

H10914

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Hydrographic /
Type of Survey Side Scan Sonar / Multibeam

Field No. N/A

Registry No. H10914

LOCALITY

State Rhode Island

General Locality Block Island Sound

Locality Southwest Ledge to Endeavor shoals

2000

CHIEF OF PARTY

LCDR James S. Verlaque

LIBRARY & ARCHIVES

DATE

February 8, 2002

NOAA FORM 77-28 (11-72)	U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION	REGISTER NO. H10914
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HYDROGRAPHIC TITLE SHEET

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
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State Rhode Island

General locality Block Island Sound

Locality Southwest Ledge to Endeavor Shoals

Scale 1:10,000 Date of survey July 15 - August 26, 1999
June 14 - September 14, 2000

Instructions dated Original instructions: April 14, 1998
Change No. 1: May 20, 1999
Survey Instructions: June 12, 2000 Project No. OPR-B663-RU-99/00

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

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 HP 2500CP, HP 750C

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.

HANDWRITTEN NOTE IN THE DESCRIPTIVE REPORT

WERE MADE DURING OFFICE PROCESSING.

AWOIS/SURE 9/24/01

MUR

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** FILED WITH THE ORIGINAL FIELD RECORDS*

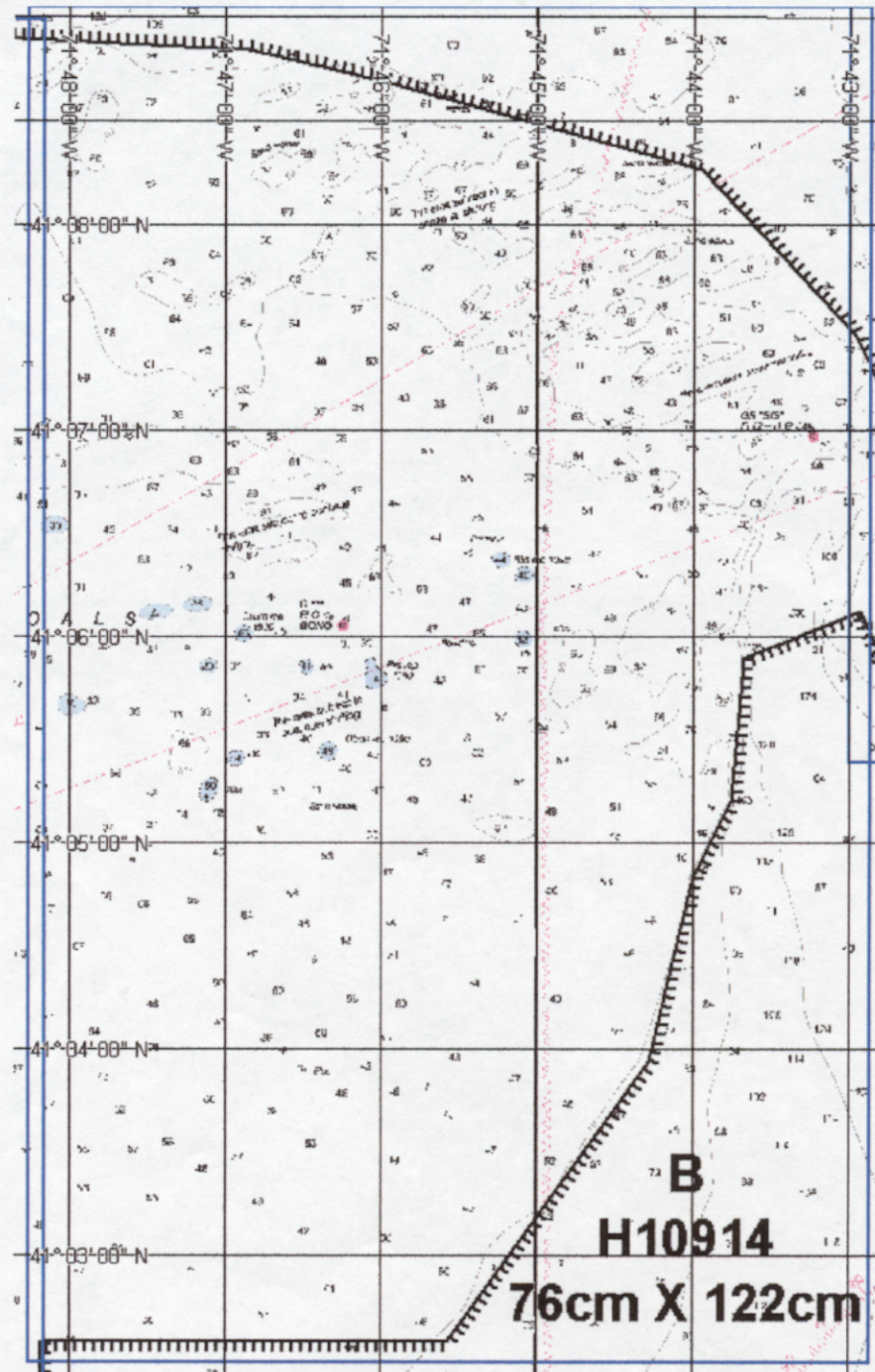
Descriptive Report to Accompany Hydrographic Survey H10914

