9712

Diagram No. 1208-2

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey ..Hydrographic.....

Field No. .....WH-10-1-77.....

Registery No. ...H-9712.....

LOCALITY

State .....Massachusetts.....

General Locality Buzzards Bay.....

Sublocality ....Southwest Ledge to.....

Buttermilk Bay.....

1977

CHIEF OF PARTY
CDR J.W. Carpenter

LIBRARY & ARCHIVES

DATE .....July 11, 1984.....

☆U.S. GOV. PRINTING OFFICE: 1985—566-054

9712

"GP"
CHTS:
13236
13229GH
13230
to sign off as Record of Application

FORM C&GS-537 (5-66)

U.S. DEPARTMENT OF COMMERCE
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

REGISTER NO. H-9712

FIELD NO. WH-10-1-77

INSTRUCTIONS - The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

State Massachusetts

General locality Buzzards Bay

Locality ~~Northeast Buzzards Bay~~ Southwest Ledge to Buttermilk Bay

Scale 1:10,000 Date of survey 6 July-16 Oct. 1977

Instructions dated 15 March 1977 Project No. OPR-503-WH-77

Vessel NOAA Ship Whiting

Chief of party John W. Carpenter, CDR, NOAA

Surveyed by David Goodrich, John Rubino, Robert Mandzi, Nicholas Perugini, Edward Assaf

Soundings taken by echo sounder, ~~hand lead~~, pole

Graphic record scaled by JG, DMG, GMB, JR, RM, NEP, EA, JG, RK, RH

Graphic record checked by DRT, RM

Smooth Plot: XYNETICS 1201 (AMC)

Protracted by N/A Automated plot by Hydroplot

Soundings penciled by Verification by R.L. Keene, checked by R.R. Hill & R.D. Sanocki (AMC).

Soundings in ~~fathoms~~ feet at MLW ~~MLLW~~

REMARKS: All times are Coordinated Universal Time

Notes in the Descriptive Report added in pencil during office processing at AMC.

