

NOAA FORM 77-28
U.S. DEPARTMENT OF COMMERCE
(11-72)
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

HYDROGRAPHIC TITLE SHEET

REGISTRY NUMBER:

H-10991

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 NUMBER:

WH-10-17-00

State: **Massachusetts**

General Locality: **Massachusetts Bay**

Sub-Locality: **Boston North Channel To Weymouth Fore River**

Scale: **1:10,000** Date of Survey: **9/19/00 to 11/16/00**

Instructions Dated: **8/30/00** Project Number: **OPR-A397-WH**

Vessel: **NOAA Ship WHITING, S-329**

Chief of Party: **Lieutenant Commander Gerd F. Glang, NOAA**

Surveyed by: **WHITING Personnel**

Soundings by: **Odom Echotrac DF3200 MK II Echosounder**
Reson SeaBat 8101 multibeam sonar

Graphic record scaled by: **WHITING Personnel**

Graphic record checked by: **WHITING Personnel**

Protracted by: **N/A** Automated Plot: **HP-750C (field)**
Hewlett Packard DesignJet 2500cp (office)

Verification by: **Atlantic Hydrographic Branch *personnel***

Soundings in: ~~Meters~~ **Feet** at MLLW

Remarks: ** red, bold, italic notes in Descriptive Report were made during office processing.*

- 1) All Times are UTC.*
- 2) This is a basic Hydrographic Survey.*
- 3) Projection is UTM Zone 19.*

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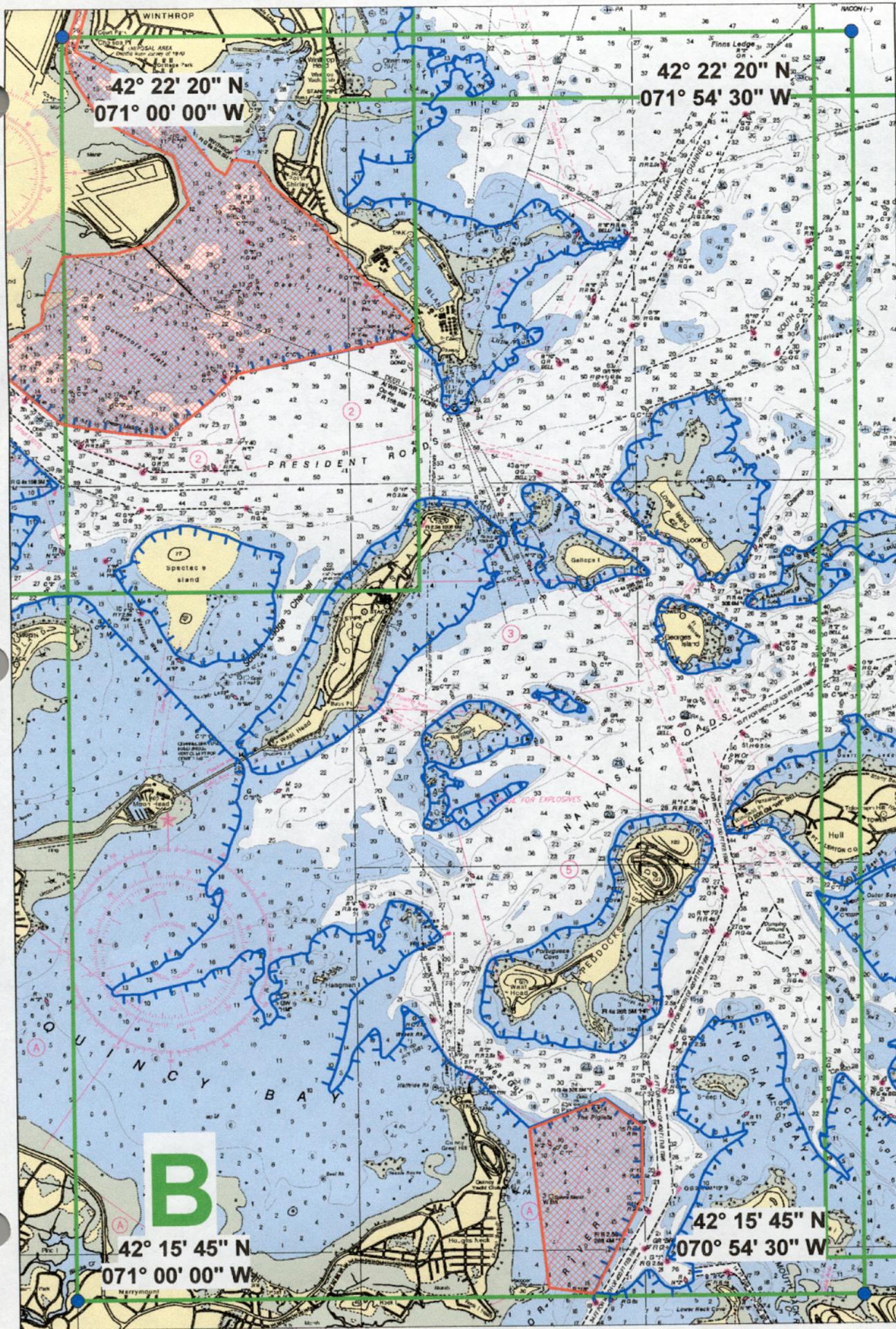
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A. AREA SURVEYED

This hydrographic survey was conducted in accordance with Hydrographic Survey Letter Instructions for project OPR-A397-WH, Approaches to Boston, Massachusetts. The instructions are dated August 30, 2000. No changes were made to the letter instructions.

This Descriptive Report pertains to sheet "B" of project OPR-A397-WH, which includes the approaches into Boston and Weymouth Harbors. The assigned registry number for this sheet, as prescribed in the Letter Instructions, is H-10991.

For complete survey limits, see the chart on the following page.



NOAA Ship WHITING LCDR Gerd F. Glang Commanding September 19, 2000 - November 16, 2000	
Project: OPR-A397-WH Sounding Units: Meters	Sounding Datum: MLLW Central Meridian: 069° 00' 00" Scale Factor: 0.9996
Field Sheet Number: WF-10-17-00 Scale of Survey: 1:10,000	Horizontal Datum: NAD 83 Projection: UTM 19
Survey: H-10991 State: Massachusetts Locality: Massachusetts Bay Sub-Locality: Boston North Channel to Weymouth Fore River	
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SERVICE	



B. DATA ACQUISITION AND PROCESSING *See also evaluation report***EQUIPMENT**

Data were acquired by NOAA Ship WHITING's Launch 1005 and Launch 1014. These launches are NOAA's standard 8.5-meter aluminum Jensen vessel with a typical 0.5-meter transducer draft.

Launch 1005 acquired vertical beam echosounder (VBES)*, shallow-water multibeam (SWMB), side scan sonar, and sound velocity data. An Odom Echotrac DF3200 MK II echosounder was used for VBES hydrography. A Reson SeaBat 8101 multibeam system was used for SWMB hydrography. All positioning and attitude were determined with a TSS POS/MV 320 (version 2) GPS-aided inertial motion sensor. Side scan sonar data were acquired with an Edgetech 260 towed side scan sonar. Velocity casts were conducted with SeaBird SeaCat CTD instruments.

Launch 1014 acquired VBES data and side scan sonar data; and was also used for dive investigations. Equipment for VBES and side scan sonar data acquisition are as described above. The Edgetech 260 sonar was either towed or hull mounted during data acquisition. Positioning was determined with a Trimble DSM212L integrated differential GPS receiver. Attitude data was determined using a TSS DMS-05 attitude sensor.

Both vessels acquired detached positions (DP) and bottom samples. No unusual vessel configurations or problems were encountered. Refer to the Data Acquisition and Processing Report (DAPR) for detailed equipment and vessel configuration information.

* NOTE: Launch 1005 VBES data were not processed when SWMB data were acquired.

QUALITY CONTROL**Side Scan Sonar Quality Control**

Daily confidence checks were made by observing the outer ranges of the side scan sonar images. A good check consisted of distinguishing contacts or sand waves across the entire range of the side scan trace.

On Launch 1014, there was some degradation of the side scan and echosounder data due to cross-talk between the hull-mounted Edgetech 260 side scan and the Odom VBES. To minimize interference on the side scan imagery, the pulse width and chart center settings on the Odom were adjusted (depending on depth).

Shallow Water Multibeam Quality Control

There were no faults with the SWMB system which affected data integrity. Refer to this project's DAPR for detailed discussion of SWMB system calibrations, data acquisition, and data processing.

Crosslines

Over eighteen miles of VBES crosslines comprising 13% of the first 100% SSS VBES mainscheme data were acquired. Crossline and mainscheme comparisons were made in MAPINFO 5.0, and no differences greater than five percent were observed.

For SWMB, an area of developments east of Nut Island in West Gut was selected. The SWMB data were acquired on DN 287, and consisted of eighteen mainscheme lines and ten crosslines. Mainscheme and crossline data were analyzed in a CARIS/HIPS workfile (see project DAPR). Crossline data agreed with 95% to 100% of the mainscheme data, based on the International Hydrographic Organization (IHO) statistical standards used in the CARIS Quality Control Report (see Separate V). *

Junctions

No contemporary surveys were available for junction comparisons.

CORRECTIONS TO ECHO SOUNDING

All methods or instruments were used as described in the project DAPR. A table detailing all sound velocity casts is located in Separate III. *

** Data filed with original field records.*

C. VERTICAL AND HORIZONTAL CONTROL

VERTICAL CONTROL

The tidal datum for this project is Mean Lower Low Water (MLLW). The operating tide station at Boston, MA (844-3970) served as control for datum determination. Tertiary, 30-day gauges at Boston Light, MA (844-4162) and Nut Island Light, MA (844-4525) provided ancillary tide data.

Tidal zoning for this survey is consistent with the Letter Instructions. The zones used for this survey are as follows:

STATION	CORRECTOR (min)	RATIO	REFERENCE
ATL204	0	x0.95 1.00	844-3970 4262
BOS3	+12	x0.99	844-3970
BOS4	0	x0.98 99	844-3970
BOS6	0	x0.96 97	844-3970
BOS7	0	x0.97 98	844-3970 4525
BOS8	+6 0	x0.99 1.00	844-3970 4525
BOS10	+6	x1.00	844-4525
BOS11	0	x0.99	844-4525

A Request for Approved Tides letter was sent to N/OPS1 on December 12, 2000 (Appendix IV). Verified tides from the N/OPS1 CO-OPS website were downloaded on January 21, 2001, and applied to all sounding data. ** Approved tides and zones were reapplied to survey in HPS during office processing.*

HORIZONTAL CONTROL *See also evaluation report.*

The horizontal datum used for this survey is the North American Datum of 1983 (NAD 83), projected using UTM zone 19.

Sounding positional control was determined using the Global Positioning System (GPS) corrected by U.S. Coast Guard differential GPS (DGPS) beacon stations. The primary DGPS beacon used for this survey was Chatham, MA, and the secondary DGPS beacon was Portsmouth, NH. Horizontal control stations were not used for this survey.

Performance checks for both launches were conducted on October 19, in Boston Harbor using the Chatham DGPS beacon. The launches were secured together and the check was performed using the program SHIPDIM (from the Hydrosoft 9.4 CD-ROM). Simultaneous positions on both platforms were acquired and an offset distance and azimuth computed between the launch systems and compared to measured values. A summary of performance checks is included in Appendix V.* *Data filed with original field records.*

In addition to performance checks, horizontal dilution of precision (HDOP) and the positional dilution of precision (PDOP) were monitored daily on both launches. Neither value exceeded 4.00, and adequate satellite coverage was maintained throughout the survey period.

D. RESULTS AND RECOMMENDATIONS

CHART COMPARISON *See also evaluation report.*

There are four charts affected by this survey:

13267, 29th edition, February 28, 1998, 1:80,000

13270, 58th edition, October 9, 1999, 1:25,000

13272, 46th edition, April 15, 2000, 1:10,000

13275, 27th edition, July 24, 1999, 1:25,000

General Agreement with Charted soundings

Boston North Channel, Boston South Channel, and President Roads

Sounding data agreed well with charted depths. Discrete differences are addressed in the "Dangers to Navigation" and "Charted Features" sections. Soundings along channel edges and in anchorage areas are generally consistent with the chart.

Trends throughout this region show some shifts in depth curves. The higher-density sounding data better defines the shoals between Boston North Channel and Boston South Channel. In particular, two large 18-ft shoal areas are discussed here. The first, in between buoy G"9" and R"10" with a charted least depth of 8 ft (42-20-47.8 N, 070-55-40.69 W), now has a surveyed least depth of 11 ft (42-20-46.3 N, 070-55-40.94 W). The second, lying between G"7" and R"6" with a charted least depth of 12 ft (42-21-15.38 N, 070-55-27.51 W), was found to have a surveyed depth of 10 ft (42-21-14.86 N, 070-55-26.41 W). All remaining isolated soundings less than 18 ft were found to be deeper than charted. These are addressed individually in the "Charted Features" section. *Concur*

Soundings in the areas east of Deer Island and Winthrop Head agree with the charted depths. One exception is the basin east of Point Shirley where the 18-ft curve has moved closer inshore. Shoaling to 11 ft (42-20-29.32 N, 070-57-01.53 W) between Little Faun Island and Deer Island, encroaching on the charted 18-ft curve, is noted. *Concur*

Within Deer Island Flats, the surveyed soundings are deeper than charted depths. Areas surrounding Logan Airport's Approach Light Lane and the southwest portion of Governors Flats are one to three feet deeper than charted. *Concur*

The channel areas north of Governors Flats were surveyed using VBES. However, the Hydrographer recommends better sounding coverage be obtained during survey operations of H-10990 (Sheet A), which overlaps this survey. *Concur /with clarification*

Additional sounding coverage was obtained on H10990 (2000-2001). This area will be discussed in the Descriptive Report for H10990 (2000-2001).

The charted shoreline along the north side of Spectacle Island is not accurate. Although shoreline investigations were not conducted (nor required) for this survey, the high water line was observed further south. Several sounding lines were run parallel and inshore of the charted 18-ft curve. The hydrographer recommends the charted shoreline of Spectacle Island be updated from contemporary photogrammetric sources. *Concur*

The Islands and smaller channels

Differences to the chart around the islands and in the channels south of President Roads and west of the Weymouth Fore River Channel are noted as follows:

Soundings in Western Way were found to be +/- one to two feet *deeper in difference* than charted. The shoal area off the eastern side of Spectacle Island has migrated offshore into Sculpin Ledge Channel, to the 16-ft shoal (42-19-34.69 N, 070-58-19.4 W), and has shoaled in the 19-ft cut (42-19-34.74 N 070-58-24.52 W). The shoal area around Sculpin Ledge (where Sculpin Channel meets Western Way) has shoaled farther to the northeast. *Concur*

Migration of the 12-ft depth curve is noted along the western shore of Long Island, from West Head north into Sculpin Ledge Channel. The 12-ft curve is encroaching on the navigable channel between Moon Head and West Head. A least depth of 11 ft (~~42-19-03.01~~ *18-34.20* N, ~~070-57-13.69~~ *58-45.90* W) is noted. Further shoaling is noted south of West Head, where the observed 18-ft curve is now offshore of buoy N "6". *Concur*

The 12-ft curve at the western limit of Nixes Mate is now encroaching on Nubble Channel. This channel is frequented by ferries and tug traffic transiting between Deer Island and Weymouth. The charted 16-ft depth (42-19-43.94 N, 070-56-54.08 W) at the narrowest part of the channel has shoaled to 12 ft (42-19-44.91 N, 070-56-53.06 W) (see DTON report in Appendix A). * *Concur / See also page 36, #25 of this report.*

The higher-density sounding data has better defined the 18-ft curve along the northwest side of Great Brewster Spit. The narrow cut between Lovell Island and the Narrows at False Spit is shoal to 12 feet (42-19-28.63 N, 070-55-11.15 W) (see DTON report in Appendix A) *. Shoaling observed in the areas along Great Brewster Spit was also reported by local mariners during survey operations (Boston Light USCG personnel). *Concur*

Weymouth Fore River and Nantasket Roads

In Hingham Bay, the 18-ft curve east of Peddocks Island between buoys R"4" and R"8" has migrated offshore almost to the channel. The west side of Bumkin Island shoal has also migrated offshore. The 12-ft curve has moved out to the charted 24-ft curve. *Concur*

** The Dton is included in this report.*

AWOIS Item Investigations

There were twenty-six AWOIS items within the survey limits. The following are discussions of each item.

AWOIS: 2,059**Item Description:** Large boulder (sic) with a diver least-depth of 38 ft(*not on chart*)**Source:** OPR-A652-R/H-81**Item Position:** Lat. 42° 20' 09.00 *35*" N, Long. 070° 56' 49.00 *47.17*" W**Required Investigation:** SD, S2, SWMB, DI**Radius:** 200**Charts Affected:** 13270

INVESTIGATION**Contact No:** N/A**Date(s):** 263, 285, 286, 287, 300**Least Depth Position Number:** N/A**Investigation Used:** 200% SSS and 100% SWMB**Surveyed Position:** N/A**Position Determined By:** Differential GPS**Investigation Summary:** 200% SSS and 100% SWMB coverage were acquired over the entire 200-m search radius of AWOIS 2059. No contacts were found.

CHARTING RECOMMENDATION**Recommendations:** The hydrographer recommends charting representative sounding in this area. *Concur*

AWOIS: 2,089

Item Description: Navy mine layer sunk in 1945; reported having a 33-ft clearance although the wreck site intermingles with the surrounding shoal

Source: H6863/1945

Item Position: Lat. 42° 22' 05.00 ~~35~~" N, Long. 070° 54' 52.00 ~~50.17~~" W

Required Investigation: SD, S2, SWMB, DI

Radius: 500

Charts Affected: 13270

INVESTIGATION

Contact No: N/A

Date(s): 265, 286

Least Depth Position Number: N/A

Investigation Used: 200% SSS, SWMB

Surveyed Position: N/A

Position Determined By: Differential GPS

Investigation Summary: 200% side scan coverage was acquired over 55% of the AWOIS radius. Three contacts (286_231_1713_1, 286_232_1736_3, 265_031_1459_1) fell within the surveyed area, but none resemble wreckage.

CHARTING RECOMMENDATION

Recommendations: Final determination will be made upon completion of hydrographic survey H-10994 due Fall 2001. *See section D-24 of the Evaluation Report for charting recommendation.*

Delete 33 Obstrn

AWOIS: 10,195

Item Description: Partially sunk 33ft long sailing vessel **PA** in 20ft of water**Source:** LNM33/1984, 1st CGD**Item Position:** Lat. 42° 20' 24.00 **35"** N, Long. 070° 57' ~~42.00~~ **10.17"** W**Required Investigation:** SD, S2, SWMB, DI**Radius:** 250**Charts Affected:** 13270

INVESTIGATION**Contact No:** N/A**Date(s):** 264, 287, 300**Least Depth Position Number:** N/A**Investigation Used:** 200% SSS, SWMB**Surveyed Position:** Lat. N, Long. W**Position Determined By:** Differential GPS

Investigation Summary: 200% side scan sonar coverage was acquired over the entire 100-m search radius of AWOIS ~~4598~~ **10195**. Four contacts (264_163_1604, 287_211_1440_3, 264_009_1419_3 and 264_164_1613_2) representing four distinct rock features were selected from these records. These contacts were developed using SWMB, but none resembled a wreck.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends that the charted wreck in position Lat. 42° 20' 24.00 **35"** N, Long. 070° 57' ~~42.00~~ **10.17"** W be removed. **Do not concur**
Complete investigation of search radius was not accomplished. No indication of the visible wreck was seen during investigation of area. It is recommended that the visible wreck be revised to dangerous sunken wreck, PA, in charted location.