Scale: 1:10,000

NOAA Ship RUDE S590

LCDR James S. Verlaque, NOAA

A. AREA SURVEYED



- A.1** This survey was conducted in accordance with Hydrographic Project Instructions for OPR-B663-RU, Block Island Sound, Rhode Island, original instructions dated April 14, 1998, Change No. 1, dated May 20, 1999, and Hydrographic Survey Instructions for OPR-B663-RU, dated June 12, 2000.
- A.2.** This survey was conducted to acquire multi-beam least depths for numerous side scan sonar contacts previously detected by NOAA ship HECK in 1990 (H10350), and to acquire side scan sonar coverage over the remaining portions of the survey area. Data acquired from this survey will also update National Ocean Service (NOS) nautical charts in areas last surveyed in 1939 and 1971.
- A.3.** Data acquired in 1999 consisted of acquiring the majority of the two hundred percent side scan sonar data and cross-lines for the common area. Data acquired in 2000 consisted of all multi-beam main-scheme lines, with cross-lines, multi-beam development, and detached positions for bottom samples, dive investigations and floating aids to navigation.
- A.4** Full coverage of this area was accomplished. Additional graphics depicting the sonar systems used in the survey area are attached in Appendix V, Supplemental Survey Records and Correspondence, filed with the original field records.

B. DATA ACQUISITION AND PROCESSING

SEE ALSO THE EVALUATION REPORT

B.1 EQUIPMENT

- B.1a** All hydrographic data acquisition for this survey was conducted from NOAA Ship RUDE (S-590, EDP #9040). RUDE acquired side-scan, multi-beam, and single-beam hydrographic data.

The RUDE is 90 feet in length, with a 22-foot beam, and a 7-foot draft.

- B.1b** Single-beam echo-sounding data were acquired on RUDE with an Odom Echo-Trac dual-beam echo sounder (24 and 200 kHz) (S/N 9641). The single-beam data was acquired to check multi-beam data with single-beam cross-lines. There was no single-beam data entered into the final data set.
- B.1c** Side-scan sonar data were 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).
- 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° cross-track by 1.5° along-track bottom footprint.

- B.1e** Heave, pitch, and roll data for the RUDE 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 using a SeaBird SBE19 Seacat Profiler (S/N 196721-1251). During multi-beam data acquisition, sound velocity casts were taken every 4 hours, or normally when surface velocity, determined by using an Odom Digibar Pro DB1200, (S/N 98013), differed by more than two meters per second.

B.2 QUALITY CONTROL

- B.2a** A total of 58.1 nautical miles of cross-lines were acquired during the survey, equating to seven percent of the total nautical miles of hydrography. Cross-lines were accomplished according to the 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 used, as one hundred percent multi-beam coverage was not acquired throughout the entire survey area.

- B.2b** This survey junctions to the east with H10⁷⁹⁵975 (1998-1999) and to the west with H10984 (2000). Both junction surveys are at a 1:10,000 survey scale and were surveyed by RUDE. Junctions with both surveys were excellent with sounding differences of one to two feet generally observed.
- B.2c** Multi-beam quality control checks were accomplished on line by comparing mutli-beam soundings 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 this survey.

C. VERTICAL AND HORIZONTAL CONTROL

C.1 VERTICAL CONTROL

Tidal zoning for this survey is consistent with the Project and Survey Instructions. During data acquisition, the tide station at Montauk, Fort Pond Bay, NY (851-0560) was used as the reference station to acquire preliminary unverified tides.

Zone correctors were applied to the preliminary unverified tidal data from the Montauk tide station generating tidal correctors. The conversion routine for the tidal data was generated within CARIS-HIPS and resulting correctors were applied to all multi-beam data. Inspection of the digital terrain model reveals multi-beam artifacts that may have been caused by using unverified tides and by possibly by the tabulated zoning correctors prescribed for this survey. The artifacts show discrepancies within one foot that may be resolved when smooth tides and final zoning are applied.

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 survey data. Verified smooth tide values and correctors must 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 HORIZONTAL CONTROL

The horizontal reference station for this survey is the North American Datum of 1983 (NAD83). Geodesy parameters during data acquisition used the Universal Transverse Mercator (UTM) Zone 19, WGS 84, Northern Hemisphere. No horizontal control stations were used for this survey.

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
Moriches, NY	293	100	40° 47.4'	072° 44.7'	130	803
Chatham, MA	325	200	41° 40.3'	069° 57.0'	95	802

D. RESULTS AND RECOMMENDATIONS

D.1 AUTOMATED WRECK AND OBSTRUCTION INFORMATION SYSTEM

Five AWOIS items (1781, 1788, 1792, 7294, 7541) were contained within the survey limits. The five items were all unassigned information items. One hundred-percent multi-beam was acquired over all of these items. There was no evidence of any features in the vicinity of AWOIS 1792 or 7541. AWOIS 1788, a charted wreck with a least depth of 41 feet, was located during survey operations

and is discussed in Section D.2, Comparison with the Chart. AWOIS 1781 and 1792 are within 2000 meters of a submerged wreck discovered during this survey, and are also discussed in Section D.2.

