CONCUR*

RECOMMENDED POSITION: 43°32'06.8" N, 070°12'14.1" W**RECOMMENDED LEAST DEPTH:** 110 feet at MLLW**COMPILATION NOTES:***CHART 110 WK*

D.2 COMPARISON WITH THE CHART *SEE ALSO THE EVALUATION REPORT***D.2a** The following charts are affected by F-00460 sounding data:

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

D.2b A cursory comparison of the charted soundings with survey data from F-00460 confirmed that all soundings are accurate to within one meter of current depths in regions less than twenty meters deep, and to within ten percent in depths greater than twenty meters. The hydrographer recommends that data from F-00460 supersede all previous data in the common area.**D.3 DANGER TO NAVIGATION** *SEE ALSO THE EVALUATION REPORT*

The wreck of the F/V *Jessica Ann* was reported to the U.S. Coast Guard First District, Boston, MA as a result of F-00460. A copy of this letter is included in Appendix I.



Ensign Benjamin K. Evans, NOAA
Navigation 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" N	070°10'31.4" W	13288, 13290, 13292
3	Sounding	8	43°39'46.5" N	070°12'21.1" W	13290, 13292
4	Sounding	40	43°39'21.2" N	070°12'43.0" W	13290, 13292
5	Wreck	18	43°40'07.3" N	070°13'14.8" W	13290, 13292
6	Wreck	-2	43°40'08.6" N	070°13'08.2" W	13290, 13292
7	Wreck	35	43°42'58.5" N	070°08'05.9" W	13288, 13290, 13292
8	Rock	17	43°42'36.4" N	070°08'36.5" W	13288, 13290, 13292
9	Rock	41	43°42'04.4" N	070°09'32.8" W	13288, 13290, 13292
10	Obstruction	45	43°41'45.9" 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	39	43°41'50.2" N	070°11'06.6" W	13288, 13290, 13292
13	Rock	17	43°41'36.0" N	070°12'46.5" W	13290, 13292
14	Rock	18	43°41'44.2" N	070°12'45.2" W	13290, 13292
15	Rock	18	43°41'52.5" N	070°12'39.3" W	13290, 13292
16	Wreck	20	43°42'29.3" N	070°11'39.1" W	13288, 13290, 13292
17	Obstruction	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" W	13288, 13290, 13292
19	Obstruction	25	43°44'20.7" N	070°08'20.3" W	13288, 13290, 13292
20	Wreck	25	43°44'12.5" N	070°08'18.0" W	13288, 13290, 13292
21	Sounding	43	43°43'34.1" N	070°11'13.1" W	13288, 13290, 13292
22	Wreck	21	43°44'50.9" N	070°08'24.5" 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" W	13288, 13290, 13292
25	Outfall	27	43°44'53.6" N	070°09'42.1" W	13288, 13290, 13292
26	Subm Pile	8	43°44'59.6" N	070°09'35.2" W	13288, 13290, 13292
27	Obstruction	36	43°45'11.4" N	070°09'29.8" W	13288, 13290, 13292
28	Sounding	16	43°45'02.8" N	070°10'20.8" W	13290, 13292
29	Wreck	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.

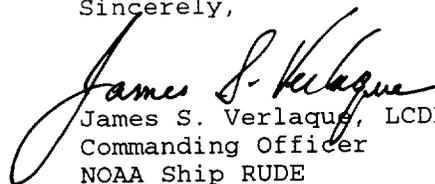
** All positions were acquired using Differential GPS.

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, LCDR, NOAA
Commanding Officer
NOAA Ship RUDE