Delete visible wreck, PA
Chart dangerous sunken wreck, PA

AWOIS: 10,340

Item Description: Skeletal remains of the light tower at Pig Rock are unaccounted for and may be on the bottom in the vicinity of its original position

Source: LNM/21994, 1st CGD

Item Position: Lat. 42° 16' 47.40" N, Long. 070° 56' 20.30" W

Required Investigation: SD, S2, DI

Radius: 200

Charts Affected: 13270

INVESTIGATION

Contact No: 289_125_1858_1

Date(s): 269, 278, 289, 293, 320

Least Depth Position Number: N/A

Investigation Used: 200% SSS

Surveyed Position: N/A

Position Determined By: Differential GPS

Investigation Summary: 200% side scan sonar coverage was acquired over the entire 100-m search radius of AWOIS 10340. One contact (289_125_1858_1) representing a distinct tower structure was selected from the record. A detached position was acquired on DN 302 on that same contact, and was determined to be the structure for the tower at Pig Rock [Fl G 4s 32ft 5M "1", LL # 11529]. No tower remains were found.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends that the charted obstruction in position Latitude 42° 16' 47.40" N, Longitude 070° 56' 20.30" W be removed. Chart the light tower at Pig Rock [Fl G 4s 32ft 5M "1", *Light List* number 11529] to position Latitude 42° 16' 47.29" N, Longitude 070° 56' 21.08" W. *Concur w/ conditions.*

Defer to MCD Update Service Branch for charting recommendations for Aids to Navigation.

Delete Obstn, PA (light tower)

Item Info

289_125_1858_1

Offset 4
 Shad Len 0
 SSS Height 0
 Apparent Ht 0
 Con Lat 42-16-47.63 N
 Con Lon 070-56-21.16 W
 Average Depth 20.8
 Top Depth
 Length
 Width

0, uncharted light atop rock

Development (15 m search)

Least Depth 5.04 m LD Lat 42-16-47.29 N
 Least Depth 16 ft LD Lon 070-56-21.08
 Day of LD 302 Contact Dist 10.4
 Source

Cartographic Recommendations

Chart

Resolution

Resolved

Control

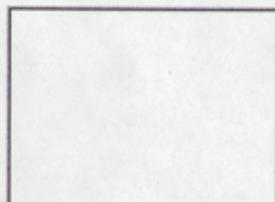
c:
 C:\
 Program Files
 Correlator
 P+ S< ->S
 Significant Locked
 Resolved UR< ->UR
 Second Hit

289_118_2039_1
 289_120_2043_1
 289_125_1858_1

Correlating Contacts

Closest Contact

Distance 0
 Search Radius 25
 Local Contacts



AWOIS

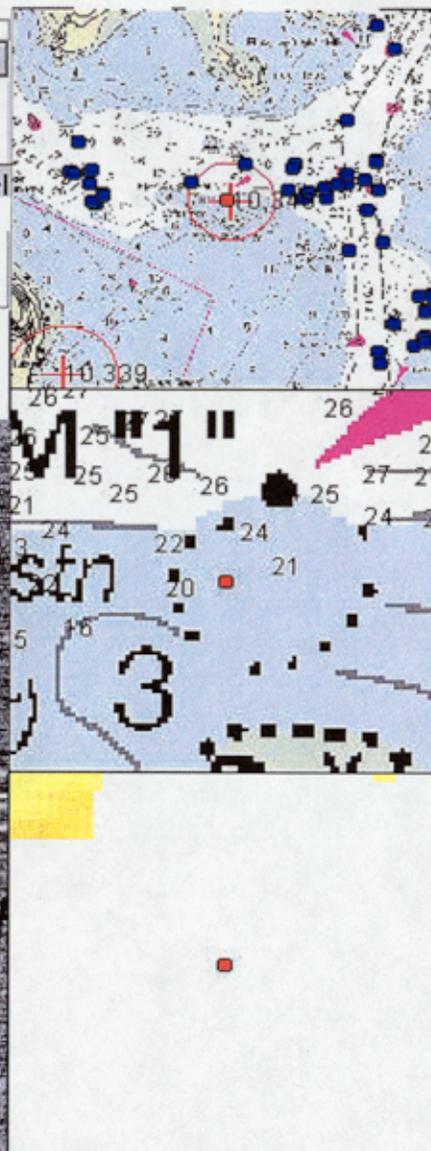
AWOIS# 10340
 AWOIS Dist 20.8

DTON

DTON DTON< ->DTON

30 meters width 30 meters height

1000 m



200 m

AWOIS: 10,341

Item Description: Wreck Rock (*Geoname*) is suspected to be more than one rock with a reported least depth of 4 ft.

Source: LNM34/1981, 1st CGD; CL774/1981

Item Position: Lat. 42° 17' 06.00 **36"** N, Long. 070° 57' 33.00 **31.17"** W

Required Investigation: S2, DI

Radius: 250

Charts Affected: 13270

INVESTIGATION

Contact No: N/A

Date(s): 274, 278, 287, 291, 293

Least Depth Position Number: 5,029

Investigation Used: 200% SSS, SWMB

Surveyed Position: Lat. N 42° 17' 06.82" N, Long. 070° 57' 32.75" W

Position Determined By: Differential GPS

Investigation Summary: 200% side scan sonar coverage was acquired over the entire 100-m search radius for AWOIS 10,341. Three contacts (274_165_1822_3, 278_360_1941_1, 274_165_1822_4) were selected from the record and developed using SWMB. None of the contacts had a least depth corresponding to the reported depth. Further SWMB coverage was obtained closer to the charted Wreck Rock, and a least depth of ~~3~~ **2** ft (0.87 ~~77~~m), corrected with ~~verified~~ **Approved** tides, was found at position Lat. N 42° ~~19' 03.01~~ **17' 06.82"** N, Long. 070° 57' ~~33.69~~ **32.75"** W.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends deleting the charted "4 ft rep, July 1981" in position Latitude 42° 17' 06.00 **36"** N, Longitude 070° 57' 33.00 **31.17"** W, and charting Wreck Rock at position Latitude N 42° 17' 06.82" N, Longitude 070° 57' 32.75" W with a least depth of ~~3~~ **2** ft (0.87 ~~77~~m). **Concur**

Delete notation 4ft Rep July 1981

Chart 2 Rk

AWOIS: 10,351

Item Description: Sailboat reportedly burned and sank in 30 ft of water**Source:** LNM19/1975, 1st CGD**Item Position:** Lat. 42° 18' 13.00 **36"** N, Long. 070° 58' ~~+6.00~~ **14.17"** W**Required Investigation:** SD, S2, SWMB, DI**Radius:** 500**Charts Affected:** 13270

INVESTIGATION**Contact No:** 289_144_1358_1, 267_060_1413_1**Date(s):** 266, 267, 277, 289, 294, 320**Least Depth Position Number:** 2,449**Investigation Used:** 200% SSS, SWMB**Surveyed Position:** Lat. 42° 18' 03.19" N, Long. 070° 58' 05.48" W**Position Determined By:** Differential GPS

Investigation Summary: 200% side scan sonar coverage was acquired within the survey limits of the 500-m search radius of AWOIS 10,351. Two correlating contacts (289_144_1358_1 and 267_060_1413_1) were selected from the record and developed using SWMB. A wreck was found with a least depth of 12 ft (3.88 m), corrected with verified tides in position Lat. 42° 18' 03.19" N, Long. 070° 58' 05.48" W.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends that the charted *dangerous sunken* wreck in position Latitude 42° 18' 13.36" N, Longitude 070° 58' 14.17" W be deleted, and that a *dangerous sunken* wreck with a least depth of 12ft (3.38m) be charted in position Latitude 42° 18' 03.19" N, Longitude 070° 58' 05.48". **Concur**

*Delete dangerous sunken wreck
Chart 12 Wk*

Item Info

289_144_1358_1

Offset -57
 Shad Len 0
 SSS Height 1.2
 Apparent Ht 5.8
 Con Lat 42-18-03.26 N
 Con Lon 070-58-05.81 W
 Average Depth 16.1
 Top Depth
 Length
 Width

0, dark hit

Correlating Contacts

Closest Contact
 267_060_1413_1
 Distance 13.8
 Search Radius 25
 Local Contacts

267_060_1413_1 13.7706

AWOIS

AWOIS# 10351
 AWOIS Dist 365.7

DTON

DTON DTON< ->DTON

Development (15 m search)

Least Depth 12.01 m LD Lat 42-18-03.21 N
 Least Depth 39 ft LD Lon 070-58-05.45
 Day of LD 289 Contact Dist 8.3
 Source A397_B_MB_WH05_2000-289_910_1601_38

Cartographic Recommendations

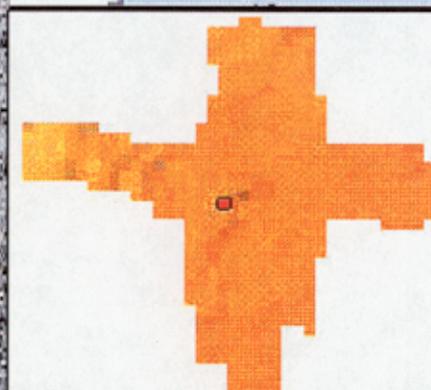
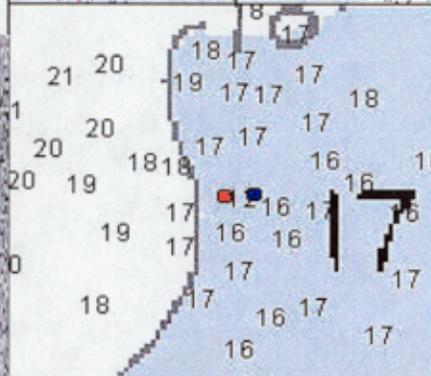
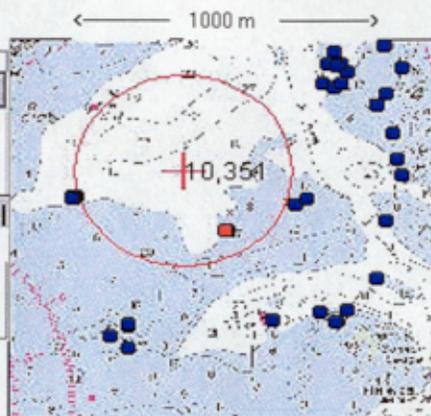
Chart Resolved

Resolution
 Resolved

Control

c:
 C:\
 Program Files
 Correlator
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 Significant Locked
 Resolved
 Second Hit UR< ->UR

289_142_1755_2
 289_144_1358_1
 289_144_1358_2



Item Info

267_060_1413_1

Offset -17
Shad Len 0
SSS Height 1.5
Apparent Ht 5.7
Con Lat 42-18-03.29 N
Con Lon 070-58-05.21 W
Average Depth 16.1
Top Depth
Length
Width

0.

Correlating Contacts

Closest Contact
289_144_1358_1
Distance 13.8
Search Radius 25
Local Contacts

289_144_1358_1 13.7706

AWOIS

AWOIS# 10351
AWOIS Dist 372.5

DTON

DTON DTON< ->DTON

Development (15 m search)

Least Depth 12.01 m LD Lat 42-18-03.21 N
Least Depth 39 ft LD Lon 070-58-05.45
Day of LD 289 Contact Dist 5.9
Source A397_B_MB_WH05_2000-289_910_1601_38

Cartographic Recommendations

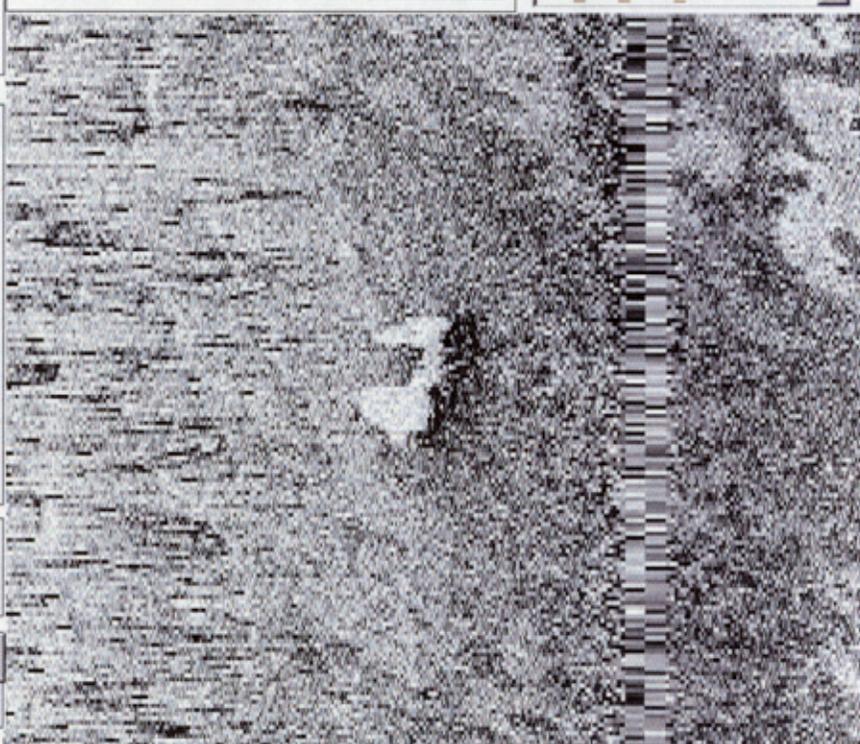
Chart chart LD in area

Resolution
 Resolved

Control

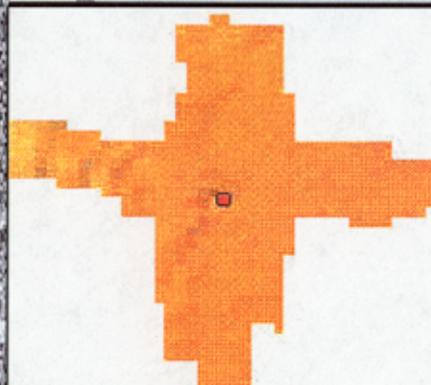
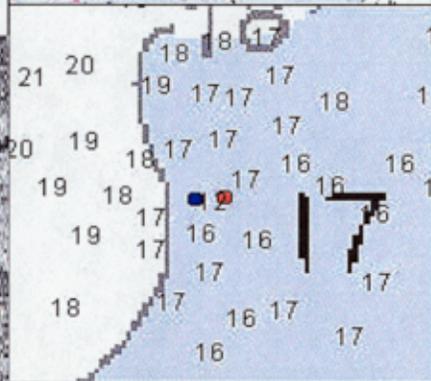
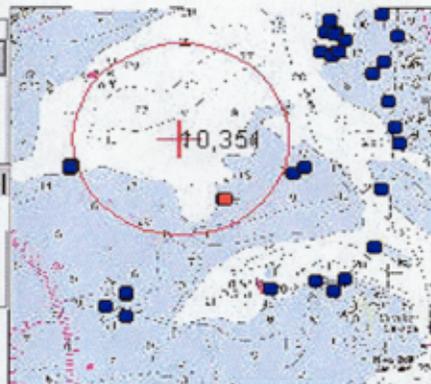
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C:\
Program Files
Correlator
P+ S< ->S
Significant Locked
Resolved
Second Hit UR< ->UR

267_057_1327_3
267_060_1413_1
267_060_1413_2



30 meters width 30 meters height

1000 m



200 m

AWOIS: 10,352

Item Description: Reported submerged 5-ft obstruction**Source:** LNM47/1985 1st CGD**Item Position:** Lat. 42° 18' 59.00 ~~35~~" N, Long. 70° 58' 07.00 ~~47.00~~-45.17" W**Required Investigation:** SD, S2, DI **Radius:** 500**Charts Affected:** 13270

INVESTIGATION**Contact No:** N/A**Date(s):** 298, 320**Least Depth Position Number:** 114**Investigation Used:** 100% VBES, SWMB**Surveyed Position:** Lat. 42°18' 59.57" N, Long. 070° 58' 47.61" W**Position Determined By:** Differential GPS

Investigation Summary: 100% VBES coverage was acquired within the survey limits of the 500-m search radius of AWOIS 10,351. The area was too shallow for side scan sonar, so no contacts were acquired. However, the reputed shoal area was further developed with SWMB. ~~An obstruction~~ **A Rock** was found with a least depth of ~~5~~ **6** ft (1.75 ~~86~~ m), corrected with ~~verified~~ **Approved** tides in position Lat. 42° 18' 59.57" N, Long. 070° 58' 47.61" W.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends that the charted obstruction with a least depth of 5 ft in position Latitude 42° 18' 59.00 ~~35~~" N, Longitude 070° 58' ~~47.00~~-45.17" W be deleted, and that ~~an obstruction~~ **a Rock** with a least depth of ~~5~~ **6** ft (1.75 ~~86~~ m) be charted in position Latitude 42° 18' 59.57" N, Longitude 070° 58' 47.61". **Concur w/ clarification, Item was deemed a Rock during office verification of Caris data.**

Delete 5 Rk
Chart 6 Rk

AWOIS: 10,356

Item Description: The remains of a steel barge, which used to be uncovered at MLW by 4ft, was reportedly removed when Gallops Island pier was rebuilt.

Source: CL193/1984 USCG AUX

Item Position: Lat. 42° 19' 27.27" N, Long. 070° 56' 20.60" W

Required Investigation: SD, S2, VS, DI

Radius: 200

Charts Affected: 13270

INVESTIGATION

Contact No: N/A

Date(s): 266, 277, 319

Least Depth Position Number: N/A

Investigation Used: 200% SSS

Surveyed Position: N/A

Position Determined By: Differential GPS

Investigation Summary: 200% side scan sonar coverage was acquired within the survey limits of the 200-m search radius of AWOIS 10356. One contact (266_127_1349_1) fell within the search radius, but was determined to be the tip of the Gallops Island jetty. Two detached positions (DP 31 and 32) were acquired on DN 319 on the Gallops Island pier which is constructed over the charted wreck.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends that the charted *dangerous sunken* wreck **ED** in position Latitude 42° 19' 27.27" N, Longitude 070° 56' 20.60" W be removed.

Concur

Delete dangerous sunken wreck, ED

AWOIS: 10,357

Item Description: The remains of a steel barge, which used to be uncovered at MLW by 6 ft, was reportedly removed when Gallops Island pier was rebuilt.

Source: CL193/1984 USCG AUX

Item Position: Lat. 42° 19' 28.50" N, Long. 070° 56' 18.40" W

Required Investigation: SD, S2, VS, DI

Radius: 200

Charts Affected: 13270

INVESTIGATION

Contact No: N/A

Date(s): 266, 277, 319

Least Depth Position Number: N/A

Investigation Used: 200% SSS

Surveyed Position: N/A

Position Determined By: Differential GPS

Investigation Summary: 200% side scan sonar coverage was acquired within the survey limits of the 200-m search radius of AWOIS 10356. One contact (266_127_1349_1) fell within the search radius, but was determined to be the tip of the Gallops Island jetty.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends that the charted *dangerous sunken* wreck in position Latitude 42° 19' 28.50" N, Longitude 070° 56' 18.40" W be removed.

Concur

Delete dangerous sunken wreck

AWOIS: 10,358

Item Description: A reported 35 ft lobster boat sunk in 8 ft of water, but with the bottom in clear view, the wreck is suggested to be non-existent.