AWOIS #	Source	Latitude N	Longitude W	Recommend
1781	LNM39/20,LNM40/21,H10350/90	41°05'30.36"	71°45'40.22"	See Section D.2
1788	LNM39/20,LNM39/21,H10350/90	41°05'50.80"	71°46'27.59"	See Section D.2
1792	H3380/12WD,H6443/39,H9170/70,H10350/90	41°07'02.36"	71°43'07.21"	No change in chart
7294	LNM39/20,LNM21/23,H10350/90	41°06'48.36"	71°46'10.22"	See Section D.2
7541	CL105/87,H10350/90	41°06'06.36"	71°44'16.21"	No change in chart

SEE AWOIS LISTINGS APPENDED TO THIS REPORT FOR CHARTING RECOMMENDATIONS

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

D.2a Four charts are affected by this survey:

Chart	Edition	Date	Chart Scale
Chart 13209	23rd Ed.	30 Oct 1999	1:40,000
Chart 13205	35 th Ed.	04 Sep 1999	1:80,000
Chart 13215	17 th Ed.	23 Oct 1999	1:40,000
Chart 12300	41 st Ed.	01 Apr 2000	1:400,000

D.2b A comparison of present survey soundings and features was made to NOS chart 13215. Chart 13215 is the largest scale chart and covers the entire survey. Chart 13209, which only covers the western edge of the survey area, has the same soundings and features as Chart 13215 for the common area.

The color scheme on Charts 13205, 13209, and 13215 are different as Charts 13205 and 13215 have a blue color scheme up to the 30-foot curve whereas Chart 13209 has a blue color scheme only up to the 18-foot curve. All three charts have identical blue color tint and danger curves to highlight rock, obstruction, and wreck features in the common area. The scale on Charts 12300 makes the tint within the 30-foot curve indiscernible. The hydrographer recommends all charts for the common areas have consistent tint to identify shoal soundings. Specifically, the hydrographer recommends making the tint consistent on all of the Charts, blue tint inside the 30-foot curve. *Conclude*

Comparison of survey soundings with charted soundings was in close agreement in flat bottom areas, but varied greatly in rocky and sand wave areas. The lack of agreement in rocky areas may be attributed to the technology used in the present survey to acquire full bottom coverage by multi-beam versus the single-beam technology used on the prior survey in 1971. The small scale of Chart 13200 made sounding comparisons indiscernible. No other discrepancies were noticed between the charts.

The benthic characteristics within the survey area are comprised of rocks, boulders, and sand waves. Rocky areas and sand waves are readily apparent by reviewing the digital terrain model, included in Appendix V, Supplemental Survey Records and Correspondence, filed with the original field records. A digital file of the digital terrain model is also included with the original data set. Areas where sand waves are prominent show shifting of two to three hundred meters in varying directions throughout the survey area. These shifts of the sand waves contribute to the disparity in survey depths versus charted depths by as much as 20 feet and are attributed to the location of the survey area relative to Montauk Point. Local knowledge of the survey area reveals major storms in the area have resulted in sea wave heights of as much as 30 feet. The depths where sand waves have shifted are prominent in depths of 30 to 60 feet. Severe storms coupled with two to three knot currents observed in the survey area would explain the significant shifting noticeable when comparing discrepancies between the chart and present survey soundings.

Chart 13215 contains three charted rocks and two charted obstructions, all with danger curves, having estimated side scan sonar depths reported from prior survey H10350 (1990). All of these features were surveyed with one hundred percent multi-beam and multi-beam development from the present survey. Dive investigations were also conducted on the "Obstn rep 1990" items to properly identify their characteristics. The survey least depth recommendations are derived from multi-beam data as the diver least depth was slightly deeper than the multi-beam least depths. The comparison of geographic positions between the multi-beam least depth and diver least depth was negligible, within one-tenth of a second in latitude. Charted features identified with a depth, description and corresponding "rep 1990" notation should be removed and superseded by present survey soundings and notations as listed below:

Charted as "rep 1990" (feet)	Charted Latitude N	Charted Longitude W	Survey Depth (feet)	Survey Latitude N	Survey Longitude W	Recommend Charting as (feet)
44 Rks	41°06'22"	71°45'13"	49	41°06'21.82"	71°45'13.23"	49 Rk
42 Rks	41°06'17"	71°45'06"	51	41°06'18.373"	71°45'05.5635"	51 Rk
47 Rks	41°05'47"	71°46'02"	52	41°05'47.86"	71°46'03.34"	52 Rk
*49 Obstn	41°05'24"	71°46'22"	53	41°05'24.04"	71°46'21.94"	53 Rk
**53 Obstn	41°06'01"	71°46'52"	52	41°06'01.06"	71°46'54.42"	52 Wk