Attachment

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

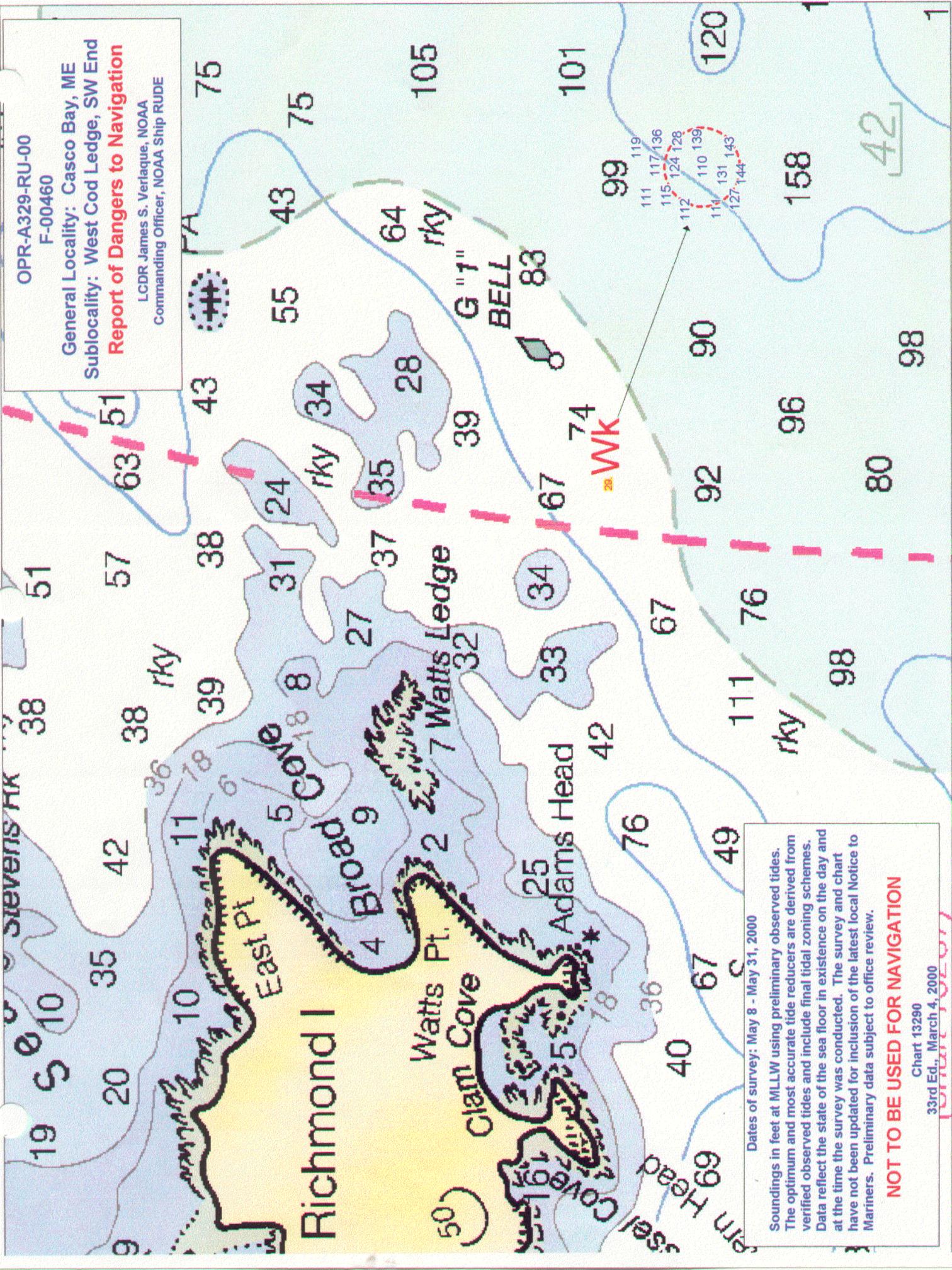
OPR-A329-RU-00

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



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.

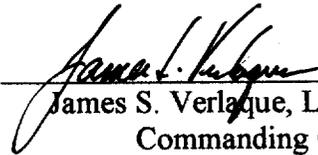
NOT TO BE USED FOR NAVIGATION

Chart 13290
33rd Ed., March 4, 2000

E. APPROVAL SHEET**LETTER OF APPROVAL****REGISTRY NO. F-00460**

Field operations contributing to the accomplishment of this Field Examination 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: November 9, 2000

HYDROGRAPHIC BRANCH: Atlantic
HYDROGRAPHIC PROJECT: OPR-A329-RU-2000
HYDROGRAPHIC SHEET: F00460

LOCALITY: West Cod Ledge, Casco Bay, ME
TIME PERIOD: May 8 - May 31, 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: ATL183.

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.

For 

CHIEF, REQUIREMENTS AND DEVELOPMENT DIVISION

GEOGRAPHIC NAMES

F00460

Name on Survey	A ON CHART NO. 13280, 13288, 13290 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 GRAND McNALLY ATLAS H U.S. LIGHT LIST K											
	CASCO BAY	X		X								
MAINE (title)	X		X									2
WEST COD LEDGE	X		X									3
												4
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Approved
Dennis J. Remedius
 AUG 6 2000

REFERENCE NO.
N/CS33-24-01

LETTER TRANSMITTING DATA

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

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

TO:

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

DATE FORWARDED: 06/15/2001

NUMBER OF PACKAGES 1

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.