Source: CL201/1984 USCG AUX

Item Position: Lat. 42° 18' 12.00 ~~36~~" N, Long. 070° 55' ~~10.00~~ **08.17**" W

Required Investigation: SD, VS, DI

Radius: 250

Charts Affected: 13270

INVESTIGATION

Contact No: 293_246_1724_1

Date(s): 275, 278, 319

Least Depth Position Number: 5,780

Investigation Used: 200% SSS, SWMB

Surveyed Position: Lat. 42° 18' 09.98" N, Long. 070° 55' 07.98" W

Position Determined By: Differential GPS

Investigation Summary: 200% side scan sonar coverage was acquired within the survey limits of the 250-m search radius of AWOIS 10,358. One contact (293_246_1724_1) was selected from the record and developed using SWMB. A wreck was found with a least depth of 21 ft (6.61 m), corrected with ~~verified~~ **approved** tides, in position Lat. 42° 18' 09.98" N, Long. 070° 55' 07.98" W.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends that the charted **dangerous sunken** wreck **ED** in position Latitude 42° 18' 12.00~~36~~" N, Longitude 070° 55' ~~10.00~~ **08.17**" W be removed, and that a **dangerous sunken** wreck with a least depth of 21 ft (6.61 m) be charted in position Latitude 42° 18' 09.98" N, Longitude 070° 55' 07.98". **Concur**

**Delete dangerous sunken wreck, ED
Chart 21 Wk**

AWOIS: 10,363**Item Description:** A 30 ft cabin cruiser reported sunk**Source:** LNM23/1986 1st CGD**Item Position:** Lat. 42° 20' 36.00 **35**" N, Long. 070° 55' ~~42.00~~ **10.17**" W**Required Investigation:** SD, S2, SWMB, DI**Radius:** 500**Charts Affected:** 13270

INVESTIGATION**Contact No:** N/A**Date(s):** 264, 265, 279, 280, 285, 288, 294, 300, 319**Least Depth Position Number:** N/A**Investigation Used:** 200% SSS, SWMB**Surveyed Position:** N/A**Position Determined By:** Differential GPS

Investigation Summary: 200% side scan sonar coverage was acquired with the survey limits of the 500-m search radius of AWOIS ~~4598~~ **10363**. Twelve contacts (294_249_1610_2, 265_016_1729_1, 264_014_1507_1, 264_032_1530_1, 285_234_1429_1, 265_033_1826_1, 285_219_1700_3, 264_016_1634_1, 285_235_1419_1, 285_211_1555_3, 265_199_1750_2, 288_146_1736_2) fell within the AWOIS radius. These contacts were developed using SWMB, but all were found to be rock features, and none resembled a wreck.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends that the charted *dangerous sunken* wreck **PA** in Lat. 42° 20' 36.00 **35**" N, Long. 070° 55' ~~42.00~~ **10.17**" W be removed. *Concur*

Delete dangerous sunken wreck, PA

AWOIS: 10,364

Item Description: A sunken barge with a LD of 29 ft**Source:** LNM52/1985 1st CGD**Item Position:** Lat. 42° 21' ~~06.96~~ **07.31**" N, Long. 070° 54' ~~40.37~~ **38.54**" W**Required Investigation:** SD, S2, SWMB, DI**Radius:** 200**Charts Affected:** 13270

INVESTIGATION**Contact No:** N/A**Date(s):** 264, 284, 285, 304**Least Depth Position Number:** N/A**Investigation Used:** 200% SSS, SWMB**Surveyed Position:** N/A**Position Determined By:** Differential GPS

Investigation Summary: 200% side scan sonar and 100% SWMB coverage was acquired within the 200-m search radius of AWOIS~~4598~~ **10364**. No contacts fell within the AWOIS radius. A charted wire drag least-depth of 28 ft (position Lat. 42° 21' 11.57" N, Long 070° 54' 33.25" W) within the AWOIS radius, and a contact just south of the AWOIS radius, (285_221_1853_2) were further developed with SWMB. Neither item was found to be a wreck.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends that the charted *dangerous sunken* wreck **PA** in Latitude 42° 21' 07.31" N, Longitude 070° 54' 38.54" W be removed. *Concur*

Delete dangerous sunken wreck, PA

AWOIS: 10,646

Item Description: A reported 35ft ~~obstruction~~ *Wreck* in ~~North~~ Boston *North* Channel. Subsequent visit by NOAA Ship RUDE identified it as a barge

Source: CL483/00 USACE**Item Position:** Lat. 42° 22' 02.40 *44*" N, Long. 070° 55' 01.90 *02.55*" W**Required Investigation:** SD, S2, SWMB, DI**Radius:** 250**Charts Affected:** 13270

INVESTIGATION**Contact No:** 286_233_1802_1**Date(s):** 265, 269, 286, 300, 318**Least Depth Position Number:** 299**Investigation Used:** 200% SSS, SWMB, Dive**Surveyed Position:** Lat. 42° 22' 02.41" N, Long. 070° 55' 02.56" W**Position Determined By:** Differential GPS

Investigation Summary: 200% SSS coverage was acquired over 85% of the search, and a definitive contact resembling the barge was found. The item was dove on confirming that it was indeed a barge. 100% SWMB coverage was obtained over the item with a least depth of 33-ft (10.27-m), corrected with ~~verified~~ *approved* tides in position Lat. 42° 22' 02.41" N, Long. 070° 55' 02.56" W.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends that the charted *34 ft* wreck in position Latitude 42° 22' 02.40 *44*" N, Longitude 070° 55' 01.90 *02.55*" W be removed, and that a wreck with a least depth of 33 ft (m) be charted in position Latitude 42 22' 02.41" N, Longitude 070° 55' 02.56" W. *Concur*

Delete 34 Wk
Chart 33 Wk

Item Info

286_233_1802_1

Offset -11
 Shad Len 0
 SSS Height 2
 Apparent Ht 32.63
 Con Lat 42-22-02.17 N
 Con Lon 070-55-01.61 W
 Average Depth 37.5
 Top Depth
 Length
 Width

0, wreck

Correlating Contacts

Closest Contact

Distance 0
 Search Radius 25
 Local Contacts

AWOIS

AWOIS# 2089
 AWOIS Dist 6.9

DTON

DTON DTON< ->DTON

Development (15 m search)

Least Depth 10.58 m LD Lat 42-22-02.41 N
 Least Depth 34 ft LD Lon 070-55-01.98
 Day of LD 286 Contact Dist 11.2
 Source

Cartographic Recommendations

Chart

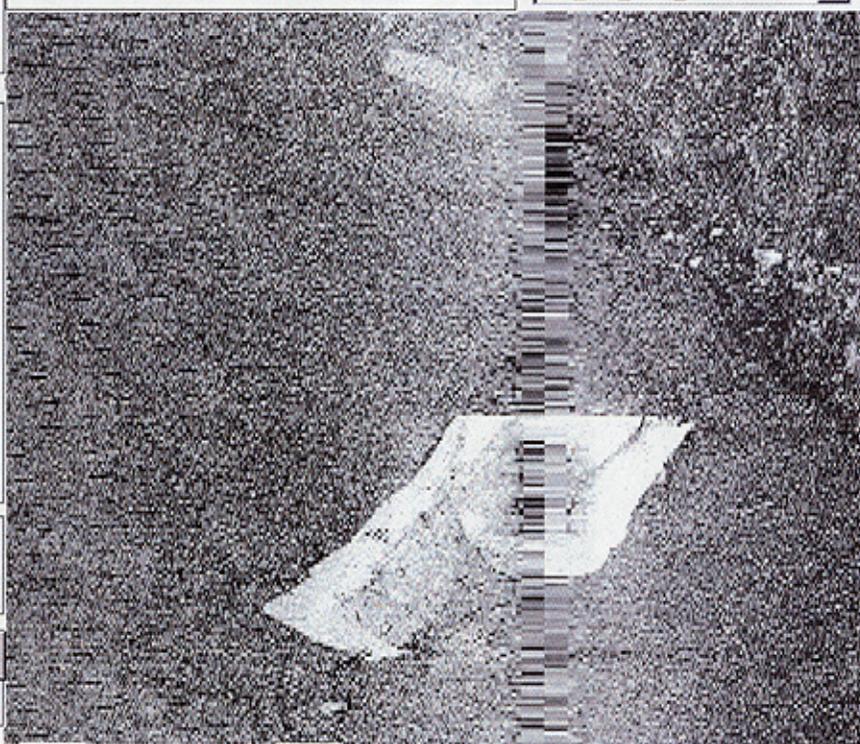
Resolution

Resolved

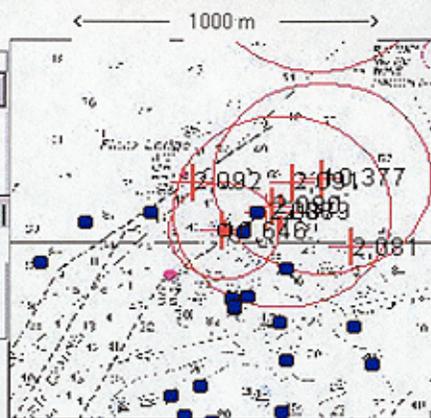
Control

c:
 C:\
 Program Files
 Correlator
 P+ S< >S
 Significant Locked
 Resolved Second Hit UR< ->UR

286_232_1736_3
 286_233_1802_1
 286_301_1856_1



30 meters width 30 meters height



AWOIS: 10,361 and 10,362

Item Description: Boston Marine Disposal barge Number 17 (AWOIS 10,362) sank in 1967, and reportedly rested on top of Boston Marine Disposal barge Number 9 (AWOIS 10,361) a similar type vessel which sank in 1965.

Source: CL1705/1967 - COE Letter

Item Position: Lat. 42° 20' 15 **.35**" N, Long. 070° 54' ~~48~~ **16.17**" W

Required Investigation: SD, S2, SWMB, DI

Radius: 500

Charts Affected: 13270

INVESTIGATION

Contact No: 265_177_1812_1 and 294_250_1624_1

Date(s): 265, 295, 319

Least Depth Position Number: 616, 625, 559

Investigation Used: 200% SSS, SWMB

Surveyed Position: Lat. 42° 20' 12.88" N, Long. 070° 54' 33.99" W (16ft, 5.10m)

Position Determined By: Differential GPS

Investigation Summary: 200% side scan sonar was acquired with the sheet limits of the 200-m search radius of AWOIS ~~4598~~ **10361 and 10362**. Two contacts (265_177_1812_1, 294_250_1624_1) fell within the AWOIS radius, both depicting a large wreck structure. The area was developed with SWMB, and several least depths were acquired (see above survey positions). The additional SWMB side scan imagery supports the claim that there are actually two wrecks lying on top of one another.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends that the charted **dangerous sunken wrecks PA** in position Latitude 42° 20' 15.35" N, Longitude 070° 54' 23.17" W and Latitude 42° 20' 15.35" N, Longitude 070° 54' 23.17" W be removed, and that ~~a~~ **the wrecks** with a least depth of 16 ft (5.10 m) be charted in position Latitude 42° 20' 12.88" N, Longitude 070° 54' 33.99" W. **Concur** *Delete dangerous sunken wreck, PA and dangerous sunken wreck, PA, (6 ft Rep)* *Chart 16 Wks*

Item Info

294_250_1624_1

Offset 0
 Shad Len 0
 SSS Height 3.2
 Apparent Ht 22.38
 Con Lat 42-20-12.55 N
 Con Lon 070-54-34.37 W
 Average Depth 24.2
 Top Depth
 Length
 Width

0, large wreck at nadir

Development (15 m search)

Least Depth 5.22 m LD Lat 42-20-12.54 N
 Least Depth 17 ft LD Lon 070-54-34.27
 Day of LD 294 Contact Dist 2.2
 Source

Cartographic Recommendations

Chart wk

Resolution

Resolved

Control

c:
 C:\
 Program Files
 Correlator
 P+ S< -> S |< |> |< |>
 Significant Locked
 Resolved Second Hit UR< -> UR

294_249_1610_2
 294_250_1624_1
 318_041_2100_1

Correlating Contacts

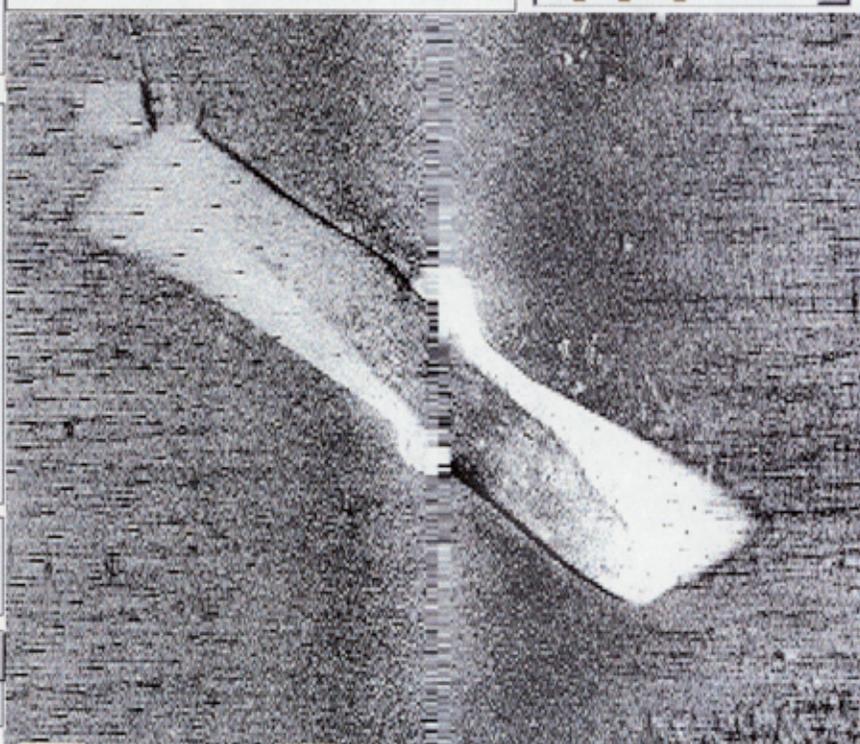
Closest Contact
 265_177_1812_1
 Distance 9.5
 Search Radius 25
 Local Contacts
 265_177_1812_1 9.47798

AWOIS

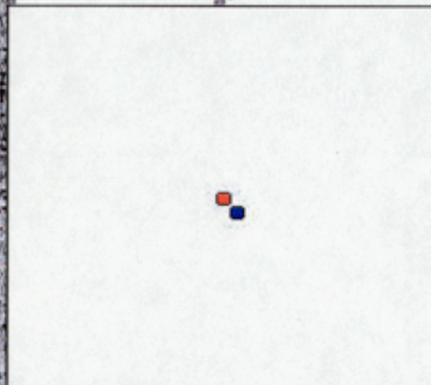
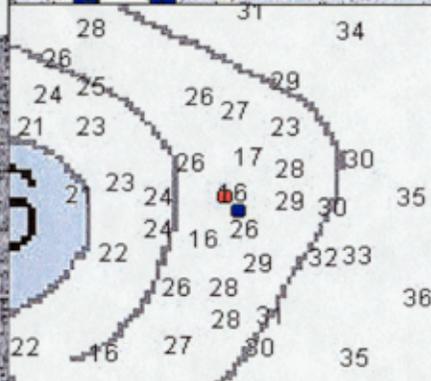
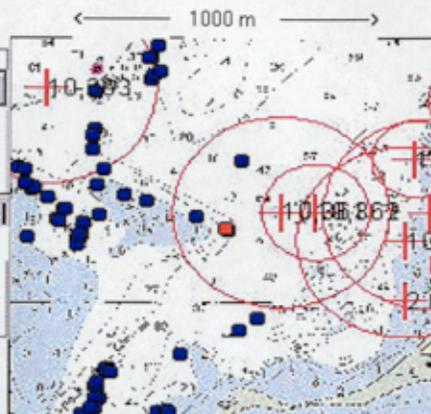
AWOIS# 10361
 AWOIS Dist 270

DTON

DTON DTON< -> DTON



30 meters width 30 meters height



200 m

H-10991

NOAA Ship WHITING

May 23, 2001

Contact: 266_014_1243_1

Item Description: A non-dangerous obstruction in Boston South Channel

Source: H-10991

Item Position: Lat. 42° ~~22' 02.10~~ **20' 30.35"** N, Long. 070° 55' ~~01.90~~ **52.90"** W

Required Investigation: N/A

Radius: N/A

Charts Affected: 13270

INVESTIGATION

Correlating Contacts: 294_209_1554_1, 264_032_1530_3

Date(s): 264, 266, 294

Least Depth Position Number: 939

Investigation Used: 200% SSS, SWMB

Surveyed Position: Lat. 42° 20' 30.35" N, Long. 070° 55' 52.90 **89"** W

Position Determined By: Differential GPS

Investigation Summary: 200% SSS and 1005 SWMB coverage was acquired throughout Boston South Channel. Three contacts (266_014_1243_1, 294_209_1554_1, 264_032_1530_3) were further investigated, a least depth of ~~63 ft, (19.36 m)~~, **61 ft (18.59m)** corrected with ~~verified~~ **approved** tides in position Lat. 42° ~~22' 02.41~~ **20' 30.35"** N, Long. 070° 55' ~~02.56~~ **52.89"** W was acquired.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends charting a non-dangerous obstruction in position Lat. 42° ~~22' 02.10~~ **20' 30.35"** N, Long. 070° 55' ~~01.90~~ **52.89"** W. **Concur**

Chart 61 Obstrn

Item Info

266_014_1243_1

Offset 68
Shad Len 0
SSS Height 2.9
Apparent Ht 53.24
Con Lat 42-20-30.32 N
Con Lon 070-55-52.51 W
Average Depth 64.9
Top Depth
Length
Width

0, rock

Correlating Contacts

Closest Contact
294_209_1554_1
Distance 10.5
Search Radius 25
Local Contacts

264_032_1530_3 18.559
294_209_1554_1 10.4642

AWOIS

AWOIS#
AWOIS Dist 0

DTON

DTON DTON<- ->DTON

Development (15 m search)

Least Depth 19.36 m LD Lat 42-20-30.35 N
Least Depth 63 ft LD Lon 070-55-52.9 W
Day of LD 300 Contact Dist 8.9
Source

Cartographic Recommendations

Chart wk
 []

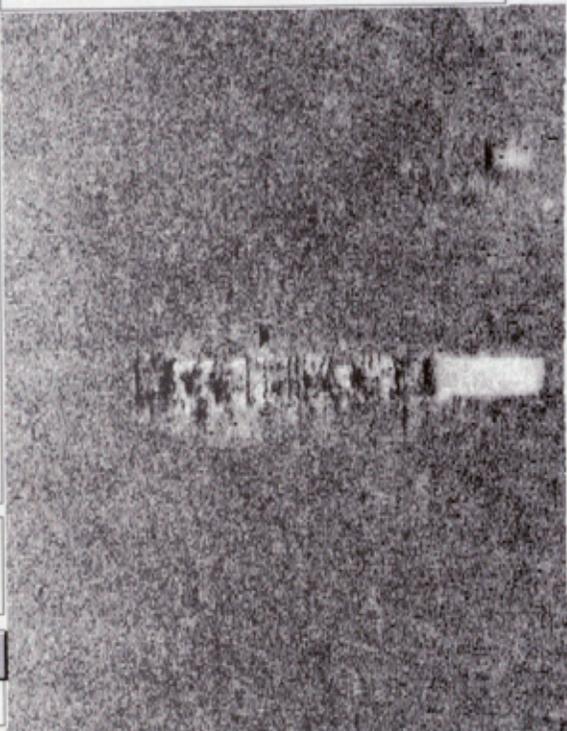
Resolution

Resolved []

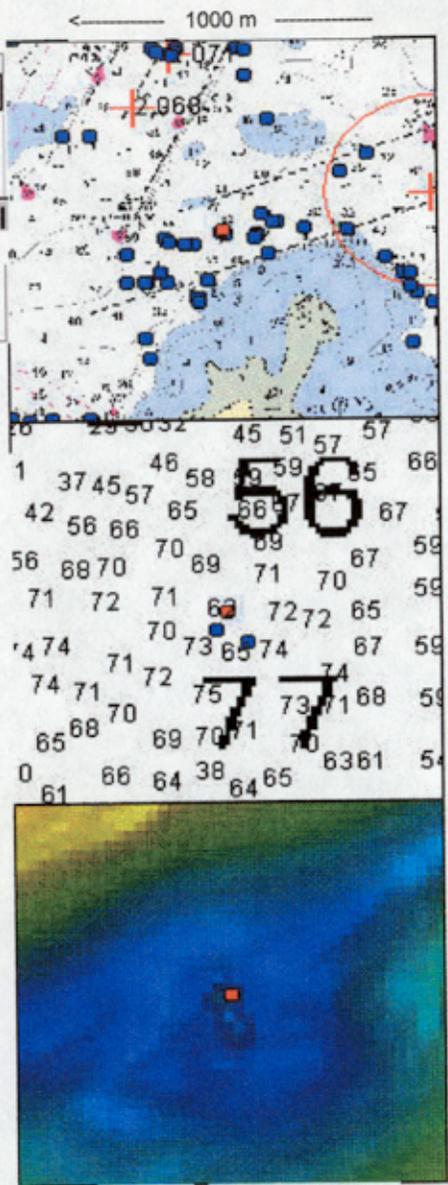
Control

c:
C:\
Program Files
Correlator
XX P+ S< ->S
Significant Locked
Resolved
Second Hit UR<- ->UR

264_032_1530_1
264_032_1530_2
264_032_1530_3



30 meters width 30 meters height



200 m

Item Info

294_209_1554_1

Offset -52
 Shad Len 0
 SSS Height 2.9
 Apparent Ht 54.15
 Con Lat 42-20-30.03 N
 Con Lon 070-55-52.74 W
 Average Depth 65.7
 Top Depth
 Length
 Width

0, rectangular object wk?