CONCUR
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* The rock with a least depth of 53 feet is in close proximity to a sand wave, which has a least depth of 44 feet. The rock is visible on the digital terrain model from data acquired on DN 256, line 900, and was confirmed during dive operations on DN 256, detached position 71470. Refer to Appendix V for the Dive Investigation Report, filed with the original field records. Due to the inherent nature of the sand bottom and continually shifting sand waves, the hydrographer recommends charting the rock with a least depth of 53 feet. *DO NOT CONCUR.** Additionally, chart surrounding survey depths to adequately reflect the current *SURVEY. CONCUR* * *SHOALS & PRESENT SURVEY DEPTHS ARE IN THE IMMEDIATE VICINITY (42-52 FT). DO NOT CHART.*

** The charted obstruction, identified by divers, is a wreck with description, least depth, and position determined on DN 256, detached position 71486. Two AWOIS items are in near vicinity to the wreck. Both AWOIS items resulted in negative findings from prior surveys, but are both identified in the AWOIS listing as wrecks. AWOIS 7294 is approximately 1800 meters on a true bearing of 035° from the surveyed wreck and AWOIS 1781 is approximately 2000 meters on a true bearing of 119° from the surveyed wreck. Refer to Appendix V, for the Dive Investigation Report of the uncharted wreck, filed with the original field records. *CONCUR. DELETE '53' OBSTN REP 1990. CHART DANG. 52 WK*

The complex nature of the seabed and the advanced technology (full bottom coverage) used to acquire data in the survey area warrants the hydrographer recommend all notations of "Rks rep 1990", "Rks", and "Boulders" be removed and replaced with the notation "rky" or "Boulders" as the compiler deems necessary. For simplicity sake, all references in this report to a rocky feature will be discussed as rock. All features listed below are large rocks/boulders that the common mariner could snag with, thereby losing anchoring or fishing gear. The compiler may wish to chart regions of boulders versus rocks as outlined below.

Three charted rocks and one submerged wreck with danger curves, and without notation, are located within the survey limits. The features, listed below, were investigated with one hundred percent multi-beam. Multi-beam development was also acquired on those features when nadir was not acquired on the feature during the acquisition of the original one hundred percent multi-beam line.

Charted as (feet)	Charted Latitude N	Charted Longitude W	Survey Depth (feet)	Survey Latitude N	Survey Longitude W	Recommend Charting as (feet)
43 Rk	41°05'59"	71°45'05"	43	41°05'59.04"	71°45'05.21"	43 Rk **
50 Rks	41°05'17"	71°47'07"	48	41°05'17.25"	71°47'08.72"	48 Rk SEE E+4
54 Rk	41°05'21"	71°46'54"	52	41°05'20.63"	71°46'53.48"	52 Rk CONCUR
*41 Wk	41°05'50"	71°46'27"	43	41°05'50.89"	71°46'27.45"	43 Wk SEE AWOIS 1788

*** REVISE CHARTED 43 Rk TO 44 Rk.*

*The charted submerged wreck with least depth of 43 feet, AWOIS 1788, was developed with multi-beam on September 14, 2000 (DN 258), and a least depth of 43 feet was acquired on line 902-1317 at 131745 UTC. The above charted features, respective charted depths, and notations should be removed from the chart. Chart the recommended least depth with position and notation as listed above. *CONCUR*

Four significant rocks, not previously charted, were located during survey operations. The features listed below were investigated with one hundred percent multi-beam. Multi-beam development was also acquired on those features when nadir was not acquired on the original one hundred percent multi-beam line.

Survey Surrounding Soundings (feet)	Charted Latitude N	Charted Longitude W	Survey Depth (feet)	Survey Latitude N	Survey Longitude W	Recommend Charting as (feet)
60	41°08'28"	71°47'43"	57	41°08'28.38"	71°47'42.92"	57 Rk ✕
62	41°05'42"	71°44'51"	61	41°05'41.91"	71°46'03.34"	61 Rk ✕
39-63	41°06'06"	71°46'00"	50	41°06'06.79"	71°46'00.42"	50 Rk CONCUR
39-63	41°06'03"	71°46'04"	51	41°06'06.37"	71°46'04.14"	51 Rk CONCUR

✕ SEE ALSO THE EVALUATION REPORT

By reviewing the digital terrain model, the compiler may also clearly depict isolated rocks from outcrops, and, depict rock outcrops from sand waves. Isolated rocks should be charted with a least depth and the notation "rk". Rocky areas should be charted with corresponding survey depths and the notation "rky" as the compiler deems necessary.

- D.2c** As previously stated in section D.2, Comparison with the Chart, significant shifting of sand waves is apparent in the survey area. A deep trench of 103 feet with surrounding charted sounding of 50 to 60 feet was located 1.75 nautical miles west-northwest of the GR"BIS" buoy in latitude 41°07'44.89"N, longitude 071°45'18.24"W.