F00460

MAINE, CASCO BAY, WEST CODE LEDGE, SW END

ONE TUBE CONTAINING THE FOLLOWING:

- 1 ORIGINAL DESCRIPTIVE REPORT WITH TWO MYLAR PAGE SIZE PLOTS
- 1 RECORD OF APPLICATION TO CHART FORM (NOAA FORM #75-96)
- 1 H-DRAWING ON MYLAR FOR NOS CHART 13290
- 1 COMPOSITE DRAWING ON PAPER

FROM: (Signature)

Richard Blevins

RECEIVED THE ABOVE
(Name, Division, Date)

Return receipted copy to:

[NOAA \ NATIONAL OCEAN SERVICE]
 ATTN: RICHARD BLEVINS
 ATLANTIC HYDROGRAPHIC BRANCH N/CS33
 439 WEST YORK STREET
 [NORFOLK, VA. 23510-1114]

06/15/2001

HYDROGRAPHIC SURVEY STATISTICS
REGISTRY NUMBER: F00460

NUMBER OF CONTROL STATIONS		2
NUMBER OF POSITIONS		4211
NUMBER OF SOUNDINGS		4211
	TIME-HOURS	DATE COMPLETED
PREPROCESSING EXAMINATION	20.0	07/26/2000
VERIFICATION OF FIELD DATA	36.0	05/15/2001
QUALITY CONTROL CHECKS	2.0	
EVALUATION AND ANALYSIS	2.0	
FINAL INSPECTION	1.0	05/15/2001
COMPILATION	16.0	05/31/2001
TOTAL TIME	77.0	
ATLANTIC HYDROGRAPHIC BRANCH APPROVAL		05/29/2001

**ATLANTIC HYDROGRAPHIC BRANCH
EVALUATION REPORT FOR F00460 (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.

C. VERTICAL AND HORIZONTAL CONTROL

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. Two page size sheets have been annotated with ticks showing the computed mean shift between NAD 83 and the North American Datum of 1927 (NAD 27).

(1) To place sheet 1 of 2 on NAD 27, move the projection lines 0.308 seconds (9.501 meters or 9.50 mm at the scale of the survey) north in latitude, and 1.833 seconds (41.154 meters or 4.15 mm at the scale of the survey) east in longitude.

(2) To place sheet 2 of 2 on NAD 27, move the projection lines 0.308 seconds (9.520 meters or 9.52 mm at the scale of the survey) north in latitude, and 1.834 seconds (41.173 meters or 4.17 mm at the scale of the survey) east in longitude. 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).

D.2 COMPARISON WITH CHART 13286 (28th EDITION, APR 20/96)
13288 (39th EDITION, NOV 6/99)
13290 (33rd EDITION, MAR 4/00)

Hydrography

The charted hydrography originates with the prior surveys and requires no further consideration. The hydrographer makes adequate chart comparisons in section **D.2b** of the Descriptive Report.

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

D.3 Dangers to Navigation

One Danger to Navigation was submitted in a report to Commander, First Coast Guard District, Aids to Navigation Office, Boston, MA. for inclusion in the Local Notice to Mariners, and to the Marine Chart Division, N/CS3x1, Silver Spring, Maryland. Copies of this report are appended to the Descriptive Report.

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 was used for compilation of the present survey:

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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 work is recommended.

F00460

Robert Snow

Robert Snow

Cartographic Technician
Verification of Field Data
Evaluation and Analysis

APPROVAL SHEET
F00460

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: 18 MA / 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.

James S. Verlaque Date: 29 May 2001
James S. Verlaque
Lieutenant Commander, NOAA
Chief, Atlantic Hydrographic Branch

Final Approval:

Approved: Samuel P. De Bow, Jr. Date: July 16, 2001
Samuel P. De Bow, Jr.
Captain, NOAA
Chief, Hydrographic Surveys Division

70° 13' 00"

70° 12' 30"

70° 12' 00"

70° 13' 00" W

NAD 27 43° 32' 30" N

CHECKED BY: RWB
5/11/01

43° 32' 30"

CASCO BAY

WEST COD LEDGE

111 117 121
 112 117 126
 115 119 121 134
 115 117 124 128
 112 120 119
 118 119 WK
 117 120 110 140
 111 120 123 135 145
 118 131 135 140
 127 138 144 143
 137 144 149 150

43° 32' 00"

F00460
 MAINE
 CASCO BAY
 WEST COD LEDGE, SW END
 SCALE: 1:10,000
 MAY 2000
 NORTH AMERICAN DATUM OF 1983
 SOUNDINGS IN FEET AT MLLW
 SHEET 1 OF 2

43° 31' 30"

70° 13' 00"

70° 12' 30"

70° 12' 00"