Correlating Contacts

Closest Contact
 266_014_1243_1
 Distance 10.5
 Search Radius 25
 Local Contacts

264_032_1530_3 16.4733
 266_014_1243_1 10.4642

AWOIS

AWOIS#
 AWOIS Dist 0

DTON

DTON DTON<->-DTON

Development (15 m search)

Least Depth 19.36 m LD Lat 42-20-30.35 N
 Least Depth 63 ft LD Lon 070-55-52.9 W
 Day of LD 300 Contact Dist 10.6
 Source

Cartographic Recommendations

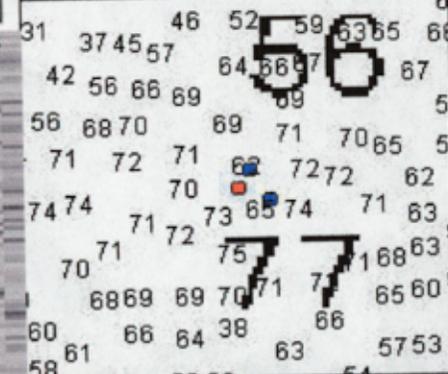
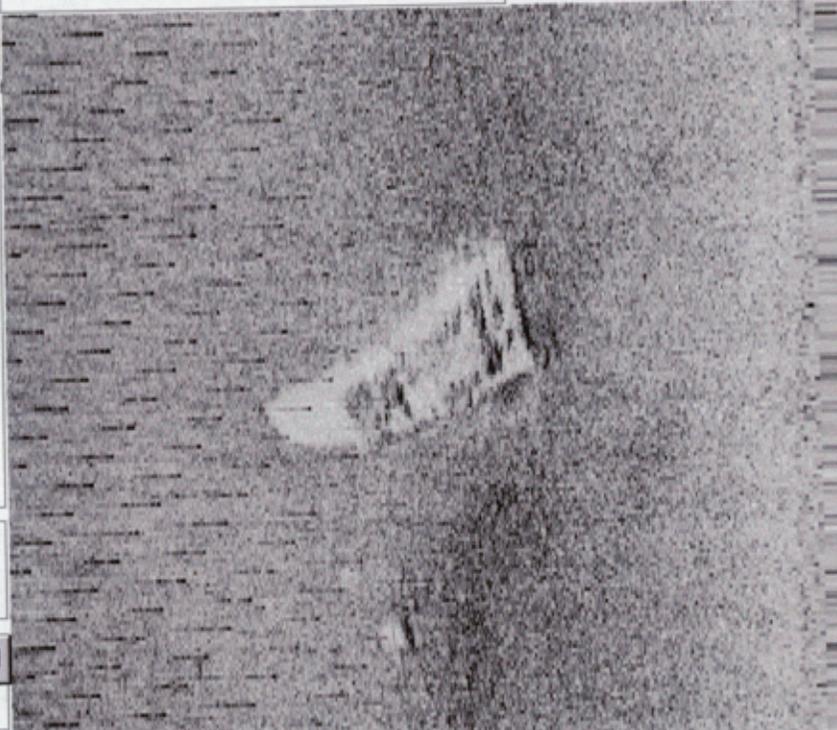
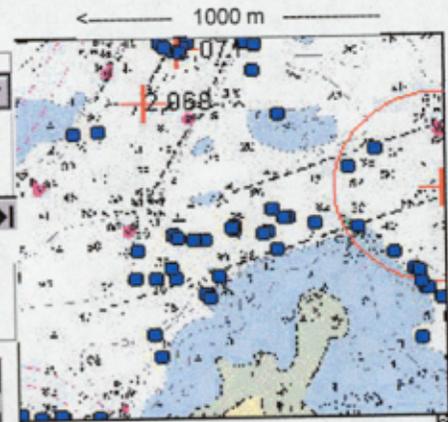
Chart wk

Resolved

Control

c:
 C:\
 Program Files
 Correlator
 XX P+ S<->-S
 Significant Locked
 Resolved UR<->-UR
 Second Hit

264_032_1530_1
 264_032_1530_2
 264_032_1530_3



30 meters width 30 meters height

Item Info

264_032_1530_3

Offset -28
 Shad Len 0
 SSS Height 3.5
 Apparent Ht 9.44
 Con Lat 42-20-29.81 N
 Con Lon 070-55-52.09 W
 Average Depth 65.6
 Top Depth
 Length
 Width

0, wreck?

Correlating Contacts

Closest Contact
 294_209_1554_1
 Distance 16.5
 Search Radius 25
 Local Contacts
 266_014_1243_1 18.559
 294_209_1554_1 16.4733

AWOIS

AWOIS#
 AWOIS Dist 0

DTON

DTON DTON< ->DTON

Development (15 m search)

Least Depth 64.94 m LD Lat 42-20-29.98 N
 Least Depth 213 ft LD Lon 070-55-52.4 W
 Day of LD 280 Contact Dist 9
 Source A397_B_MB_WH05_2000-280_406_1338_87

Cartographic Recommendations

Chart

Resolution

Resolved

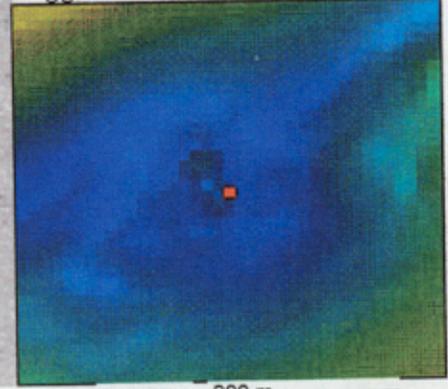
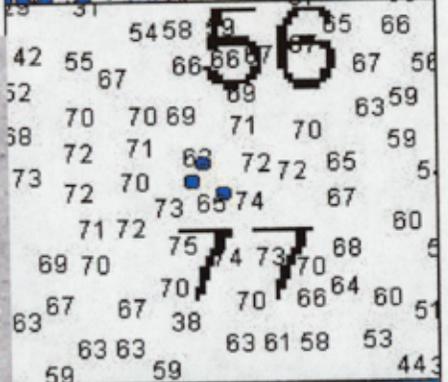
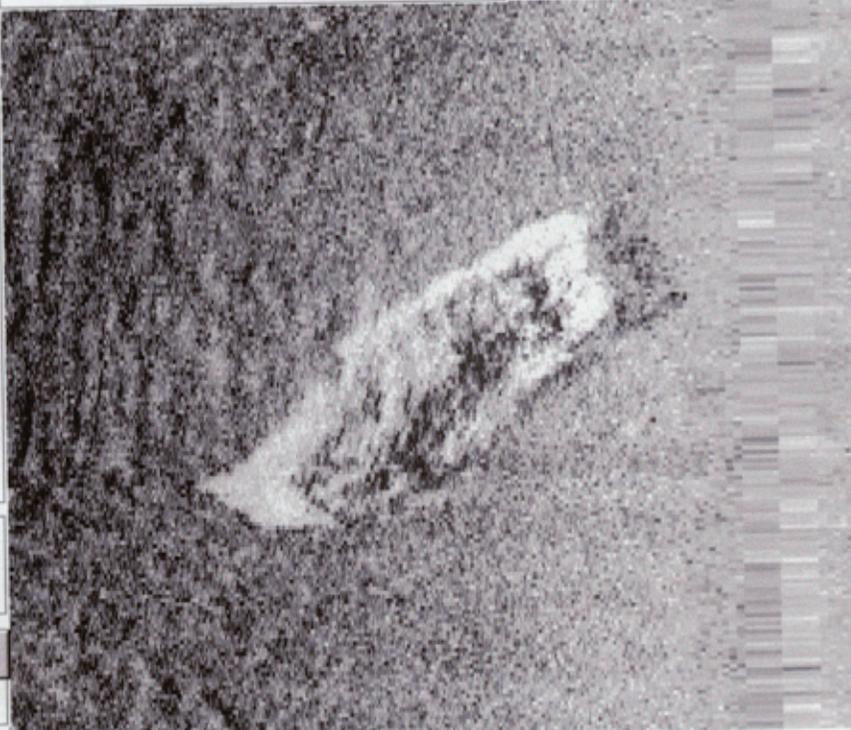
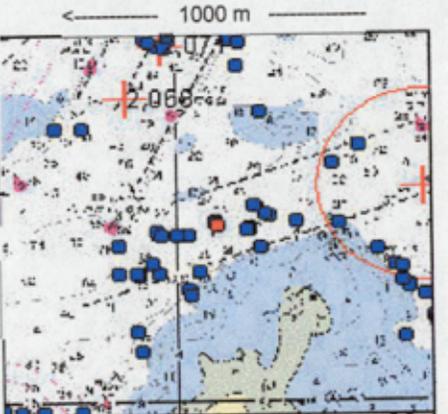
Control

c:
 C:\
 Program Files
 Correlator

XX P+ S< ->S

Significant Locked
 Resolved UR< ->UR
 Second Hit

264_032_1530_1
 264_032_1530_2
 264_032_1530_3



30 meters width 30 meters height

Dangers to Navigation

A total of 130 Dangers to Navigation (Dton) were reported by the Hydrographer to N/CS33 (AHB). For the complete Dton report (dated April 23, 2001) see Appendix I. The following table is list of the Dton with reference to their source data. SWMB data is referenced by its CARIS file (project/vessel/DN/line/beam/ping), and the VBES data is referenced by its HYPACK file and fix number. Included with the description of the items are significant contact items. **CORRELATOR** pages for each contact are located in Separate II. *Data filed with original field records.*

, **, * See page 43 footnotes for recommendations*

DTON #	LD (FEET)	LEAST DEPTH LATITUDE	LEAST DEPTH LONGITUDE	SOURCE DATA (CARIS PATH OR HYPACK FIX)	DESCRIPTION
1	-6	42-19-31.33 N	070-55-00.58 W	A397_B_MB_WH05_200 0-319_732_1803_254_13	-6ft sounding * 288_148_1611_2
2	0	42-18-13.45 N	070-55-23.31 W	A397_B_MB_WH05_200 0-288_873_1756_316_7	0ft sounding * 274_093_2043_2
3	1	42-19-55.79 N	070-56-33.44 W	D3228810, Fix: 11,596	1ft sounding * 288_100_1758_1
4	2	42-18-56.95 N	070-58-54.11 W	D3229900, Fix: 15,754	± 1 ft rock <i>D-1</i>
5	3	42-17-06.82 N	070-57-32.75 W	A397_B_MB_WH05_200 0-287_978A_301_43	3ft sounding * <i>2 ft rock</i>
6	4	42-20-59.87 N	070-58-12.77 W	D3229700, Fix: 13,791	4ft sounding *
7	5	42-20-20.26 N	070-54-59.98 W	A397_B_MB_WH05_200 0-319_585_1337_774_92	5ft rock * 265_034_1836_1
8	5	42-18-59.57 N	070-58-47.61 W	A397_B_MB_WH05_200 0-320_414_1546_660_85	5 6 ft rock *
9	6	42-17-20.57 N	070-54-37.23 W	A397_B_MB_WH05_200 0-320_788_1820_877_89	6 5 ft rock * 278_251_1733_1
10	6	42-17-12.52 N	070-57-34.07 W	A397_B_MB_WH05_200 0-291_767_1819_482_9	6ft sounding ** 274_165_1822_3
11	6	42-17-13.90 N	070-57-35.90 W	A397_B_MB_WH05_200 0-291_763_1807_307_83	6ft sounding *

12	6	42-20-58.52 N	070-57-55.10 W	D3229700, Fix: 13,641	6ft sounding *
13	6	42-16-22.33 N	070-56-51.46 W	D3229900, Fix: 16,435	6ft sounding ***
14	7	42-18-57.50 N	070-58-43.73 W	D3229800, Fix: 15,394	7ft sounding ***
15	7	42-20-11.36 N	070-55-03.81 W	A397_B_MB_WH05_200 0-319_569_1459_1552_32	7ft obstr <i>Rock</i> * 285_211_1555_1
16	8	42-19-37.23 N	070-57-55.34 W	A397_B_MB_WH05_200 0-300_452_1332_64_92	8ft sounding *
17	9	42-19-04.87 N	070-59-04.71 W	D3229900, Fix: 15,734	9ft sounding ***
18	10	42-16-23.75 N	070-55-41.67 W	A397_B_MB_WH05_200 0-291_949_1631_454_20	10ft rock * 278_362_1302_5
19	10	42-19-02.96 N	070-58-41.35 W	D3229800, Fix: 15,357	10ft sounding *
20	10	42-17-22.50 N	070-54-46.58 W	A397_B_MB_WH05_200 0-320_749_1810_235_22	10ft sounding ***
21	10	42-18-58.60 N	070-58-31.09 W	D3229800, Fix: 15,327	10ft sounding *
22	11	42-18-53.56 N	070-58-34.59 W	D3229800, Fix: 15,371	11ft sounding ***
23	11	42-18-34.20 N	070-58-45.90 W	D3229800, Fix: 15,468	11ft sounding *
24	12	42-19-28.63 N	070-55-11.15 W	A397_B_MB_WH05_200 0-319_405_1827_580_81	12ft sounding *
25	12	42-19-44.91 N	070-56-53.06 W	A397_B_MB_WH05_200 0-279_433_1852_1756_63	12ft sounding *
26	12	42-20-18.88 N	070-55-57.95 W	A397_B_MB_WH05_200 0-304_595_1424_164_83	12ft rock * 266_012_1230_1
27	12	42-18-03.19 N	070-58-05.48 W	A397_B_MB_WH05_200 0-289_909_1551_351_8	12ft wreck * 267_060_1413_1
28	13	42-20-51.28 N	070-58-36.51 W	D3229700, Fix: 14,077	13ft sounding ***
29	13	42-18-56.68 N	070-58-32.29 W	D3229800, Fix: 15,346	13ft sounding **

30	13	42-19-17.49 N	070-59-39.26 W	D3229700, Fix: 14,469	13ft sounding **
31	13	42-19-11.80 N	070-59-19.41 W	D3229800, Fix: 15,669	13ft sounding **
32	13	42-19-18.22 N	070-59-26.01 W	D3229800, Fix: 15,674	13ft sounding **
33	13	42-18-39.42 N	070-57-32.68 W	A397_B_MB_WH05_200 0-299_202_1513_115_91	13ft rock * 266_056_1535_2
34	14	42-18-08.45 N	070-57-48.26 W	A397_B_MB_WH05_200 0-289_899_1644_607_86	±± 13ft rock <i>D-11</i> 280_267_1510_1
35	14	42-17-44.14 N	070-55-33.13 W	D3227500, Fix: 4,807	±± 12ft rock * 293_082_1439_1
36	14	42-17-02.76 N	070-56-05.27 W	D3227500, Fix: 4,983	14ft sounding ***
37	14	42-18-55.23 N	070-55-15.86 W	A397_B_MB_WH05_200 0-297_206_1955_410_72	±± 15ft rock * 269_043_1424_1
38	14	42-16-41.01 N	070-55-47.15 W	D3227800, Fix: 6,888	14ft sounding **
39	14	42-17-17.31 N	070-55-36.64 W	A397_B_MB_WH05_200 0-292_618_1718_498_29	±± 15ft rock *
40	14	42-20-13.40 N	070-55-02.94 W	A397_B_MB_WH05_200 0-319_575_1510_302_63	±± 15ft rock ** 285_213_1607_2
41	14	42-18-57.78 N	070-59-08.31 W	D3229800, Fix: 15,622	14ft sounding ***
42	14	42-17-49.96 N	070-56-34.30 W	A397_B_MB_WH05_200 0-289_348_1349_442_75	±± 15ft rock * 269_065_1755_1
43	15	42-18-08.93 N	070-58-36.34 W	A397_B_MB_WH05_200 0-289_917_1546_371_73	15ft rock * 266_190_1522_1
44	15	42-20-14.80 N	070-54-59.61 W	A397_B_MB_WH05_200 0-318_585_2046_162_79	15ft rock <i>D-11</i> 288_154_1729_1
45	15	42-19-03.87 N	070-58-51.69 W	A397_B_MB_WH05_200 0-320_414_1546_57_67	±± 16ft sounding ***
46	15	42-17-20.13 N	070-54-44.14 W	A397_B_MB_WH05_200 0-320_788_1820_395_84	15ft rock ** 275_076_1853_1

47	16	42-17-18.12 N	070-54-39.84 W	D3227500, Fix: 5,337	+6 15ft sounding **
48	16	42-19-06.48 N	070-58-36.49 W	D3229800, Fix: 15,316	16ft sounding **
49	16	42-17-57.70 N	070-58-24.49 W	D3229400, Fix: 13,135	16ft sounding ***
50	16	42-20-12.88 N	070-54-33.99 W	A397_B_MB_WH05_200 0-319_612_1410_304_86	16ft wreck * 294_250_1624_1
51	16	42-16-44.13 N	070-54-46.63 W	D3229900, Fix: 15,825	16ft sounding **
52	17	42-19-51.20 N	070-54-42.58 W	A397_B_MB_WH05_200 0-319_662_1606_118_16	+7 16ft rock * 285_240_1327_1
53	17	42-20-14.25 N	070-55-08.39 W	A397_B_MB_WH05_200 0-319_565_1452_745_32	17ft rock * 285_213_1607_3
54	17	42-21-30.59 N	070-55-02.15 W	A397_B_MB_WH05_200 0-301_771_2042_79_91	17ft sounding *
55	17	42-18-49.40 N	070-57-21.49 W	A397_B_MB_WH05_200 0-299_214_1503_418_84	17ft sounding *
56	17	42-19-29.09 N	070-58-24.31 W	D3227610, Fix: 5,772	17ft sounding **
57	17	42-19-25.16 N	070-58-25.77 W	D3227600, Fix: 5,543	17ft sounding **
58	17	42-19-15.20 N	070-58-23.23 W	D3229800, Fix: 15,226	17ft sounding ***
59	17	42-21-06.70 N	070-55-15.50 W	A397_B_MB_WH05_200 0-318_831_1755_440_82	17ft rock * 264_020_1830_2
60	17	42-17-24.63 N	070-55-40.62 W	A397_B_MB_WH05_200 0-285_457_1336_7107_55	17ft sounding ***
61	17	42-18-54.86 N	070-55-20.54 W	A397_B_MB_WH05_200 0-297_207_1957_509_22	17ft rock * 269_043_1424_8
62	18	42-18-01.89 N	070-56-30.28 W	A397_B_MB_WH05_200 0-288_822_1408_398_91	18ft sndg rock * 269_133_1635_1
63	18	42-17-41.60 N	070-57-21.45 W	A397_B_MB_WH05_200 0-289_777_1340_344_65	18ft rock * 280_264_1313_7
64	18	42-20-23.09 N	070-55-02.31 W	A397_B_MB_WH05_200 0-318_617_2039_350_39	+8 19ft sounding **