No extensive shoaling trends were apparent in the survey area.

- D.2d** There is one charted submarine cable area within the survey limits bounded on the west edge of the survey area in latitude 41°06'16"N, longitude 071°48'16"W and latitude 41°05'14"N, longitude 071°48'16"W, and, bounded on the east edge in latitude 41°08'37"N, longitude 71°42'59"W and latitude 41°08'37"N, longitude 71°43'01"W. There is one charted submarine cable that extends from the south edge of the survey area in latitude 41°02'32"N, longitude 71°44'19"W to the north edge in latitude 41°09'05"N, longitude 71°44'57"W. With either one hundred percent multi-beam or two hundred percent side scan sonar coverage acquired over the entire survey area, inspection of the digital terrain model revealed no features associated with these charted submarine cable features. However, the hydrographer recommends retaining the submarine cable and cable area as charted. There are no charted pipelines within the survey area.

CONCUR

- D.2e** Bottom sediment samples were acquired and agree with the charted bottom characteristics in the common area. The oceanographic log sheet is attached in Appendix V, Supplemental Survey Records and Correspondence, filed with the original field records.
- D.2f** Two floating aids to navigation were located within the survey area. Both aids serve their intended purpose as charted. There were no fixed aids to navigation within the survey limits.
- D.2g** There are several notations of "sand waves" and "This area subject to continual shifting" within the survey limits. The charted notations serve their intended purpose. Review of the digital terrain model reveals the compiler may wish to add additional

notations to the chart to adequately depict numerous other sand waves and shifting apparent when the survey depth curves are compared to the charted depth curves.

D.3 DANGERS TO NAVIGATION

There were no dangers to navigation identified within the survey area.

This report and accompanying field sheets are respectfully submitted.



Ensign Kevin Slover, NOAA
Field Operations Officer
NOAA Ship RUDE

E. APPROVAL SHEET

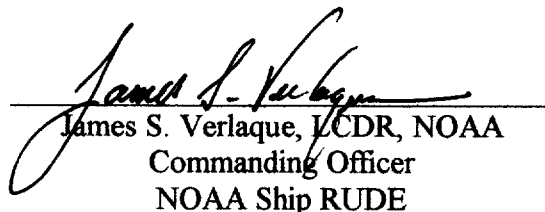
APPROVAL SHEET

LETTER OF APPROVAL

REGISTRY NO. H10914

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.

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



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

RECRD 1781 VESSLTERMS VERMILLION CHART 13215 AREA B
CARTOCODE 0100 SNDINGCODE DEPTH 0

NATIVLA	41/05/30.00	NATIVLO	071/45/42.00	convert	NATIVDATU	6
LAT83	41/05/30.36	LONG8	071/45/40.22	Update GP	GPQUALITY	Low
	41 5 30.4		71 45 40.22		GPSOURCE	Direct
LATDEC	41.0917666667	LONDEC	71.7611722222			

PROJECT OPR-B663 ITEMSTATUS Assigned SEARCHTYPE Information
RADIUS INIT MSM ASSIGNED 12/12/1989
TECNIQ

Techniqnote

History

HISTORY
LHNM39/20--BUOY ESTABLISHED 50 YDS. 122 DEGREES FROM WRECK OF VERMILLION WHICH LIES 302-122 DEGREES WITH TWO MASTS 20 FT. ABOVE WATER; BUOY IS 252 DEGREES, 3 3/4 MILES FROM MONTAUK PT. LIGHTHOUSE, 306 1/2 DEGREES FROM RACE ROCK LIGHTHOUSE, AND 344 DEGREES FROM WATCH HILL LIGHTHOUSE.
LHNM40/21--BUOY DISCONTINUED; WRECK HAS DISAPPEARED. (ENTERED MSM 3/89)
H10350/90--OPR-B660-HE; 1000M SSS SEARCH, WRECK NOT LOCATED; HYDROGRAPHER STATES THAT THE WRECK APPEARS TO LIE OUTSIDE THE SURVEY AREA OR HAS BEEN BURIED BY THE SHIFTING OF THE BOTTOM. IT IS RECOMMENDED THAT THE WRECK REMAIN UNCHARTED. (ENTERED 3/92 MCR)
DESCRIPTION
27 VESSEL SANK IN 1920, IN 58 FT. OF WATER
24 NO.8658; SUNK 1920, SUBSEQUENT EFFORTS TO LOCATE UNSUCCESSFUL

Fieldnote

Proprietary

YEARSUNK NIMANU SYSTEMNUM 1719

Print Record

NOT CHARTED. NO CHANGE IN CHARTING.