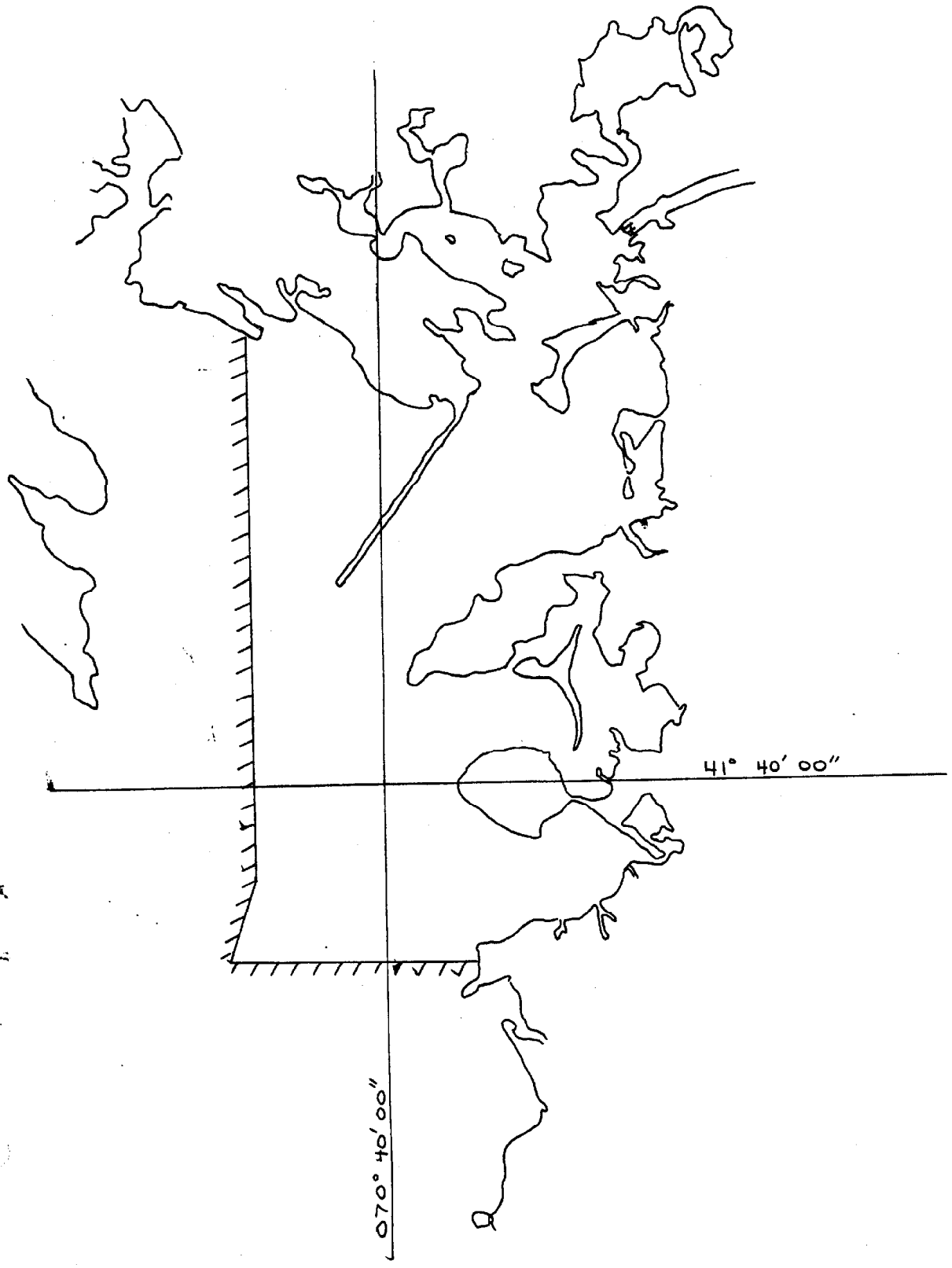
AWOIS/SURF 5/89 LQ

VERIFIED NOT EVALUATED

K.W.W. 10/4/91

USCOMM-DC 37009-P66

H-9712
WH 10-1-77
SURVEY AREA



DESCRIPTIVE REPORT

WH-10-1-77

H-9712

A. PROJECT INSTRUCTIONS

This survey was conducted in accordance with Project Instructions for OPR-503-WH-77, Buzzards Bay, Massachusetts, dated March 15, 1977, as amended by changes 1,2,3, and 4, dated April 12, 1977; April 12, 1977; May 2, 1977; and April 24, 1977, respectively.

B. AREA SURVEYED

The area surveyed is the northeast corner of Buzzards Bay, Massachusetts, extending north from latitude 41°38'30"N and east from longitude 70°41'24"W. The survey extends into many harbors, bays, and navigable rivers and inlets. Also included is extensive development of Cleveland Ledge Channel and Hog Island Channel, extending northeast to Taylor Point, and Southwest to the southern survey limit. Development of the southwest end of Cleveland Ledge Channel has been included here, however, it lies within the survey limits of H-9724.

The survey was conducted from 6 July, 1977 (J.D. 187) to 16 October, 1977 (J.D. 289).

C. SOUNDING VESSELS

Two Whiting 26 foot launches, 1202 (2932) and 1203 (2931), equipped with the PDP-8E hydroplot systems and Raytheon echo sounders were used to perform all main scheme range/range hydrography. On two days, launch 1203 (2931) also performed in-shore range/azimuth hydrography. All other in-shore range/azimuth hydrography was performed by skiff WH 4 (2933), a Boston Whaler equipped with a Raytheon shallow water fathometer.

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

Launch 1202 and 1203 were equipped with Raytheon DE-723D fathometers, serial numbers 37018 and 37010, respectively. Bar checks were performed on each day of hydrography, weather permitting. A-F checks were made periodically, and the initial was continuously monitored.

The fathogram traces became erratic at depths shallower than four feet, with the problem most severe in launch 1202.