65	18	42-20-56.12 N	070-54-39.52 W	A397_B_MB_WH05_200 0-318_536_1847_120_65	18 19ft rock * 264_018_1739_2
66	18	42-20-22.43 N	070-54-59.01 W	A397_B_MB_WH05_200 0-318_615_2043_157_83	18 19ft rock * 285_235_1419_1
67	18	42-18-02.97 N	070-57-35.25 W	A397_B_MB_WH05_200 0-289_895_1715_660_88	18ft sounding *
68	18	42-21-30.82 N	070-55-09.48 W	A397_B_MB_WH05_200 0-304_746_1745_200_28	18ft sounding * 286_227_1457_3
69	19	42-16-40.99 N	070-55-49.26 W	A397_B_MB_WH05_200 0-291_501_1706_276_10	19ft rock * 269_169_1924_1
70	19	42-17-10.29 N	070-57-23.64 W	A397_B_MB_WH05_200 0-291_704_1347_388_40	19ft sounding *** 278_360_1941_1
71	19	42-21-31.88 N	070-54-39.49 W	A397_B_MB_WH05_200 0-318_869_1809_450_13	19 ft sounding *
72	19	42-16-29.18 N	070-55-37.60 W	A397_B_MB_WH05_200 0-291_944_1620_5_74	19 20ft sounding **
73	20	42-17-19.83 N	070-54-58.42 W	A397_B_MB_WH05_200 0-293_513_1432_311_101	20ft rock * 289_118_2033_1
74	21	42-17-00.93 N	070-55-57.46 W	A397_B_MB_WH05_200 0-292_499_1637_524_89	21ft sounding *** 275_082_1305_3
75	21	42-19-11.64 N	070-58-30.53 W	D3229800, Fix: 15,274	21ft sounding **
76	21	42-21-01.61 N	070-55-19.57 W	D3226400, Fix:1,612	21ft sounding ***
77	21	42-18-14.37 N	070-57-34.62 W	D3228000, Fix: 8,271	21ft sounding **
78	21	42-18-09.98 N	070-55-07.98 W	A397_B_MB_WH05_200 0-319_801_1958_314_16	21ft wreck * 293_246_1724_1
79	24	42-20-26.85 N	070-54-58.60 W	A397_B_MB_WH05_200 0-318_403_2034_376_84	24ft sounding *
80	25	42-17-54.45 N	070-55-07.81 W	D3227800, Fix: 7,264	25ft sounding *
81	25	42-21-57.75 N	070-54-50.74 W	A397_B_MB_WH05_200 0-301_882_1850_49_76	25ft sounding *

82	25	42-18-58.49 N	070-55-06.78 W	A397_B_MB_WH05_200 0-297_233_1948_487_91	25ft sounding **
83	25	42-16-51.11 N	070-56-09.78 W	A397_B_MB_WH05_200 0-292_659_1409_2334_43	25ft sounding *
84	25	42-18-14.17 N	070-57-00.01 W	A397_B_MB_WH05_200 0-289_923A1247_476_26	25ft rock * 284_260_1615_1 0
85	25	42-19-07.64 N	070-54-45.28 W	A397_B_MB_WH05_200 0-294_393_1924_75_26	25ft rock * 284_261_1719_4
86	25	42-21-28.46 N	070-55-29.32 W	A397_B_MB_WH05_200 0-304_744_1632_189_55	25ft rock * 286_227_1457_4
87	26	42-21-41.56 N	070-54-31.88 W	A397_B_MB_WH05_200 0-301_858_1938_70_34	26 27ft rock * 286_229_1540_1
88	26	42-18-54.04 N	070-56-53.66 W	D3226600, Fix: 3,338	26ft sounding **
89	27	42-20-30.74 N	070-55-35.66 W	A397_B_MB_WH05_200 0-280_404_1544_2342_3	27ft rock * 266_012_1230_5
90	28	42-20-23.40 N	070-56-05.18 W	A397_B_MB_WH05_200 0-302_635_1545_84_16	28ft <i>rocks</i> * 266_014_1243_7
91	29	42-20-41.92 N	070-55-21.46 W	A397_B_MB_WH05_200 0-304_648_1533_208_16	29ft sounding *
92	30	42-19-53.01 N	070-58-12.95 W	A397_B_MB_WH05_200 0-300_474_1421_118_85	30ft rock * 277_202_1320_3
93	30	42-20-43.97 N	070-54-57.28 W	A397_B_MB_WH05_200 0-280_404_1544_4887_81	30 31ft sounding **
94	30	42-19-00.05 N	070-54-53.07 W	A397_B_MB_WH05_200 0-284_465A1641_2892_8	30 31ft sounding **
95	31	42-20-21.45 N	070-56-08.22 W	A397_B_MB_WH05_200 0-302_637_1535_158_45	31 30ft rock <i>D-11</i> 264_009_1445_1
96	31	42-19-41.24 N	070-55-02.99 W	A397_B_MB_WH05_200 0-319_695_1642_583_8	31ft rock 284_392_1918_1 <i>Do not chart Shoaler depths in area</i>
97	31	42-18-56.37 N	070-57-04.67 W	D3229310, Fix: 12,931	31 30ft sounding **

98	32	42-17-29.85 N	070-57-14.72 W	A397_B_MB_WH05_200 0-289_487_1451_433_60	32ft rock * 278_288_1927_4
99	32	42-16-54.46 N	070-55-50.97 W	A397_B_MB_WH05_200 0-292_654_1332_234_81	32ft rock * 275_080_1344_3
100	32	42-18-14.33 N	070-56-31.59 W	A397_B_MB_WH05_200 0-288_748_1259_251_64	32ft rock * 269_041_1528_3
101	33	42-20-33.13 N	070-56-32.91 W	A397_B_MB_WH05_200 0-279_424_1556_97_10	33 34ft sounding *
102	33	42-22-02.41 N	070-55-02.56 W	A397_B_MB_WH05_200 0-301_900_1811_202_32	33ft wreck 286_233_1802_1 <i>AWOIS 10646</i>
103	33	42-18-03.80 N	070-56-46.28 W	A397_B_MB_WH05_200 0-287_740_1258_24_16	33ft sounding *
104	33	42-18-10.76 N	070-56-35.20 W	A397_B_MB_WH05_200 0-288_369_1234_635_91	33 34ft sounding *
105	35	42-20-27.95 N	070-56-02.55 W	A397_B_MB_WH05_200 0-280_406_1338_9588_79	35ft rock * 285_213_1440_1
106	35	42-21-01.00 N	070-56-06.44 W	A397_B_MB_WH05_200 0-300_818_1938_212_34	35ft sounding *** 285_221_1853_5
107	35	42-21-12.38 N	070-55-58.98 W	D3226500, Fix: 1,748	35ft sounding ***
108	36	42-20-26.35 N	070-58-34.53 W	D3231900, Fix: 17,957	36ft sounding *
109	36	42-20-32.70 N	070-58-26.41 W	D3230000, Fix: 17,299	36 37ft sounding *
110	37	42-18-07.19 N	070-55-16.39 W	A397_B_MB_WH05_200 0-293_402_1633_857_35	37ft rock *** 275_081_1324_3
111	37	42-20-05.32 N	070-59-54.07 W	A397_B_MB_WH05_200 0-291_002_1236_184_53	37ft rock 287_205_1911_2 <i>Retain charted 37 Rk</i>
112	37	42-21-03.61 N	070-56-02.93 W	A397_B_MB_WH05_200 0-300_811_1957_246_57	37 38ft sounding 285_222_1923_2 **
113	38	42-20-27.64 N	070-55-52.87 W	D3230000, Fix: 17,444	38ft sounding ***

114	38	42-21-01.23 N	070-56-00.99 W	A397_B_MB_WH05_200 0-300_814_1945_246_47	38ft rock <i>D.11</i> 264_019_1812_2
115	39	42-22-05.24 N	070-55-16.16 W	A397_B_MB_WH05_200 0-301_890_1740_206_86	39ft sounding ***
116	39	42-21-07.83 N	070-56-01.04 W	A397_B_MB_WH05_200 0-277_421_1849_4526_7	39ft sounding *** 264_020_1830_3
117	39	42-21-12.31 N	070-55-45.37 W	A397_B_MB_WH05_200 0-277_419_1342_3088_34	39ft sounding ***
118	39	42-21-46.92 N	070-55-34.13 W	A397_B_MB_WH05_200 0-278_420_1310_3520_40	39ft sounding **
119	39	42-20-43.71 N	070-56-04.09 W	D3228510, Fix: 9,320	39ft sounding ***
120	40	42-21-16.93 N	070-55-47.13 W	A397_B_MB_WH05_200 0-277_415_1923_2667_87	40ft sounding **
121	41	42-21-38.66 N	070-55-30.28 W	A397_B_MB_WH05_200 0-277_417_1701_6580_42	41ft sounding ***
122	42	42-20-06.38 N	070-58-08.73 W	A397_B_MB_WH05_200 0-286_468_1827_1598_70	42 43ft sounding **
123	44	42-20-20.57 N	070-57-05.80 W	A397_B_MB_WH05_200 0-300_560_1831_199_81	44ft sounding *** 264_009_1419_3
124	50	42-20-26.57 N	070-56-11.77 W	A397_B_MB_WH05_200 0-304_644_1405_168_80	50ft sounding ***
125	52	42-20-18.82 N	070-57-08.30 W	A397_B_MB_WH05_200 0-300_548_1845_102_48	52 ft sounding ***
126	53	42-20-30.70 N	070-56-11.20 W	A397_B_MB_WH05_200 0-284_411_1344_8630_49	53ft sounding **
127	55	42-20-19.91 N	070-56-16.76 W	A397_B_MB_WH05_200 0-286_482_1245_188_42	55ft sounding **
128	55	42-20-16.91 N	070-57-05.80 W	A397_B_MB_WH05_200 0-286_481_1846_2908_32	55ft sounding ***

129	61	42-20-18.99 N	070-56-45.01 W	A397_B_MB_WH05_200 0-302_533_1339_225_80	61ft rock ** 287_209_1500_2 <i>Do not chart Shoaler depths in area</i>
130	65	42-20-25.84 N	070-56-13.68 W	A397_B_MB_WH05_200 0-286_475_1452_8512_91	65ft sounding **

* *See final Danger to Navigation Report attached to Evaluation Report for charting recommendations.*

** *Determined insignificant during office processing. Do not chart.*

*** *Items not recommended for Danger to Navigation, but recommended for charting. See evaluation report for discussion of all D. items.*

Charted Features *See footnotes on page 51 for charting recommendations.*

The following is a list of significant charted features within this survey.

ITEM #	LEAST DEPTH (FEET)	LATITUDE	LONGITUDE	REMARK
131	4	42-18-44.83 N	070-54-29.56 W	Chtd 3.5 now 4 *
132	4	42-20-46.04 N	070-54-48.68 W	Chtd 3 disproved dev 4 <i>D-11</i>
133	6	42-17-21.14 N	070-54-40.29 W	Reposition charted 6 to here *
134	6	42-17-14.42 N	070-55-20.97 W	Reposition charted 6 here *
135	7	42-17-45.35 N	070-58-29.06 W	Chtd 5 <i>Rk</i> now 7 <i>Rk</i> <i>D-17</i>
136	7	42-17-48.13 N	070-57-43.26 W	Chtd 5 now 7 <i>Rk</i> <i>D-11</i>
137	8	42-21-49.56 N	070-58-34.99 W	Disproved 2 <i>D-2</i>
138	8	42-16-31.17 N	070-54-43.02 W	Chtd 6 dev w/ VBES 8 *
139	9	42-18-05.58 N	070-57-33.87 W	9 outside 12 curve *
140	9	42-20-49.38 N	070-57-52.53 W	Reposition chtd 9 to here *
141	10	42-20-37.86 N	070-58-36.15 W	Change 12 curve and chtd 8 to 10 *
142	10	42-21-14.86 N	070-55-26.41 W	12 disproved w/ 10 *
143	11	42-18-28.40 N	070-57-42.51 W	WD 13 dev w/ MB 11 <i>Rk</i> <i>D-15</i>
144	11	42-17-52.92 N	070-58-12.73 W	Chtd 7 dev w/ VBES 11 *

145	11	42-20-46.30 N	070-55-40.94 W	Delete chtd 8; use this 11 *
146	11	42-17-57.33 N	070-57-57.88 W	Chtd 7 dev w/ VBES 11 *
147	12	42-21-52.40 N	070-56-43.79 W	WD 13 disproved with 12 <i>Rk D-3</i>
148	12	42-18-53.92 N	070-56-42.83 W	± 13 LD near chtd 9 shoal *
149	12	42-20-15.78 N	070-54-50.79 W	Reposition chtd 12 to here *
150	12	42-17-43.70 N	070-56-34.50 W	Chtd 14 dev w/ MB ± 13 *
151	12	42-20-14.65 N	070-54-54.31 W	New 12 on shoal *
152	12	42-20-48.18 N	070-54-33.35 W	Change chtd 10 to 12 *
153	13	42-21-47.31 N	070-56-46.68 W	10 WD disproved w/ MB 13 <i>Rk D-4</i>
154	13	42-17-49.87 N	070-58-28.17 W	Chtd rock dev w/ MB 13 <i>Same rock as #135 D-17</i>
155	13	42-17-54.95 N	070-58-51.07 W	Cluster of 13's bet chtd 18 and 15 *
156	14	42-19-25.18 N	070-58-16.74 W	LD for fish haven <i>14ft D-19</i>
157	14	42-21-00.72 N	070-54-30.70 W	Chtd 15 is now ± 15 *
158	14	42-16-00.12 N	070-56-08.47 W	Chtd 11 dev w/ VBES 14 *
159	14	42-21-12.10 N	070-54-54.60 W	Shoaling 14 on charted 16 *
160	14	42-21-11.08 N	070-55-39.96 W	WD 11 disproved w/ MB 14 <i>Rk D-5</i>
161	14	42-20-14.32 N	070-54-45.12 W	Change chtd 12 to 14 *
162	14	42-18-52.84 N	070-56-28.71 W	14 LD near chtd 7 *
163	15	42-20-39.34 N	070-58-31.59 W	Disproved chtd 12 with 15 *
164	15	42-20-46.35 N	070-58-49.66 W	Charted 12 disproved with 15 *
165	15	42-18-33.51 N	070-57-44.16 W	WD 14 dev w/ MB 15 <i>D-16</i>
166	15	42-20-48.66 N	070-54-28.54 W	Reposition chtd 16 to this ± 16 *
167	16	42-21-02.59 N	070-55-37.60 W	Chtd 13 disproved with MB ± 15 *
168	16	42-19-00.24 N	070-56-18.08 W	WD 14 dev w/ MB ± 15 <i>D-16</i>
169	16	42-21-47.03 N	070-54-52.97 W	WD 15 disproved w/ MB 16 <i>Rk D-6</i>
170	16	42-17-57.48 N	070-55-13.27 W	Chtd rock 15 dev w/ MB 16 <i>Rk D-7</i>
171	16	42-18-56.74 N	070-56-22.81 W	WD 14 dev w/ MB 16 <i>D-16</i>

172	16	42-17-50.70 N	070-57-56.09 W	Chtd 13 dev w/ MB 16 *
173	17	42-17-50.71 N	070-57-46.55 W	17 shoal near chtd 24 *
174	18	42-20-09.93 N	070-54-54.00 W	Remove chtd 16, chg to 18 19 *
175	18	42-21-33.78 N	070-54-53.43 W	WD 16 disproved w/ MB 18 <i>D-16</i>
176	18	42-21-33.53 N	070-54-47.13 W	Reposition chtd 18 here *
177	18	42-15-50.70 N	070-56-06.81 W	Chtd 21 dev w/ VBES 18 *
178	18	42-21-02.17 N	070-55-46.85 W	WD 16 disproved w/ MB 18 <i>D-16</i>
179	20	42-19-16.51 N	070-54-34.74 W	20 near chtd 22 on shoal *
180	21	42-17-08.25 N	070-55-43.11 W	Change chtd 18 w 21 20 *
181	21	42-16-47.86 N	070-56-19.91 W	Danger circle depth unknown; dev w/ VBES 21 <i>AWOIS 10340</i>
182	21	42-18-36.39 N	070-57-44.92 W	WD 17 dev w/ MB 21 <i>D-16</i>
183	21	42-16-50.63 N	070-56-29.11 W	21 22 near chtd 24 *
184	21	42-18-54.56 N	070-56-46.90 W	21 over chtd 23' *
185	22	42-21-32.88 N	070-55-22.39 W	WD 18 disproved w/ MB 22 <i>D-16</i>
186	22	42-21-26.09 N	070-54-56.14 W	WD 14 disproved w/ MB 22, 19 near by <i>D-16</i>
187	22	42-19-48.40 N	070-54-57.47 W	Reposition chtd 23 to this 22 *
188	22	42-20-44.35 N	070-55-58.64 W	Chtd 17 disproved with MB 22 *
189	22	42-18-46.58 N	070-56-39.47 W	chrted 24 dev w/ VBES 22 *
190	22	42-20-58.65 N	070-55-04.48 W	WD 18 disproved w/ MB 22 <i>D-16</i>
191	22	42-18-09.90 N	070-56-43.99 W	WD 21 <i>Rk</i> is 22 <i>Rk D-8</i>
192	23	42-18-15.86 N	070-56-11.67 W	WD 20 <i>Rk</i> dev w/ MB 23 <i>Rky</i> <i>D-10</i>
193	23	42-21-15.78 N	070-55-04.5 W	17 disproved w/ MB 23 *
194	23	42-16-53.54 N	070-56-17.41 W	Reposition WD 23 to this MB 23 24 <i>Rk D-14</i>
195	24	42-19-09.55 N	070-56-41.49 W	WD chtd 20 dev MB 24 <i>D-16</i>
196	25	42-16-57.58 N	070-56-22.61 W	WD 23 dev w/ MB 25 <i>D-16</i>
197	25	42-18- 56.88 <i>57.83</i> N	070-54- 37.73 <i>33.25</i> W	Reposition chtd 23 25 to this 25 23 *

198	25	42-18-59.41 N	070-56-56.07 W	Chtd 27 dev w/ VBES 25 *
199	27	42-17-56.36 N	070-57-00.66 W	WD 24 <i>Rk</i> dev w/ MB 27 <i>Rks</i> <i>D-12</i>
200	27	42-21-11.57 N	070-54-33.25 W	WD 28 disproved w/ MB 27 <i>D-16</i>
201	30	42-21-25.37 N	070-56-00.02 W	WD 23 disproved w/ VBES 30 <i>31</i> <i>D-16</i>
202	31	42-18-46.48 N	070-55-39.37 W	WD 29 <i>Rk</i> dev w/ MB 31 <i>Rk</i> <i>D-13</i>
203	31	42-17-33.08 N	070-54-54.69 W	Chtd 26 dev w/ MB 31 *
204	33	42-19-19.54 N	070-54-26.74 W	33 LD near chtd 35 *
205	36	42-17-17.65 N <i>31</i>	070-55-38.49 W <i>36.64</i>	Change chtd 15 <i>14 Rk</i> to 36 <i>15 Rk</i> <i>Same as #39</i> <i>D-36</i>
206	39	42-18-32.53 N	070-56-10.36 W	WD 29 dev w/ MB 39 <i>D-16</i>
207	39	42-20-35.20 N <i>28</i>	070-55-01.26 W <i>54-59.16</i>	Chtd 30 disproved w/ MB 39 <i>rky</i> <i>D-9</i>
208	43	42-18-07.93 N	070-56-50.16 W	Chtd rock dev w/ MB 43 <i>Same as #191</i> <i>D-8</i>
209	50	42-20-37.17 N	070-54-58.38 W	Chtd 20 disproved w/ MB 50 *
210	67	42-20-37.60 N	070-55-09.76 W	Disproved; remove dangerous wreck PA <i>AWOIS 10363</i>