RECRD VESLTERMS CHART AREA
 CARTOCODE SENDINGCODE DEPTH

NATIVLA	<input type="text" value="41/05/50.80"/>	NATIVLO	<input type="text" value="071/46/27.59"/>	<input type="button" value="convert"/>	NATIVDATU	<input type="text" value="31"/>
LAT83	<input type="text" value="41/05/50.80"/>	LONG8	<input type="text" value="071/46/27.59"/>	<input type="button" value="Update GP"/>	GPQUALITY	<input type="text" value="High"/>
	<input type="text" value="41"/> <input type="text" value="5"/> <input type="text" value="50.8"/>		<input type="text" value="71"/> <input type="text" value="46"/> <input type="text" value="27.59"/>		GPSOURCE	<input type="text" value="Direct"/>
LATDEC	<input type="text" value="41.0974444444"/>	LONDEC	<input type="text" value="71.7743305556"/>			

PROJECT ITEMSTATUS SEARCHTYPE
 RADIUS INIT ASSIGNED
 TECNIQ

Techniqnote

History

HISTORY
 LHNM39/20--BUOY ESTABLISHED 65 YARDS, 122 DEGREES FROM THE WRECK OF SNUG HARBOR WHICH LIES 21-201 DEGREES AND HAS 6 FT. OF WATER OVER IT; BUOY IS 247 1/2 DEGREES, 5 MILES FROM MONTAUK POINT LIGHTHOUSE, 305 DEGREES FROM RACE ROCK LIGHTHOUSE, AND 342 1/2 DEGREES FROM WATCH HILL LIGHTHOUSE. LHNM39/21--BUOY DISCONTINUED; WRECK HAS DISAPPEARED. (ENTERED MSM 3/89)
 H10350/90--OPR-B660-HE; 1000M SSS SEARCH; A WRECK WAS LOCATED WITH A LEAST DEPTH OF 41 FT (12.6M) IN POS. LAT.41-05-50.8N, LONG.71-46-27.59W (NAD 83). DIVER INVESTIGATION REVEALED THE WRECK TO BE THE HEAVILY DECAYED REMAINS OF A STEEL HULLED VESSEL AND APPEARS TO BE THE CORRECT SIZE AND AGE OF THE SNUG HARBOR. POSITIVE IDENTIFICATION WAS NOT POSSIBLE. (ENTERED 3/92 MCR)

DESCRIPTION
 24 NO.302; SUNK 1920; LOCATED 9/26/20; POS. ACCUR. 1-3 MILES AT 41-05-54N, 71-46-27W; SUBSEQUENTLY FAILED TO LOCATE.
 27 NO. 186; 2388 NT., REPORTED THRU OCGR. POS. 41-02N, 71-47W.

Fieldnote

Proprietary

YEARSUNK NIMANU SYSTEMNUM

NOT CHARTED. NOTHING FOUND. NO CHANGE IN CHARTING MCR 9/21/01
 CHARTED AS 41 WK, Revise to 43 wk in
 LAT. 41-05-50.89
 LONG. 71-46-27.45

RECRD 1792 VESSLTERMS SNDG CHART 13215 AREA B
CARTOCODE 0127 SNDINGCODE 127 DEPTH 31

NATIVLA	41/07/02.00	NATIVLO	071/43/09.00	convert	NATIVDATU	6
LAT83	41/07/02.36	LONG8	071/43/07.21	Update GP	GPQUALITY	Low
	41 7 2.36		71 43 7.21		GPSOURCE	Scaled
LATDEC	41.1173222222	LONDEC	71.7186694444			

PROJECT OPR-B663 ITEMSTATUS Disproved SEARCHTYPE Information
RADIUS INIT MSM ASSIGNED 06/23/1989
TECNIQ

Techniqnote

History
HISTORY
H3380/12WD--31 FT. LL SOUNDING; SAND WITH SMALL BOULDERS.
H6443/39--NOT FOUND, 34-40 FT. FOUND NEARBY, CARRIED FWD FROM H3380/12
H9170/70--SP-AMC-HSL-4-70; 33-34 FOUND NEARBY, INVESTIGATION ADEQUATE
H10350/90--OPR-B660-HE; 300M SSS AND ES SEARCH REVEALED SOUNDINGS OF 16.3M (53FT) SHOALING TO
13.1M (43FT) IN THE IMMEDIATE VICINITY OF CHARTED 31 FT. A DEPTH OF 10M (33 FT) WAS LOCATED 164 M TO
THE SE OF CHARTED 31 FT IN POS. LAT.41-07-00.71N, LONG.71-43-00.51W (NAD 83). EVALUATOR RECOMMENDS
TO DELETE CHARTED DEPTH OF 31 FT AND UPDATE THE AREA AS SHOWN ON PRESENT SURVEY. (ENTERED 3/92 MCR)

Fieldnote

Proprietary

YEARSUNK NIMANU SYSTEMNUM 1728 Print Record

NOT CHARTED. NO CHANGE IN CHARTING

RECRD 7294 VESLTERMS UNKNOWN CHART 13215 AREA B
CARTOCODE 0100 SNDINGCODE DEPTH 0

NATIVLA	41/06/48.00	NATIVLO	071/46/12.00	convert	NATIVDATU	6
LAT83	41/06/48.36	LONG8	071/46/10.22	Update GP	GPQUALITY	Low
	41 6 48.4		71 46 10.22		GPSOURCE	Direct
LATDEC	41.1134333333	LONDEC	71.7695055556			