70° 08' 30"

70° 08' 00"

70° 07' 30"

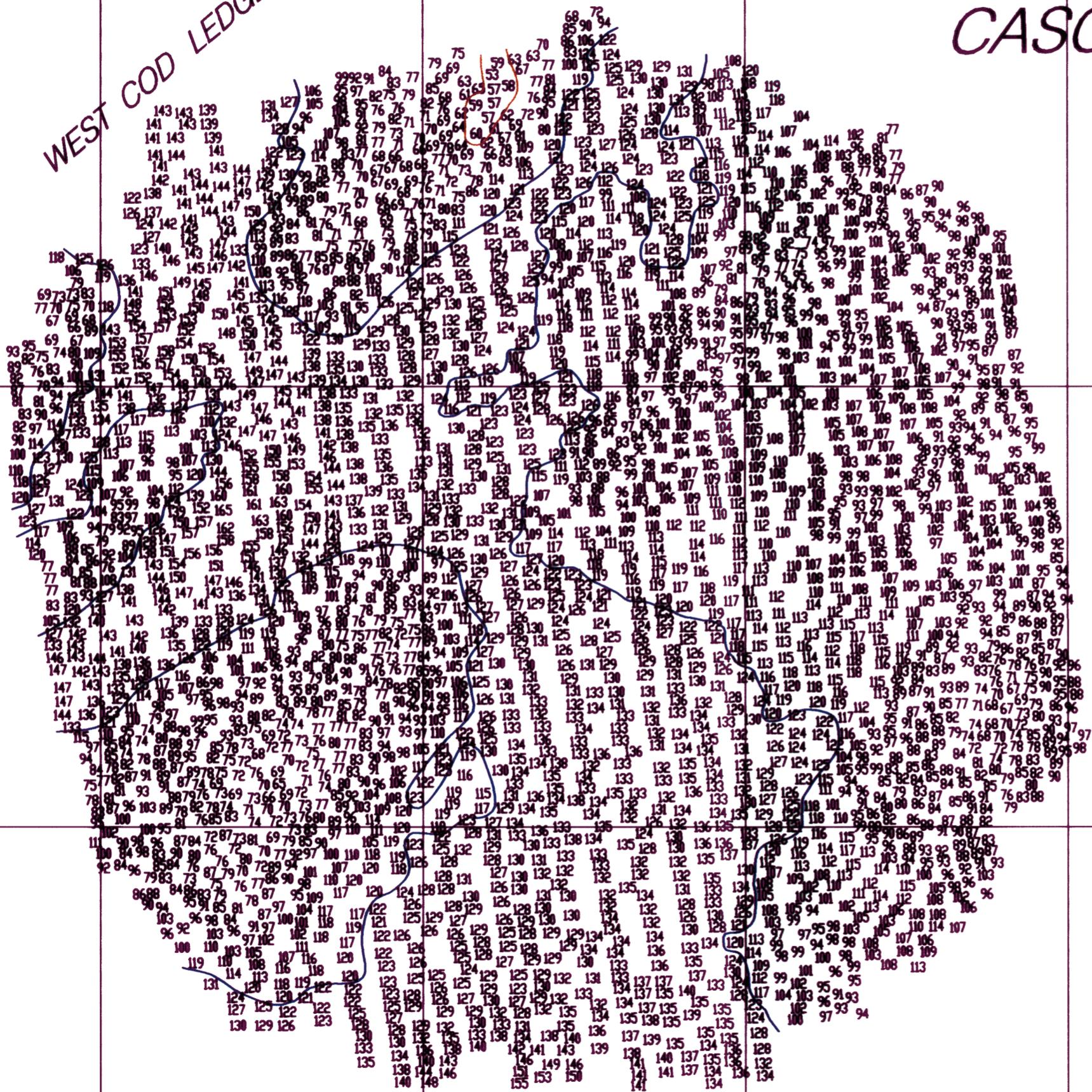
70° 07' 00"

70° 06' 30"

43° 34' 00"

WEST COD LEDGE

CASCO BAY



70° 06' 30" W

NAD 27

43° 33' 30" N

CHECKED BY: RWB
5/11/01

F00460
 MAINE
 CASCO BAY
 WEST COD LEDGE, SW END
 SCALE: 1:10,000
 MAY 2000
 NORTH AMERICAN DATUM OF 1983
 SOUNDINGS IN FEET AT MLLW
 SHEET 2 OF 2
 AWOIS NO. 10031

43° 33' 00"

70° 08' 30"

70° 08' 00"

70° 07' 30"

70° 07' 00"

70° 06' 30"