Charting Recommendations

The following table contains further charting recommendations made by the Hydrographer. These are not charted features, nor dangers to navigation, but are significant in accurately updating the chart. *Concur w/ clarification See page 51 for clarification**

ITEM #	LEAST DEPT H (FEET)	LATITUDE	LONGITUDE	REMARK
211	5	42-21-05.13 N	070-58-03.87 W	Chtd 6 disproved dev 5 near *
212	5	42-20-54.77 N	070-58-59.38 W	Approach light lane disproved; VBES 5 <i>6</i> <i>D-20</i>
213	6	42-20-38.80 N	070-59-05.06 W	Chtd 3 disproved 6 <i>7</i> <i>D-38</i>
214	6	42-16-42.60 N	070-54-38.03 W	Chtd 4 dev w/ VBES 6 <i>5</i> *

215	7	42-16-27.98 N	070-54-51.87 W	Chtd 4 dev w/ VBES 7 6 *
216	7	42-16-34.42 N	070-55-04.30 W	Chtd 5 dev w/ VBES 7 6 *
217	7	42-16-37.52 N	070-55-02.03 W	Chtd 5 dev w/ VBES 7 6 *
218	7	42-17-09.32 N	070-55-17.25 W	Chtd 5 <i>Rk</i> dev w/ MB 7 <i>D-38</i>
219	8	42-16-18.67 N	070-56-23.87 W	Chtd 5 dev w/ VBES 8 <i>D-38</i>
220	8	42-15-55.71 N	070-56-24.87 W	Chtd 6 dev w/ VBES 8 7 *
221	8	42-16-41.10 N	070-55-30.97 W	Chtd 5 dev w/ VBES 8 <i>D-38</i>
222	8	42-21-05.63 N	070-58-34.51 W	No charted 5, change to 8 *
223	8	42-19-45.67 N	070-59-06.58 W	Shoreline changed * <i>same as # 232</i>
224	8	42-21-27.27 N	070-57-59.15 W	Chtd 16 disproved w/ MB 8 *
225	8	42-16-19.23 N	070-56-54.53 W	Chtd 6 <i>6.5</i> dev w/ VBES 8 <i>D-38</i>
226	9	42-16-55.60 N	070-55-07.41 W	Chtd 7 dev w/ VBES 9 *
227	9	42-16-26.35 N	070-56-16.23 W	Chtd 5 dev w/ VBES 9 <i>D-38</i>
228	9	42-15-52.13 N	070-55-57.01 W	Chtd 7 dev w/ VBES 9 8 *
229	9	42-20-18.37 N <i>45</i>	070-59-22.84 W <i>24.16</i>	Change chtd 6 to MB 9 8 *
230	9	42-16-54.45 N	070-54-47.96 W	Chtd 10 dev w/ MB 9 *
231	9	42-20-20.03 N <i>19.65</i>	070-59-30.15 W <i>32.78</i>	Change chtd 6 to 9 8 *
232	9	42-19-44.25 N	070-59-23.23 W	Shoreline changed * <i>same as # 223</i>
233	9	42-20-57.92 N	070-58-32.18 W	Charted 7 change to 9 8 *
234	10	42-16-53.43 N	070-54-52.05 W	Chtd 8 dev w/ VBES 10 9 *
235	10	42-16-29.58 N	070-55-23.34 W	Chtd 8 dev w/ VBES 10 9 *
236	10	42-16-12.04 N	070-56-19.68 W	Chtd 8 dev w/ VBES 10 8 *
237	10	42-16-24.76 N	070-55-31.14 W	Chtd 8 dev w/ VBES 10 9 *
238	10	42-20-19.61 N	070-59-26.55 W	Change chart 7 to MB 10 8 *
239	10	42-16-47.73 N	070-54-47.22 W	Chtd 8 dev w/ VBES 10 9 *
240	10	42-16-37.74 N	070-55-40.13 W	10 just in <i>outside</i> 10 12 ft curve *
241	10	42-20-18.18 N	070-59-21.17 W	Change chtd 8 to MB 10 9 *

242	11	42-20-17.57 N	070-59-19.27 W	Change chart 4 to MB 11 *
243	11	42-20-56.66 N	070-59-11.48 W	Chtd 4 disproved dev 11 *
244	11	42-21-35.01 N	070-58-53.76 W	Disproved chtd 9 w/ 11 *
245	12	42-17-14.26 N	070-55-11.76 W	Chtd 10 now 12 13 *
246	12	42-20-51.91 N	070-58-01.47 W	Chtd 8 disproved dev 12 11 on *
247	12	42-19-23.16 N	070-59-44.7 W	Change chtd 13 to 12 *
248	12	42-18-17.05 N	070-57-17.52 W	12 instead of chtd 8 <i>D-38</i>
249	12	42-19-27.04 N	070-59-37.98 W	Change chtd 10 w/ 12 *
250	13	42-20-56.09 N	070-58-38.67 W	Chtd 15 disproved dev 13 *
251	13	42-21-33.19 N	070-57-45.97 W	Chtd 15 surrounded by 13's *
252	13	42-17-24.60 N	070-59-26.77 W	Chtd 15 dev w/ VBES 13 *
253	13	42-21-48.98 N	070-59-07.73 W	Chtd 3 disproved dev 13 <i>D-38</i>
254	13	42-21-47.40 N	070-59-15.35 W	Chtd 11 changed to 13 14 <i>D-38</i>
255	13	42-19-06.42 N	070-59-27.91 W	Change chtd 15 to 13 *
256	13	42-15-47.97 N	070-56-19.72 W	Chtd 11 dev w/ VBES 13 *
257	14	42-19-28.74 N	070-59-50.16 W	Chtd 18 chg to 14 *
258	14	42-21-30.36 N	070-57-38.28 W	Shoaling of 12 on chtd 18 *
259	14	42-16-14.56 N	070-55-46.53 W	Chtd 11 dev w/ VBES 14 *
260	15	42-19-36.23 N	070-59-36.89 W	Change chart 15 13 to 13 14 *
261	15	42-19-43.84 N	070-58-49.11 W	Shoreline changed * <i>Same as 232, 223</i>
262	15	42-17-16.69 N	070-54-20.73 W	Chtd 12 dev w/ VBES 15 *
263	16	42-19-40.79 N	070-59-40.29 W	Change chart 13 to 16 *
264	16	42-21-59.86 N	070-56-22.82 W	13 not proven, 16 near by *
265	16	42-20-43.87 N	070-57-58.97 W	Chtd 10 disproved dev 16 near *
266	16	42-16-27.99 N	070-54-33.37 W	Chtd 19 dev w/ VBES 16 *
267	16	42-20-57.17 N	070-58-45.12 W	Chtd 9 disproved dev 15 16 & 18 near *
268	17	42-16-10.30 N	070-55-48.21 W	Chtd 13 dev w/ VBES 17 15 *
269	17	42-21-57.97 N	070-56-51.06 W	17 near chtd 20 *

270	17	42-17-23.43 N	070-54-26.42 W	17 found just outside 18ft curve *
271	18	42-17-44.09 N	070-58-55.01 W	Chtd 9 dev w/ VBES 18 16 *
272	18	42-21-46.28 N	070-59-10.31 W	Chtd 14 is now 18 17 *
273	18	42-17-02.35 N	070-54-30.05 W	Chtd 22 dev w/ VBES 18 19 *
274	18	42-18-03.03 N	070-58-18.03 W	Chtd 14 surrounded by 18 *
275	19	42-21-40.42 N	070-56-35.73 W	Chtd 24 w/ 19 near *
276	19	42-21-32.79 N	070-55-00.7 W	Shoaling 19 bet 21 and 20 *
277	19	42-16-39.57 N	070-56-38.56 W	Chtd 14 dev w/ VBES 19 *
278	19	42-19-43.71 N	070-59-36.41 W	Chtd 15 disproved; 19 near *
279	19	42-22-00.99 N	070-56-51.05 W	11' WD not proved <i>D-30</i>
280	19	42-20-21.64 N	070-59-12.47 W	No charted 16 change to 19 16 *
281	19	42-21-35.81 N	070-55-02.28 W	Shoaling 19 between 21 and 26 *
282	19	42-21-37.23 N	070-55-01.23 W	Shoaling 19 -20 between 21 and 26 *
283	20	42-17-28.73 N	070-54-33.73 W	Chtd 16 dev w/ VBES 20 18 *
284	20	42-22-01.66 N	070-56-28.45 W	17 not proven, 20 18 near by *
285	20	42-21-10.02 N	070-59-10.24 W	Shoal moved; no chart <i>retain 5 D-38</i>
286	20	42-20-24.12 N	070-59-19.40 W	Charted 17 now 20 16 *
287	21	42-21-34.26 N	070-55-15.97 W	Shoaling between charted 23 and 26 *
288	21	42-18-17.13 N	070-57-41.9 W	Chtd 23 dev w/ VBES 21 *
289	21	42-22-02.34 N	070-56-41.24 W	18 not proven , bet 25 and 21 <i>disproved</i>
290	21	42-16-27.85 N	070-55-57.15 W	Chtd 7 dev w/ VBES 21 *
291	21	42-17-24.36 N	070-54-32.08 W	Chtd 19 dev w/ VBES 21 *
292	22	42-19-15.25 N	070-54-43.87 W	22' LD near chtd 20 *
293	22	42-21-38.07 N	070-55-05.39 W	22' shoaling on charted 26 *
294	23	42-19-00.32 N	070-59-02.55 W	Change chtd 24 to 23 22 *
295	26	42-21-51.84 N	070-58-35.55 W	Change chtd 22 to 26 20 *
296	27	42-21-06.76 N	070-54-29.47 W	23 chart is shoaler than 27 <i>disproved</i>
297	27	42-19-07.31 N	070-56-27.57 W	Chtd 22 dev w/ MB 27 on and near *

298	28	42-17-26.68 N	070-55-09.20 W	28 near a chtd 30 *
299	29	42-19-12.47 N	070-56-29.74 W	Chtd 33 dev w/ VBES 29 *
300	29	42-21-45.85 N	070-56-13.77 W	Charted 31 w/ 29 31 *
301	31	42-17-24.31 N	070-57-20.38 W	Chtd 29 dev w/ VBES 31 *
302	32	42-21-27.75 N	070-55-56.80 W	32 shoaling between charted 34 and 38 *
303	33	42-21-48.72 N	070-54-27.96 W	Shoaling between charted 34 and 40 *
304	33	42-21-53.79 N	070-54-46.86 W	Shoaling 33 on 36 charted depth *
305	33	42-21-53.62 N	070-55-47.38 W	Shoaling between charted 34 and 40 *
306	34	42-21-04.09 N	070-54-46.96 W	Charted 36 w/ 34 shoaling *
307	34	42-19-49.08 N	070-56-18.20 W	Chtd 31 dev MB 34 32 *
308	34	42-19-47.60 N	070-56-08.72 W	34 32 near chtd 31 *
309	35	42-17-37.24 N	070-54-52.21 W	Chtd 39 dev w/ MB 35 *
310	36	42-20-23.95 N	070-56-55.74 W	Charted 38 w/ 36 37 *
311	36	42-18-05.04 N	070-55-29.16 W	Chtd 9 dev w/ MB 36 * <i>Charted 9 on edge of channel</i>
312	36	42-20-02.66 N	070-59-00.91 W	Move charted 37 to 36 *
313	37	42-20-30.67 N	070-56-39.43 W	37 trend on chart 33 *
314	37	42-20-02.62 N	070-57-20.95 W	Change chtd 34 to 37 35 *
315	37	42-20-30.80 N	070-58-13.38 W	Change chart 39 to 37 *
316	41	42-20-54.88 N	070-54-54.56 W	41 near charted 44, no DTON *
317	41	42-20-38.51 N	070-55-36.24 W	LD near chtd 37 *
318	41	42-21-07.74 N	070-56-04.73 W	38 disproved w/ MB 41 *
319	41	42-17-54.83 N	070-55-15.32 W	Chtd 47, dev w/ VBES 41 *
320	41	42-21-58.86 N	070-55-14.91 W	41 between charted 44 and 43 *
321	41	42-20-39.00 N	070-56-21.01 W	Reposition chart 40 to this 41 *
322	42	42-20-52.72 N	070-56-07.10 W	42 on charted 44 *
323	42	42-20-46.98 N	070-56-05.19 W	42 38 on chart 39 42 *
324	42	42-21-28.78 N	070-55-36.74 W	42 near charted 44 *
325	44	42-20-25.60 N	070-57-52.29 W	Chtd 39 disproved dev 44 42 *

326	44	42-20-17.87 N	070-58-12.95 W	Change chtd 42 to 44 *
327	44	42-21-30.13 N	070-55-50.68 W	38 disproved w/ 45 44; 38 possibly south *
328	44	42-19-55.82 N	070-59-26.70 W	Chtd 39 proven 44 & 45 w/MB *
329	48	42-20-07.58 N	070-56-58.39 W	49 on charted 54 *
330	49	42-20-10.55 N	070-57-59.52 W	Shoaling 49 between charted 51 and 55 *
331	52	42-19-09.70 N	070-54-33.71 W	LD of 54 52 near chtd 44 *
332	52	42-20-07.03 N	070-57-31.06 W	Chtd 46 disproved dev w/ MB 54 47 *
333	52	42-20-13.12 N	070-57-45.09 W	Shoaling 52 between charted 55 and 58 *
334	54	42-20-12.92 N	070-57-32.85 W	Chtd 45 disproved dev 50 *
335	57	42-20-32.21 N	070-55-43.09 W	LD near chtd 50 *
336	67	42-20-32.02 N	070-55-51.48 W	67 68 over chtd 56 * 56 located to the east
337	70	42-20-27.15 N	070-56-28.81 W	70 on charted 74 *
338	84	42-20-21.12 N	070-56-31.83 W	Change chtd 92 to 84 *

* Concur --Field adequately verified or disproved charted data. It is recommended that present survey supercede charted data.

ADDITIONAL RESULTS

Aids to Navigation and Other Detached Positions

All of the aids to navigation positioned during this survey are on location with exception to the following items (also see NOAA form 76-40 in appendix V):

** Data filed with original field records. Defer to MCD Update Service Branch for charting recommendations for Aids to Navigation.

ATON	Light List #	Latitude (surveyed position)	Longitude (surveyed position)	Distance off location (meters)
G C "5"	11100	42-21-59.23 N	070-59-42.62 W	50 **
Y "D", Fl Y 4s	10855	42-20-33.38 N	070-58-50.74 W	40 **
R "2", Fl R 4s	10855 70	42-20-04.98 N	070-58-59.28 W	70 **

G C "9"	11579	42-19-14.24 N	070-59-42.15 W	50 **
Y "S", Fl Y 2.5s	11346	42-19-18.08 N	070-59-30.28 W	100 **
Y "N", Fl Y 2.5s	11347	42-19-17.85 N	070-59-25.66 W	730 **
R "2A"	11420	42-19-22.54 N	070-54-46.09 W	50 **
G "11", Fl G 2.5s	11395	42-18-41.82 N	070-55-13.35 W	70 **
LIGHT "1", Fl G 4s, 32 ft 5M	11529	42-16-47.29 N	070-56-21.08 W	60 **
G C "3"	11895	42-15-53.67 N	070-55-28.39 W	60 **

**** Data filed with original field records.**

The following table lists aids to navigation that were positioned, but are not on the chart nor in the *Light List*: **concur**

ATON	Latitude (surveyed position)	Longitude (surveyed position)
G "1A" (buoy over wreck)	42-22-02.65 N	070-55-02.75 W
Mooring buoy "4" (private)	42-21-30.52 N	070-58-44.23 W
White can, "NO WAKE" (private)	42-21-47.93 N	070-58-38.18 W
Mooring buoy "3" (private)	42-21-51.74 N	070-59-20.56 W

Bottom samples were collected over charted bottom features, and recorded along with their bottom characteristics (appendix 5) *. Detached positions were also acquired on several structures including docks, piers and bridges. **concur**

*** Data filed with original field records.**

The only bridge within the survey limits connects Moon Head to West Head on Long Island. Although the bridge is not labeled on the chart, it is locally referred to as the Long Island Bridge (Long Island Viaduct, according to the Coast Pilot) and is maintained by the City of Boston. Currently, it is under contract for refurbishment by Greenman Peterson, an engineering firm. On February 1, 2001, Mary Billings (reached by telephone at Greenman Peterson) confirmed that the height of the lower chord of the bridge is 51 feet at mean high water (MHW). The bridge is currently under routine maintenance; there are no plans to change the height of this bridge.

There were no requirements for shoreline verification on this survey. Detached positions were acquired on docks and piers within the survey limits. Piers located on the Boston Harbor islands (Peddocks, Georges, Lovell, and Gallops) are maintained by the National Park Service. The detached positions are located on the offshore-most pilings of these structures. All piers extend further offshore than charted. The Georges Island (DN ~~310~~ 301, DP# 73-78) and Lovell Island (DN 301, DP# 56-57)** piers were under construction during this survey. **** Piers are shown on chart #13270, 59th ED., July 14, 2001. No change in charting is recommended.**

Four shoreline features were verified on Hull. The first was a ruined pier near the Windmill Point beacon (DN 302, DP #'s ~~8-9~~ 84-85). Next to that is a city pier which is used by local fishermen and a seasonal ferry to Peddocks Island (DN 302, DP #'s 6-7). The third item is a ruin located on the neck of the point (DN 302, DP # ~~2~~ 88). The fourth item is the Point Allerton Coast Guard Station boathouse, which was found to be larger than shown on the chart (DN 302, DP #'s ~~10-11~~ 86-87).

Other items positioned include a ferry pier located at the tip of Hough's Neck, a pier on Spectacle Island, and the offshore runway approach light for Logan Airport. The Hough's Neck pier is actually located further west of the charted position (DN 302, DP #'s ~~41-42~~ 117-118). The Spectacle Island pier is not charted (DN 319, DP #'s ~~18-19~~ 141-143*). The runway approach light pier structure was found to extend 40 meters further offshore than charted (DN 301, DP #'s 2-4). **concur *See also D-31 of the Evaluation Reoprt.**

Ferry Routes

Commuter ferries frequent the survey area, although there are no ferry terminals located within the survey limits. A typical ferry route begins at the Boston Marriot Wharf in downtown Boston. From there, they exit Boston Inner Harbor via the Western Way, pass under the Long Island Bridge, and make for West Gut, keeping the R"4" buoy to their port, and G"3" buoy to starboard. They continue down Weymouth Fore River, terminating their journeys at either Quincy Point or down the Weymouth Back River at a terminal in Hingham. Their return trips are the same routes in reverse.

In addition to the commuter ferries, there are seasonal Boston Harbor island excursion vessels to various scenic destinations throughout the harbor. Georges Island receives the most traffic as its basin~~is~~ can accommodate the larger excursion vessels. Smaller excursion vessels also frequent Gallops Island and Peddocks Island.