PROJECT OPR-B663 ITEMSTATUS Assigned SEARCHTYPE Information
RADIUS INIT MSM ASSIGNED 04/05/1989
TECNIQ

Techniqnote

History

HISTORY
LHNM39/20--BUOY ESTABLISHED 238 1/2 DEGREES FROM MONTAUK POINT LIGHTHOUSE, 301 1/2 DEGREES FROM RACE ROCK LIGHTHOUSE, AND 340 DEGREES FROM WATCH HILL LIGHT, TO MARK WRECK OF A BARGE WHICH LIES 302-122 DEGREES WITH TWO MASTS 20 FT. ABOVE WATER.
LHNM21/23--BUOY DISCONTINUED; WRECK HAS DISAPPEARED. (ENTERED MSM 3/89)
H10350/90--OPR-B660-HE; SSS COVERAGE, NO EVIDENCE OF THE WRECK WAS OBSERVED DURING THE SURVEY AND IT APPEARS TO EITHER LIE OUTSIDE THE SURVEY AREA OR TO HAVE BEEN BURIED BY THE SHIFTING OF THE BOTTOM. HYDRORAPHER RECOMMENDS TO LEAVE UNCHARTED. (ENTERED 3/92 MCR)
DESCRIPTION
24 NO.8656; BARGE; SUNK 1920; POSITION ACCURACY 1-3 MILES; LOCATED 9/26/20; SUBSEQUENTLY FAILED TO LOCATE

Fieldnote

Proprietary

YEARSUNK NIMANU SYSTEMNUM 6194 Print Record

Nothing Found. Not Presently Charted. No Change in Charting.

RECRD 7541 VESLTERMS SOUNDING CHART 13215 AREA B
CARTOCODE 0127 SNDINGCODE DEPTH 0

NATIVLA	41/06/06.00	NATIVLO	071/44/18.00	convert	NATIVDATU	6
LAT83	41/06/06.36	LONG8	071/44/16.21	Update GP	GPQUALITY	Med
	41 6 6.36		71 44 16.21		GPSOURCE	Direct
LATDEC	41.1017666667	LONDEC	71.7378361111			

PROJECT	OPR-B663	ITEMSTATUS	Disproved	SEARCHTYPE	Information
RADIUS		INIT	MSM	ASSIGNED	01/08/1990
TECNIQ					

Techniqnote

History
HISTORY
CL105/87-NM MARINE INFO REPORT FROM USS TINOSA; 35 FT. SOUNDING FOUND AT LAT 41-06-06N, LONG 71-44-18W. (ENTERED MSM 1/90)
H10350/90-OPR-B660-HE; 500M SEARCH, NO EVIDENCE OF EITHER A SHOAL OR OBSTRUCTION WAS NOTED AT THE CHARTED POS. OF 35 FT SOUNDING. THE SHOALEST SNDG. IN AREA WAS 39 FT LOCATED IN APPROX. POS. LAT.41-06-05N, LONG.71-44-33W (NAD 83). EVALUATOR RECOMMENDS TO DELETE CHARTED 35 FT REP AND CHART SURVEY DATA IN AREA. (ENTERED 3/92 MCR)

Fieldnote

Proprietary

YEARSUNK NIMANU SYSTEMNUM 6435 Print Record

~~CHARTED AS (41) WK. REVISE TO (43) WK IN.~~
~~LAT: 41-05-50.89~~
~~LONG: 71-46-27.45~~
MCR 9/21/01

NOTHING FOUND, NO CHANGE IN CHARTING



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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: March 16, 2001

HYDROGRAPHIC BRANCH: Atlantic
HYDROGRAPHIC PROJECT: OPR-B663-RU-99/00
HYDROGRAPHIC SHEET: H-10914

LOCALITY: Southwest Ledge to Endeavor Shoals, RI
TIME PERIOD: July 15 - Aug. 26, 1999
June 14 - Sep. 12, 2000

TIDE STATION USED: 845-9681 Block Island, SW End, RI
Lat. $41^{\circ} 9.8'N$ Lon. $71^{\circ} 36.6'W$
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 0.839 meters

REMARKS: RECOMMENDED ZONING
Use zone(s) identified as: ATL500, ATL501, ATL502, ATL503, BIS1,
BIS4, BIS5 & BIS6

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 H. New 3/16/01

CHIEF, REQUIREMENTS AND DEVELOPMENT DIVISION

GEOGRAPHIC NAMES

H-10914

Name on Survey	ON CHART NO. 13205, 13209, 13215 ON PREVIOUS SURVEY NO. ON U.S. QUADRANGLE MAPS FROM LOCAL INFORMATION ON LOCAL MAPS P.O. GUIDE OR MAP GRAND McNALLY ATLAS U.S. LIGHT LIST											
	A	B	C	D	E	F	G	H	K			
BLOCK ISLAND SOUND	X		X									1
ENDEAVOR SHOALS	X		X									2
RHODE ISLAND (title)	X		X									3
SOUTHWEST LEDGE	X		X									4
												5
												6
												7
												8
												9
												10
												11
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												24
												25

Dennis J. Remsburg
 NOV 13 2000

08/30/2001

HYDROGRAPHIC SURVEY STATISTICS
REGISTRY NUMBER: H10914

NUMBER OF CONTROL STATIONS		2
NUMBER OF POSITIONS		71096
NUMBER OF SOUNDINGS		71096
	TIME-HOURS	DATE COMPLETED
PREPROCESSING EXAMINATION	22.0	10/17/2000
VERIFICATION OF FIELD DATA	72.0	05/18/2001
QUALITY CONTROL CHECKS	0.0	
EVALUATION AND ANALYSIS	14.0	
FINAL INSPECTION	63.0	06/29/2001
COMPILATION	136.0	08/27/2001
TOTAL TIME	307.0	
ATLANTIC HYDROGRAPHIC BRANCH APPROVAL		06/29/2001

**ATLANTIC HYDROGRAPHIC BRANCH
EVALUATION REPORT FOR H10914 (1999-2000)**

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.

B.2b JUNCTIONS

H10795 (1998-99) to the east
H10984 (2000) to the west

The smooth sheet for survey H10795 is archived at National Ocean Service (NOS) headquarters, Silver Spring, Maryland and a standard junction could not be made. In this case, the note *ADJOINS* has been shown on the present survey smooth sheet. Any adjustments to the depth curves will have to be made on the chart during compilation.

A standard junction was effected between the present survey and H10984.

There are no junctional surveys to the north and south. Present survey depths are in harmony with the charted hydrography to the north and south.

C.2 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. 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 0.369 seconds (11.370 meters or 1.14 mm at the scale of the survey) north in latitude, and 1.776 seconds (41.453 meters or 4.14 mm at the scale of the survey) west in longitude.

D.2 COMPARISON WITH CHART 13215 (17th Edition, OCT 23/99)

The charted hydrography originates with prior surveys and requires no further consideration. The hydrographer makes adequate chart comparisons in section D.2 of the Descriptive Report. The following should be noted:

1. The hydrographer investigated a charted dangerous 50 rock and rock with no charted depth in Latitude 41°05'17"N, Longitude 71°47'07"W. This feature is listed on line 2 of the tabulation in section D.2b, page 7, of the Descriptive Report. A rock with a depth of 48 feet was located in Latitude 41°05'17.25"N, Longitude 71°47'08.72"W. Present survey depths in the immediate area of the charted rock with no depth are 50 to 51 feet. It is recommended that the rock with a depth of 50 feet and rock with no depth be deleted from the chart. It is also recommended that a rock with a depth of 48 feet be charted as shown on the present survey and the danger curve be revised to include the area of the rock with no depth.

2. The hydrographer located a rock with a depth of 58 feet in Latitude 41°08'28.38"N, Longitude 71°47'42.92"W. This feature is listed on line 1 of the tabulation in section D.2b, page 8, of the Descriptive Report. Shoaler depths of 56-57 feet are in the immediate vicinity. It is recommended that the shoaler depths be charted and that the rock with a depth of 58 feet not be charted but retained on the present survey. It is also recommended that the notation *rky* be charted in this area.

3. The geographic positions for the 61/62 ft depths and/or the recommendation for the 61 ft rock listed on line 2 of the tabulation in section D.2b, page 8, of the Descriptive Report are in error. There are no depths or features shown on the present survey at the listed positions.

4. Three charted depths of 36 to 37 feet and the notation *Blds* in the vicinity Latitude 41°04'00"N, Longitude

71°46'36"W have been covered by the present survey. No indication of these depths or boulders is seen on the present survey. Present survey depths are 53 to 60 feet. It is recommended that these depths and the notation *Blds* be deleted from the chart, and present survey sounding be charted.

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

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.

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:

13215	(17 th Edition, Oct. 23/99)
13209	(23 rd Edition, Oct. 30/99)

Robert Snow

Robert Snow

Cartographic Technician
Verification of Field Data
Evaluation and Analysis

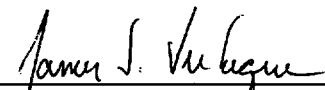
APPROVAL SHEET
H10914 (1999-2000)

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.

 Date: 6/29/01
Richard H. Whitfield
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.

 Date: 6/29/01
James S. Verlaque, LCDR, NOAA
Chief, Atlantic Hydrographic Branch

Final Approval:

Approved:  Date: February 8, 2002
Samuel P. De Bow, Jr.
Captain, NOAA
Chief, Hydrographic Surveys Division

MARINE CHART BRANCH RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. _____

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
13215	8/9/01	<i>P. H. Wickfeld</i>	Full Part Before After Marine Center Approval Signed Via Drawing No.
13209	8/24/01	<i>P. H. Wickfeld</i>	Full Part Before After Marine Center Approval Signed Via Drawing No.
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			Full Part Before After Marine Center Approval Signed Via Drawing No.
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