Submarine Cables and Pipelines

Shore line verification was not required for this survey. Termination points for submarine cables and pipelines were not positioned, and charted submarine cables and pipelines were not verified. Discrete pipelines or cable areas were not observed in the side scan sonar imagery.

E. APPROVAL SHEET

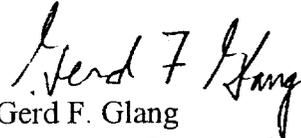
**OPR-A397-WH
Massachusetts
Massachusetts Bay**

**Boston North Channel to Weymouth Fore River
Survey Registry No. H-10991**

Field operations for this basic hydrographic survey were conducted under my daily supervision with frequent checks of progress and adequacy. All field sheets, this Descriptive Report, and all accompanying records and data are approved.

This survey is adequate to supersede all prior surveys in common areas, and for application to the relevant NOS nautical charts.

Respectfully,


Gerd F. Glang
Lieutenant Commander, NOAA
Commanding Officer
NOAA Ship WHITING

JUNE 1, 2001
Date



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

TIDE NOTE FOR HYDROGRAPHIC SURVEY Sheet H-10991 cont.

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

Note 2: Use tide data from the appropriate station with applicable zoning correctors for each zone.

Thomas V. New 3/29/01

CHIEF, REQUIREMENTS AND DEVELOPMENT DIVISION





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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: March 28, 2001

HYDROGRAPHIC BRANCH: Atlantic
HYDROGRAPHIC PROJECT: OPR-A397-WH-2000
HYDROGRAPHIC SHEET: H-10991

LOCALITY: Approaches to Boston, MA
TIME PERIOD: September 19 - November 16, 2000

TIDE STATION USED: 844-3970 Boston, MA
Lat. 42° 21.3'N Lon. 71° 03.2'W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 3.015 meters

TIDE STATION USED: 844-4162 Boston Light, MA
Lat. 42° 19.7'N Lon. 70° 53.5'W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 2.866 meters

TIDE STATION USED: 844-4525 Nut Island, MA
Lat. 42° 16.8'N Lon. 70° 57.25'W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 2.990 meters

REMARKS: RECOMMENDED ZONING

Use zone(s) identified as: BOS3, BOS4, BOS5, BOS6, BOS7,
BOS8, BOS10, BOS11 & ATL204

Refer to attachments for zoning information.



GEOGRAPHIC NAMES

Name on Survey

Page 1 of 5

A ON CHART NO 13278
B ON PREVIOUS SURVEY
C 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

Name on Survey	A	B	C	D	E	F	G	H	K
ALDRIDGE LEDGE	X		X						1
BASS POINT	X		X						2
BLACK ROCK	X		X						3
BLACK ROCK CHANNEL	X		X						4
BOSTON NORTH									5
CHANNEL	X		X						6
BROAD SOUND	X		X						7
BUMKIN ISLAND SHOAL	X								8
CHELSEA POINT	X		X						9
COTTAGE PARK	X		X						10
COURT PARK	X		X						11
CROW POINT FLATS	X		X						12
DEER ISLAND	X		X						13
DEER ISLAND FLATS	X		X						14
DEVILS BACK	X		X						15
FALSE SPIT	X		X						16
FINNS LEDGE	X		X						17
FORT DAWES	X		X						18
FORT WARREN	X		X						19
GALLOPS ISLAND	X		X						20
GEORGES ISLAND	X		X						21
GOVERNORS FLATS	X		X						22
GOVERNORS ISLAND	X		X						23
GRAPE ISLAND	X		X						24
GREAT BREWSTER SPIT	X		X						25

GEOGRAPHIC NAMES

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Name on Survey

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K

Name on Survey	A	B	C	D	E	F	G	H	K
GREAT FAUN (bar)	X		X						1
HALFTIDE ROCK	X		X						2
HANGMAN ISLAND	X		X						3
HINGHAM BAY	X		X						4
HOSPITAL SHOAL	X		X						5
HOUGHS NECK	X		X						6
HULL (ppl)	X		X						7
HULL GUT	X		X						8
HUNT LEDGE	X		X						9
INNER SEAL ROCK	X		X						10
KELLY ROCK	X		X						11
LITTLE FAUN (bar)	X		X						12
LOGAN									13
INTERNATIONAL									14
AIRPORT	X								15
LONG ISLAND	X		X						16
LOVELL ISLAND	X		X						17
LOWER MIDDLE (bar)	X		X						18
LOWER NECK	X		X						19
LOWER NECK COVE	X		X						20
MANET BEACH	X		X						21
MASSACHUSETTS (title)	X		X						22
MASSACHUSETTS BAY	X		X						23
MOON HEAD (cliff)	X		X						24
NANTASKET ROADS	X		X						25

GEOGRAPHIC NAMES

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K

Name on Survey	A	B	C	D	E	F	G	H	K
NARROWS	X		X						1
NIXES MATE (bar)	X		X						2
NUBBLE CHANNEL	X		X						3
NUT ISLAND	X		X						4
OUTER SEAL ROCK	X		X						5
PEDDOCKS ISLAND	X		X						6
PEMBERTON	X		X						7
PERRY COVE	X		X						8
PIG ROCK	X		X						9
POINT ALLERTON	X		X						10
POINT SHIRLEY	X		X						11
PORTUGUESE COVE	X		X						12
PRESIDENT ROADS	X		X						13
PRINCE HEAD (island)	X		X						14
QUARANTINE ROCKS	X		X						15
QUARTER LEDGE	X		X						16
QUINCY GREAT HILL	X		X						17
QUINCY YACHT CLUB	X		X						18
RACoon ISLAND	X		X						19
RAINSFORD ISLAND	X		X						20
RAM HEAD	X		X						21
RAM HEAD FLATS	X		X						22
ROCK ISLAND HEAD	X		X						23
SCULPIN LEDGE (island)	X		X						24
									25

GEOGRAPHIC NAMES

Name on Survey

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G RAND McNALLY ATLAS
H U.S. LIGHT LIST
K

SCULPIN LEDGE										1
CHANNEL	X		X							2
SHEEP ISLAND	X		X							3
SLATE ISLAND	X		X							4
SNAKE ISLAND	X		X							5
SOUTH BEACH	X		X							6
SOUTH CHANNEL	X		X							7
SPECTACLE ISLAND	X		X							8
SPIERS STAND (island)	X		X							9
STONY BEACH	X		X							10
SUNKEN LEDGE	X		X							11
TELEGRAPH HILL	X		X							12
THE BASIN	X		X							13
THE PIGLETS	X		X							14
THOMPSON ISLAND	X		X							15
TODDY ROCKS	X		X							16
UPPER NECK	X		X							17
WEST HEAD	X		X							18
WESTERN WAY	X		X							19
WEYMOUTH BACK										20
RIVER	X		X							21
WEYMOUTH FORE										22
RIVER	X		X							23
WINDMILL POINT	X		X							24
WRECK ROCK	X		X							25

GEOGRAPHIC NAMES

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D FROM LOCAL INFORMATION
E ON LOCAL MAPS
F PO GUIDE OR MAP
G RAND McNALLY ATLAS
H U.S. LIGHT LIST
K

Name on Survey	A	B	C	D	E	F	G	H	K
WINTHROP (ppl)	X		X						1
WINTHROP HEAD	X		X						2
									3
									4
									5
									6
									7
									8
									9
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Approved:

Quito Oluy

Chief Geographer

JUL 18 2001

**ATLANTIC HYDROGRAPHIC BRANCH
EVALUATION REPORT FOR H10991 (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 2.102
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

H10990 (2001) to the west
H10992 (2001) to the east
H10994 (2000-2001) to the northeast

A standard junction could not be effected between the present survey and surveys H10990 (2001) and H10992 (2001). The smooth sheet is annotated with the notation "ADJOINS H10990 (2001)" and "ADJOINS H10992 (2001)". Any adjustments to the depth curves in the junctional areas will have to be made on the chart during compilation.

A standard junction was effected between the present survey and H10994 (2000-2001).

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

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 0.355 seconds (10.959 meters or 1.09 mm at the scale of the survey) north in latitude, and 1.827 seconds (41.848 meters or 4.18 mm at the scale of the survey) east in longitude.

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. There are, however, areas that were not covered by 100% side scan sonar. These areas have been compared with prior survey H09134 (1970).

Prior survey depths show a general trend of being one (1) to three (3) feet deeper than present survey soundings. Telephone conversations with Hydrographic Surveys Division personnel determined that the prior survey has not been applied to chart 13272, 47th Edition, March 10, 2001.

Except as noted above the present survey is adequate to supersede the prior survey within the common area.

- D. **COMPARISON WITH CHARTS 13267 (29th Edition, Feb 28/98)**
13270 (59th Edition, Jul 14/01)
13272 (47th Edition, Mar 10/01)
13275 (27th Edition, Jul 24/99)

Hydrography

The charted hydrography originates with prior surveys and unknown sources. The hydrographer makes adequate chart comparisons in section D. of the Descriptive Report. Attention is directed to the following:

1) A charted rock, Uncovers at MLLW, with a danger curve, in the vicinity of Latitude 42°18'58"N, Longitude 70°58'54"W, was investigated. A rock that uncovers 1 foot (0⁴ m) at MLW was located in Latitude 42°18'56.95"N, Longitude 70°58'54.11"W. It is recommended that the charted rock,

Uncovers at MLLW be deleted, and a rock that uncovers 1 foot (0⁴ m) at MLW be charted in Latitude 42°18'56.95"N, Longitude 70°58'54.11"W.

2) A charted note, Sh1 (2 ft rep), in the vicinity of Latitude 42°21'47.9"N, Longitude 70°58'35.9"W, was not adequately developed and is not considered disproved. No change in charting status is recommended.

3) A charted wire drag clearance depth of 13 feet, in the vicinity of Latitude 42°21'52.0"N, Longitude 70°56'42.5"W, is considered disproved. A rock with a depth of 12 feet, (3⁶ m), in Latitude 42°21'52.40"N, Longitude 70°56'43.79"W, was located. It is recommended that the charted wire drag clearance depth of 13 feet be deleted and a rock with a depth of 12 feet, (12Rk) be charted.

4) A charted wire drag clearance depth of 10 feet, in the vicinity of Latitude 42°21'47"N, Longitude 70°56'47"W, is considered disproved. A rock with a depth of 13 feet (3⁹ m), in Latitude 42°21'47.31"N, Longitude 70°56'46.68"W, was located. It is recommended that the charted wire drag clearance depth of 10 feet be deleted, and a rock with a depth of 13 feet, (13Rk), be charted.

5) A charted wire drag clearance depth of 11 feet, in the vicinity of Latitude 42°21'12"N, Longitude 70°55'40"W, is considered disproved. A rock with a depth of 14 feet (4² m), in Latitude 42°21'11.08"N, Longitude 70°55'39.96"W, was located. It is recommended that the charted wire drag clearance depth of 11 feet be deleted, and a rock with a depth of 14 feet, (14Rk), be charted.

6) A charted wire drag clearance depth of 15 feet, in the vicinity of Latitude 42°21'47"N, Longitude 70°54'52"W, is considered disproved. A rock with a depth of 16 feet (4⁹ m), in Latitude 42°21'47.03"N, Longitude 70°54'52.97"W, was located. It is recommended that the charted wire drag clearance depth of 15 feet be deleted, and a rock with a depth of 16 feet, (16Rk), be charted.

7) A charted rock with a depth of 15 feet, in the vicinity of Latitude 42°17'57"N, Longitude 70°55'13"W, was investigated. A rock with a depth of 16 feet (4⁹ m), in Latitude 42°17'57.48"N, Longitude 70°55'13.27"W, was located.

It is recommended that the charted rock with a depth of 15 feet be deleted, and a rock with a depth of 16 feet (16Rk), be charted.

8) A charted rock with a wire drag clearance depth of 21 feet, in the vicinity of Latitude 42°18'10"N, Longitude 70°56'44"W, was investigated. A rock, with a depth of 22 feet (6⁷ m), in Latitude 42°18'09.90"N, Longitude 70°56'43.99"W was located. It is recommended that the charted wire drag clearance depth of 21 feet, be deleted, and a rock with a depth of 22 feet, (22Rk), be charted.

9) Charted 20 and 30 ft depths in the vicinity of Latitude 42°20'35"N, Longitude 70°54'59"W, are considered disproved. Side scan sonargrams of the area show a very rocky bottom. It is recommended that the notation rky be charted.

10) A charted rock, with a wire drag clearance depth of 20 feet, in the vicinity of Latitude 42°18'16"N, Longitude 70°56'13"W, is considered disproved. Side scan sonargrams of the area show a very rocky bottom. It is recommended that the rock, with a wire drag clearance depth of 20 feet be deleted, and the notation rky be charted.

11) The following uncharted features were located by the present survey:

<u>Feature</u>	<u>Depth(ft/m)</u>	<u>Latitude(N)</u>	<u>Longitude(W)</u>
Rock	17/ 5 ²	42°16'52.90"	70°56'49.55"
Rock	7/ 2 ¹	42°17'48.13"	70°57'43.26"
Rock	29/ 8 ⁸	42°17'56.18"	70°56'54.16"
Rock	13/ 3 ⁹	42°18'08.45"	70°57'48.26"
Rock	15/ 4 ⁶	42°20'14.80"	70°54'59.61"
Rock	30/ 9 ¹	42°20'21.45"	70°56'08.22"
Rock	37/11 ²	42°18'07.19"	70°55'16.39"
Rock	13/ 3 ⁹	42°18'54.40"	70°54'26.59"
Rock	10/ 3 ⁰	42°18'35.22"	70°57'33.57"
Rock	11/ 3 ³	42°18'42.00"	70°57'30.42"
Rock	18/ 5 ⁵	42°18'01.89"	70°56'30.28"
Rock	31/ 9 ⁴	42°18'11.16"	70°56'29.84"
Rock	10/ 3 ⁰	42°19'28.83"	70°55'15.56"
Rock	4/ 1 ²	42°20'46.04"	70°54'48.68"
Rock	38/11 ⁵	42°21'01.23"	70°56'00.99"
Rock	14/ 4 ²	42°21'12.10"	70°54'54.60"
Obstruction	61/18 ⁶	42°20'30.35"	70°55'52.89"
Rocks	28/ 8 ⁵	42°20'23.40"	70°56'05.18"

It is recommended these features be charted in present survey locations.

12) A charted rock with a wire drag clearance depth of 24 feet, in the vicinity of Latitude 42°17'56"N, Longitude 70°57'01"W, was investigated. Rocks with a depth of 27 feet (8² m), in Latitude 42°17'56.36"N, Longitude 70°57'00.66"W, were located. It is recommended that the charted rock with a wire drag clearance depth of 24 feet be deleted, and rocks with a depth of 27 feet, (27Rks), be charted.

13) A charted rock with a wire drag clearance depth of 29 feet, in the vicinity of Latitude 42°18'46"N, Longitude 70°55'39"W, was investigated. A rock with a depth of 31 feet (9⁴ m), in Latitude 42°18'46.48"N, Longitude 70°55'39.37"W, was located. It is recommended that the charted rock with a wire drag clearance depth of 29 feet be deleted, and a rock with a depth of 31 feet, (31Rk), be charted.

14) A charted wire drag clearance depth of 23 feet, in the vicinity of Latitude 42°16'56"N, Longitude 70°56'19"W, is considered disproved. A rock with a depth of 24 feet (7³ m), in Latitude 42°16'53.54"N, Longitude 70°56'17.41"W was located. It is recommended that the charted wire drag clearance depth of 23 feet be deleted, and a rock with a depth of 24 feet, (24Rk), be charted.

15) A charted wire drag clearance depth of 13 feet, in the vicinity of Latitude 42°18'28"N, Longitude 70°57'42"W, is considered disproved. A rock with a depth of 11 feet (3³ m), in Latitude 42°18'28.40"N, Longitude 70°57'42.51"W, was located. It is recommended that the charted wire drag clearance depth of 13 feet be deleted, and a rock with a depth of 11 feet, (11Rk), be charted.

16) The following charted wire drag clearance depths are considered disproved by present survey side scan sonar and multibeam investigations:

<u>Depth(ft/m)</u>	<u>Latitude(N)</u>	<u>Longitude(W)</u>	<u>Surrounding Depths</u>
14/4 ²	42°18'33"	70°57'44"	15-20
14/4 ²	42°19'00"	70°56'18"	15-25
14/4 ²	42°18'57"	70°56'22"	16-24
16/4 ⁹	42°21'34"	70°54'54"	18-21
16/4 ⁹	42°21'02"	70°55'47"	18-20
17/5 ²	42°18'37"	70°57'45"	20-22
18/5 ⁵	42°21'33"	70°55'22"	22-34
14/4 ²	42°21'26"	70°54'56"	19-27

18/5 ⁵	42°20'58"	70°55'04"	18-23
20/6 ¹	42°19'09"	70°56'42"	24-27
23/7 ⁰	42°16'58"	70°56'23"	25-27
28/8 ⁵	42°21'11"	70°54'33"	27-32
23/7 ⁰	42°21'25"	70°56'00"	31-41
29/8 ⁸	42°18'32"	70°56'10"	36-43

It is recommended that the charted wire drag clearance depths be deleted, and the areas superseded by the present survey soundings.

17) A charted rock with a depth of 5 ft, in the vicinity of Latitude 42°17'46.5"N, Longitude 70°58'29.0"W, was investigated by the present survey. A rock with a depth of 7 ft (2¹ m), in Latitude 42°17'45.35"N, Longitude 70°58'29.06"W, was located. It is recommended that the charted rock with a depth of 5 ft be deleted, and a rock with a depth of 7 ft, (7Rk), be charted.

18) A charted rock with a depth of 2 ft, in the vicinity of Latitude 42°17'44"N, Longitude 70°58'26"W, was investigated by the present survey. A rock with a depth of 3 ft (0⁹ m), in Latitude 42°17'43.64"N, Longitude 70°58'25.12"W, was located. It is recommended that the charted rock with a depth of 2 ft be deleted, and a rock with a depth of 3 ft, (3Rk), be charted.

19) A charted Obstruction Fish Haven (Auth min 14ft), in the vicinity of Latitude 42°19'26"N, Longitude 70°58'15"W, was verified by the present survey. No change is^A charting is recommended.

20) The following charted features were not addressed or adequately investigated by the field unit:

<u>Feature</u>	<u>Latitude (N)</u>	<u>Longitude (W)</u>
Approach Light		
Lane	42°21'00.0"	70°59'06.0"
Submerged		
piles	42°20'57.0"	70°59'02.0"
Obstruction	42°20'49.0"	70°57'47.4"

It is recommended that these features be retained as charted.

21) Automated Wreck and Obstruction Information System (AWOIS) Item #10339, a charted visible wreck, PA, in the vicinity of Latitude 42°16'18"N, Longitude 70°56'54"W, was not adequately investigated. The feature was not seen during the investigation. It is recommended that the charted visible wreck, PA be revised to a dangerous sunken wreck, PA.

22) A charted notation, 26 ft rep, in the vicinity of Latitude 42°16'50"N, Longitude 70°55'59"W, was investigated by the present survey. A depth of 24 feet (7³ m), in Latitude 42°16'48.45"N, Longitude 70°55'59.71"W, was located. It is recommended that the charted notation, 26 ft rep be deleted and the area superseded by present survey depths.

23) A charted Dumping Ground, discontinued, in the vicinity of Latitude 42°17'37"N, Longitude 70°55'05"W, was investigated. It is recommended that the charted Dumping Ground, discontinued and limits be deleted, and the area superseded by present survey depths.

24) AWOIS Item #2089, a charted obstruction with a depth of 33 feet, in Latitude 42°22'05.35"N, Longitude 70°54'50.17"W, was partially investigated during present survey. The required area of investigation is located such that the area was covered by adjoining surveys. The field unit conducted a side scan sonar/multibeam investigation over the area within the limits of the present survey. The investigation was completed on survey H10994 (2001). No evidence of the obstruction was seen on either survey. It is recommended that the charted obstruction with a depth of 33 feet be deleted, and the area superseded by present survey depths.

25) A charted obstruction with a depth of 7 feet, in the vicinity of Latitude 42°20'11"N, Longitude 70°55'04"W, was investigated during present survey. A rock with a depth of 7 feet (2¹ m), in Latitude 42°20'11.36"N, Longitude 70°55'03.81"W, was located. It is recommended that the charted obstruction with a depth of 7 feet be deleted and a rock with a depth of 7 feet, (7Rk), be charted in present survey location.

26) AWOIS Item #11053, a charted dangerous sunken wreck, PA, in the vicinity of Latitude 42°21'56"N, Longitude 70°58'30"W, originates with Local Notice to Mariners 13 of

2001 (LNM 13/01). The wreck has been charted subsequent to present survey operations. No change in charting status is recommended.

27) A charted rock with a depth of 32 feet, (9⁷ m), in Latitude 42°17'29.85"N, Longitude 70°57'14.72"W, originates with Danger to Navigation Report of May 25, 2001. During office processing it was determined that surrounding depths range from 32 to 34 feet. It is recommended that the rock with a depth of 32 feet, (32Rk), be deleted and present survey depths be charted.

28) An uncharted rock with a depth of 19 feet, (5⁸ m), in Latitude 42°20'56.12"N, Longitude 70°54'39.52"W, originates with a Danger to Navigation Report of May 25, 2001. The item was listed as a rock with a depth of 18 feet and charted as an 18 ft depth. It is recommended that the 18 ft depth be superseded by a rock with a depth of 19 feet, (19Rk), in present survey location.

29) During office processing of side scan data the following areas were determined to be rocky:

<u>Latitude(N)</u>	<u>Longitude(W)</u>
42°21'33.5"	70°55'00.0"
42°21'25.5"	70°55'00.0"
42°21'34.5"	70°56'40.8"
42°19'42.5"	70°54'57.9"
42°17'44.5"	70°56'30.8"

It is recommended that the notation rky be charted in above locations.

30) A charted wire drag clearance depth of 11 feet, in the vicinity of Latitude 42°22'01.5"N, Longitude 70°56'50.0"W, was neither verified nor disproved by the present survey. No change in charting is recommended.

31) An uncharted pier, in the vicinity of Latitude 42°19'18.4"N, Longitude 70°59'21.0"W, was located during present survey operations. It is recommended that the pier be charted as shown on the present survey.

32) A charted notation, Shoaling rep 1998, in the vicinity of Latitude 42°21'49.5"N, Longitude 70°58'39.3"W, is not considered disproved by the present survey. No change in charting is recommended.

33) Charted Sewers, in the vicinity of Latitude 42°16'58.49N, Longitude 70°57'19.08"W, were neither verified nor disproved by the present survey. No change in charting status is recommended.

34) Charted Sewers, in the vicinity of Latitude 42°17'00.0"N, Longitude 70°57'21.0"W, and Latitude 42°20'05.0"N, Longitude 70°57'26.7"W, were neither verified nor disproved by the present survey. No change in charting status is recommended.

35) A charted Abandoned Sewer, in the vicinity of Latitude 42°17'30.0"N, Longitude 70°57'24", was neither verified nor disproved by the present survey. No change in charting status is recommended.

36) The following charted features originate with a Danger to Navigation Report of May 25, 2001. This report was produced from the present survey. During office processing the following features changed due to the application of approved tides:

<u>Charted Rocks</u>	<u>Latitude(N)</u>	<u>Longitude(W)</u>	<u>Present Survey Items</u>
6 Rk	42°17'20.57"	70°54'37.23"	5 Rk
14 Rk	42°17'44.14"	70°55'33.13"	12 Rk
14 Rk	42°18'55.23"	70°55'15.86"	15 Rk
14 Rk	42°17'17.31"	70°55'36.64"	15 Rk
14 Rk	42°17'49.96"	70°56'34.30"	15 Rk
17 Rk	42°19'51.20"	70°54'42.58"	16 Rk
26 Rk	42°21'41.56"	70°54'31.88"	27 Rk
18 Rk	42°20'22.43"	70°54'59.01"	19 Rk

It is recommended that the charted rocks be revised to present survey rocks.

37) A charted 0 ft shoal, in the vicinity of Latitude 42°18'13.5"N, Longitude 70°55'23.2"W, was verified by the present survey. No change in charting is recommended.

38) The following charted depths or features were neither verified nor disproved by the present survey:

<u>Depth(ft/m)</u>	<u>Latitude(N)</u>	<u>Longitude(W)</u>
6/1 ⁸	42°15'55.7"	70°56'25.8"
5/1 ⁵	42°16'18.5"	70°56'23.3"
5/1 ⁵	42°16'26.0"	70°56'16.5"
5/1 ⁵	42°16'41.4"	70°55'32.1"
3/0 ⁹	42°16'45.8"	70°56'22.9"
4/1 ²	42°16'43.8"	70°56'16.2"
6½/2 ⁰	42°16'20.0"	70°56'55.0"
5/1 ⁵ Rk	42°17'09.5"	70°55'18.5"
2/0 ⁶	42°18'03.3"	70°57'25.9"
6/1 ⁸	42°18'01.0"	70°57'20.4"
9/2 ⁷	42°17'59.0"	70°57'21.0"
17/5 ²	42°17'59.0"	70°57'16.0"
8/2 ⁴	42°18'17.5"	70°57'15.5"
3/0 ⁹	42°20'38.1"	70°59'04.6"
3/0 ⁹	42°21'48.5"	70°59'08.0"
11/3 ⁴	42°21'47.5"	70°59'17.2"
1/0 ³	42°21'05.6"	70°59'01.9"
1/0 ³	42°21'04.2"	70°59'05.1"
5/1 ⁵	42°21'10.0"	70°59'10.2"

It is recommended that the charted depths or features be retained as charted.

Controlling Depths

1) A conflict exists with the charted controlling depths, in the vicinity of Latitude 42°16'09.6"N, Longitude 70°55'58.7"W. The present survey shows a depth of 33 feet, with a controlling depth of 34 feet.

2) A conflict exists with the charted controlling depths, in the vicinity of Latitude 42°16'54.46"N, Longitude 70°55'50.97"W. The present survey show a rock with a depth of 32 feet, with a controlling depth of 35 feet.

3) A conflict exists with the charted controlling depths, in the vicinity of Latitude 42°19'00.7"N, Longitude 70°54'35.5"W. The present survey shows a depth of 32 feet, with a controlling depth of 33 feet.

4) A conflict exists with the charted Project Depth, in the vicinity of Latitude 42°20'03.7"N, Longitude 70°59'03.4"W. The present survey shows a depth of 34 feet, with a Project Depth of 35 feet.

5) A conflict exists with the charted Project Depth, in the vicinity of Latitude 42°20'03.4"N, Longitude 70°59'19.9"W. The present survey shows a depth of 34 feet, with a Project Depth of 35 feet.

6) A conflict exists with the charted Project Depth, in the vicinity of Latitude 42°20'04.9"N, Longitude 70°59'32.3"W. The present survey shows a depth of 34 feet, with a Project Depth of 35 feet.

7) A conflict exists with the charted Project Depth, in the vicinity of Latitude 42°20'04.3"N, Longitude 70°59'40.6"W. The present survey shows a depth of 34 feet, with a Project Depth of 35 feet.

8) A conflict exists with the charted Project Depth, in the vicinity of Latitude 42°20'10.2"N, Longitude 70°59'52.3"W. The present survey shows a depth of 34 feet, with a Project Depth of 35 feet.

9) A conflict exists with the charted Project Depth, in the vicinity of Latitude 42°19'53.8"N, Longitude 70°59'21.0"W. The present survey shows a depth of 39 feet, with a Project Depth of 40 feet.

10) A conflict exists with the charted Project Depth, in the vicinity of Latitude 42°19'56.3"N, Longitude 70°59'39.5"W. The present survey shows a depth of 38 feet, with a Project Depth of 40 feet.

11) A conflict exists with the charted Project Depth, in the vicinity of Latitude 42°20'05.32"N, Longitude 70°59'54.07"W. The present survey shows a rock with a depth of 37 feet, with a Project Depth of 40 feet.

12) A conflict exists with the charted Project Depth, in the vicinity of Latitude 42°20'00.7"N, Longitude 70°59'55.8"W. The present survey shows a depth of 37 feet, with a Project Depth of 40 feet.

It is recommended that the above discussed present survey depths be charted.

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

Dangers to Navigation

One Danger to Navigation report, dated May, 25, 2001 was submitted to Commander(oan), First Coast Guard District, Boston, Massachusetts for inclusion in the Local Notice to Mariners, and to the Marine Chart Division, N/CS3x1, Silver Spring, Maryland. A copy of this report is appended to the Evaluation Report.

ADEQUACY OF SURVEY

This is an adequate hydrographic/side scan sonar/multibeam survey. Additional work recommended by the field unit was performed during survey operations for H10990 (2001).

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:

13270 (59th Edition, Jul 14/01)
13272 (47th Edition, Mar 10/01)

Robert Snow

Robert Snow

Cartographic Technician
Verification of Field Data
Evaluation and Analysis

APPROVAL SHEET
H10991

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.



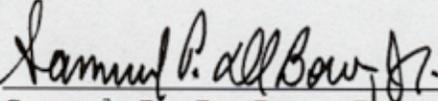
Date: 12/31/2002
Norris A. Wike
Cartographer
Atlantic Hydrographic Branch

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: 12/31/2002
Emily B. Christman
Commander, NOAA
Chief, Atlantic Hydrographic Branch

Final Approval:

Approved: 

Date: March 7, 2003
Samuel P. De Bow, Jr.
Captain, NOAA
Chief, Hydrographic Surveys Division

AW015/SURFV 1/9/03, SJ

REPORT OF DANGER TO NAVIGATION

Survey Registry Number: **H-10991**
State: Massachusetts
Locality: Approaches to Boston Harbor
Sub-Locality: Boston North Channel to Weymouth Fore River
Project Number: OPR-A397-WH
Survey Date(s): September 19 - November 16, 2000

Soundings are reduced to Mean Lower Low Water (MLLW) using Verified Water Levels.
Horizontal datum is NAD 83.

Chart(s) Affected: **13267**, 29th edition, February 28, 1998, 1:80,000
13270, 58th edition, October 9, 1999, 1:25,000
13272, 46th edition, April 15, 2000, 1:10,000
13275, 27th edition, July 24, 1999, 1:25,000

DANGERS TO NAVIGATION

Sixty-three dangers to navigation were discovered during hydrographic survey operations on survey H-10991, Boston North Channel to Weymouth Fore River, Boston Harbor. All items are listed in four tables based on their respective chart.

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

CHART 13270*SEE NOTES AND CHARTING RECOMMENDATIONS ON PAGE 5*

DTON #	LEAST DEPTH (FEET)	LEAST DEPTH LATITUDE	LEAST DEPTH LONGITUDE	DESCRIPTION
1	-6	42-19-31.33 N	070-55-00.58 W	-6ft sounding <i>Rock which covers and uncovers, ht above chart datum (6)</i>
2	0	42-18-13.45 N	070-55-23.31 W	0 0.5 ft sounding <i>D-37</i>
3	1	42-19-55.79 N	070-56-33.44 W	1ft sounding *
5	3	42-17-06.82 N	070-57-32.75 W	3 2 ft rock <i>AWOIS 10341</i>
6	4	42-20-59.87 N	070-58-12.77 W	4ft sounding *
7	5	42-20-20.26 N	070-54-59.98 W	5ft rock *
8	5	42-18-59.57 N	070-58-47.61 W	5 6 ft rock <i>AWOIS 10352</i>
9	6	42-17-20.57 N	070-54-37.23 W	6 5 ft rock <i>D-36</i>
11	6	42-17-13.90 N	070-57-35.90 W	6ft sounding *
12	6	42-20-58.52 N	070-57-55.10 W	6ft sounding *
15	7	42-20-11.36 N	070-55-03.81 W	7ft obstruction <i>Rk D-25</i>
16	8	42-19-37.23 N	070-57-55.34 W	8ft sounding *
18	10	42-16-23.75 N	070-55-41.67 W	10ft rock *
19	10	42-19-02.96 N	070-58-41.35 W	10ft sounding *
21	10	42-18-58.60 N	070-58-31.09 W	10ft sounding *
23	11	42-18-34.20 N	070-58-45.90 W	11ft sounding **
24	12	42-19-28.63 N	070-55-11.15 W	12ft sounding *
25	12	42-19-44.91 N	070-56-53.06 W	12ft sounding **
26	12	42-20-18.88 N	070-55-57.95 W	12ft rock *
27	12	42-18-03.19 N	070-58-05.48 W	12ft wreck <i>AWOIS 10351</i>
33	13	42-18-39.42 N	070-57-32.68 W	13ft rock *
35	14	42-17-44.14 N	070-55-33.13 W	14 12 ft rock <i>D-36</i>
37	14	42-18-55.23 N	070-55-15.86 W	14 15 ft rock <i>D-36</i>
39	14	42-17-17.31 N	070-55-36.64 W	14 15 ft rock <i>D-36</i>
42	14	42-17-49.96 N	070-56-34.30 W	14 15 ft rock <i>D-36</i>

43	15	42-18-08.93 N	070-58-36.34 W	15ft rock *
50	16	42-20-12.88 N	070-54-33.99 W	16ft wrecks <i>See charting note on AWOIS page 28</i>
52	17	42-19-51.20 N	070-54-42.58 W	17 16 ft rock <i>D-36</i>
53	17	42-20-14.25 N	070-55-08.39 W	17ft rock *
54	17	42-21-30.59 N	070-55-02.15 W	17ft sounding *
55	17	42-18-49.40 N	070-57-21.49 W	17ft sounding *
59	17	42-21-06.70 N	070-55-15.50 W	17ft rock *
61	17	42-18-54.86 N	070-55-20.54 W	17ft rock *
62	18	42-18-01.89 N	070-56-30.28 W	18ft sounding <i>Rk D-11</i>
63	18	42-17-41.60 N	070-57-21.45 W	18ft rock *
65	18	42-20-56.12 N	070-54-39.52 W	18 19 ft rock <i>D-28</i>
66	18	42-20-22.43 N	070-54-59.01 W	18 19 ft rock <i>D-36</i>
67	18	42-18-02.97 N	070-57-35.25 W	18ft sounding *
68	18	42-21-30.82 N	070-55-09.48 W	18ft sounding *
69	19	42-16-40.99 N	070-55-49.26 W	19ft rock *
71	19	42-21-31.88 N	070-54-39.49 W	19ft sounding *
73	20	42-17-19.83 N	070-54-58.42 W	20ft rock *
78	21	42-18-09.98 N	070-55-07.98 W	21ft wreck <i>AWOIS 10358</i>
79	24	42-20-26.85 N	070-54-58.60 W	24ft sounding *
80	25	42-17-54.45 N	070-55-07.81 W	25ft sounding *
81	25	42-21-57.75 N	070-54-50.74 W	25ft sounding **
83	25	42-16-51.11 N	070-56-09.78 W	25ft sounding *
84	25	42-18-14.17 N	070-57-00.01 W	25ft rock *
85	25	42-19-07.64 N	070-54-45.28 W	25ft rock *
86	25	42-21-28.46 N	070-55-29.32 W	25ft rock *
87	26	42-21-41.56 N	070-54-31.88 W	26 27 ft rock <i>D-36</i>
89	27	42-20-30.74 N	070-55-35.66 W	27ft rock *
90	28	42-20-23.40 N	070-56-05.18 W	28ft sounding <i>Rks D-11</i>

91	29	42-20-41.92 N	070-55-21.46 W	29ft sounding *
92	30	42-19-53.01 N	070-58-12.95 W	30ft rock *
98	32	42-17-29.85 N	070-57-14.72 W	32ft rock <i>D-27</i>
99	32	42-16-54.46 N	070-55-50.97 W	32ft rock *
100	32	42-18-14.33 N	070-56-31.59 W	32ft rock *
101	33	42-20-33.13 N	070-56-32.91 W	33 34 ft sounding *
103	33	42-18-03.80 N	070-56-46.28 W	33ft sounding **
104	33	42-18-10.76 N	070-56-35.20 W	33 34 ft sounding **
105	35	42-20-27.95 N	070-56-02.55 W	35ft rock *
108	36	42-20-26.35 N	070-58-34.53 W	36ft sounding *
109	36	42-20-32.70 N	070-58-26.41 W	36 37 ft sounding **

CHART 13267 SEE CHART 13270 FOR CHARTING RECOMMENDATIONS

DTON #	LEAST DEPTH (FEET)	LEAST DEPTH LATITUDE	LEAST DEPTH LONGITUDE	DESCRIPTION
1	-6	42-19-31.33 N	070-55-00.58 W	-6ft sounding
7	5	42-20-20.26 N	070-54-59.98 W	5ft rock
15	7	42-20-11.36 N	070-55-03.81 W	7ft obstruction
24	12	42-19-28.63 N	070-55-11.15 W	12ft sounding
26	12	42-20-18.88 N	070-55-57.95 W	12ft rock
50	16	42-20-12.88 N	070-54-33.99 W	16ft wreck
52	17	42-19-51.20 N	070-54-42.58 W	17ft rock
53	17	42-20-14.25 N	070-55-08.39 W	17ft rock
54	17	42-21-30.59 N	070-55-02.15 W	17ft sounding
59	17	42-21-06.57 N	070-55-15.50 W	17ft rock
65	18	42-20-56.12 N	070-54-39.52 W	18ft rock
66	18	42-20-22.43 N	070-54-59.01 W	18ft rock
68	18	42-21-30.82 N	070-55-09.48 W	18ft sounding
71	19	42-21-31.88 N	070-54-39.49 W	19ft sounding
79	24	42-20-26.85 N	070-54-58.60 W	24ft sounding

81	25	42-21-57.75 N	070-54-50.74 W	25ft sounding
86	25	42-21-28.46 N	070-55-29.32 W	25ft rock
87	26	42-21-41.56 N	070-54-31.88 W	26ft rock
89	27	42-20-30.74 N	070-55-35.66 W	27ft rock
90	28	42-20-23.40 N	070-56-05.18 W	28ft sounding
91	29	42-20-41.92 N	070-55-21.46 W	29ft sounding
101	33	42-20-33.13 N	070-56-32.91 W	33ft sounding
105	35	42-20-27.95 N	070-56-02.55 W	35ft rock

CHART 13272 SEE CHART 13270 FOR CHARTING RECOMMENDATIONS

DTON #	LEAST DEPTH (FEET)	LEAST DEPTH LATITUDE	LEAST DEPTH LONGITUDE	DESCRIPTION
6	4	42-20-59.87 N	070-58-12.77 W	4ft sounding
12	6	42-20-58.52 N	070-57-55.10 W	6ft sounding
92	30	42-19-53.01 N	070-58-12.95 W	30ft rock
108	36	42-20-26.35 N	070-58-34.53 W	36ft sounding
109	36	42-20-32.70 N	070-58-26.41 W	36ft sounding

CHART 13275 SEE CHART 13270 FOR CHARTING RECOMMENDATIONS

DTON #	LEAST DEPTH (FEET)	LEAST DEPTH LATITUDE	LEAST DEPTH LONGITUDE	DESCRIPTION
81	25	42-21-57.75 N	070-54-50.74 W	25ft sounding
87	26	42-21-41.56 N	070-54-31.88 W	26ft rock

* *Retain as charted.*

*** *Do not chart due to congestion on chart.*

See evaluation report for discussion of all D. items.