Transducer draft of the launches was 1.3 feet throughout the survey except for one day. Due to the problem of oil leaking into the transducer case, the transducer on launch 1203 was remounted at a draft of 2.0 feet before its final day of work on J.D. 289.

Settlement and squat corrections for both launches were obtained on May 7, 1977 by Whiting personnel. (Listings of velocity corrections, TC/TI tapes, and an abstract of corrections to echo soundings are included in the appendix.)- Revised during office verification

Skiff WH-4 was equipped with Raytheon shallow water fathometer DE-719, serial number 497. The transducer was mounted in a bracket on the side of the skiff. Each day the transducer draft was measured with the skiff fully loaded, and the "tide and draft" adjustment set to that value. The "cal zero" adjustment was set to 0 and the speed of sound adjustment was set to 50 feet. Both were readjusted periodically by the fathometer operator. Pole checks were also conducted daily. In areas with grassy bottoms, pole checks were periodically taken while on-line to aid in the scanning of fathograms.

The quality of the trace was also sometimes adversely affected by stylus problems, or when running at higher speeds with a shallow transducer depth.

Because of the shallow nature of the skiff hydrography, velocity corrections have not been applied. Also, since all work was performed at reduced speed, squat and settlement have not been taken into account.

E. HYDROGRAPHIC SHEETS

The field sheets were prepared by Whiting personnel using a Houston Instruments DP-3-5 roll plotter, serial number 5557-6. The survey is divided into three plotter sheets, labeled north, central, and south, with parameters as listed. Due to the density of soundings, a development overlay was prepared for each sheet, containing all development soundings, including channel work. There is no duplication of soundings on main scheme and development sheets, except for shallowest depths of developments, which have been transferred to the main sheets. Rocks, buoys, and bottom characteristics are shown on the development overlays.

Velocity, tide, and static draft corrections have been applied to the soundings. Tide corrections are based on predicted tides for Newport, Rhode Island. The south and central plotter sheets were plotted using area three tide correctors, and the north plotter sheet was plotted using area four tide corrections. This tide zoning was most practical for plotting purposes, and corresponds approximately with the zoning furnished in the project instructions.

F. CONTROL STATIONS

The signal tape listing, which includes all stations used in this survey, is included in the appendix, Section F, List of Stations.

The source of control for stations 9, 11, 13, 19, 33, 63, and 65 is from Volume One, the published control for Buzzards Bay.

Third order, class I control was establisehd for all other stations except station 61 by Photo Party 62, Robert S. Tibbits, Chief of Party.

Volume One, Photo Party 62, and the U.S. Army Corps of Engineers each report a different position for station 61, Monument Beach Steel Tank. The position used for the tank, which was used only as a range/azimuth initial, was obtained by photo point by the Corps of Engineers.

G. HYDROGRAPHIC POSITION CONTROL

Both range/range and range/azimuth methods of control were used in conducting the survey, as listed in the abstract of positions in the appendix. The Del Norte system was used to obtain ranges for range/range and range/azimuth hydrography, and Wild T-2 theodolites were used for azimuth readings during range/azimuth hydrography.

During range/range operations, visual calibrations were obtained daily, and when stations were changed. These calibrations were usually three point sextant fixes with check angles. Normally, several fixes with inverse distances of five meters or less were obtained, and a weighted average was used to calculate correctors. In addition, every two weeks the system was calibrated along a baseline of known length according to procedures described in the Del Norte Manual.

Erroneous positions from invalid Del Norte readings have been plotted on a time and course basis or have been rejected.

In small inlets and other confined areas where neither range/range nor range/azimuth methods of control were practical, "see boat sheet" visual control was used, as prescribed in the project instructions. This data has been edited onto master tapes, using derived ranges and azimuths hand plotted from the stations being used immediately before the "see boat sheet" hydrography.

H. SHORELINE

Shoreline manuscripts for this survey were compiled in Spring, 1976. Shoreline on the field sheet was from shoreline manuscripts TP-00770, TP-00762, TP-00765, and TP-00766. Field edit has been completed on TP-00770, TP-00762 and TP-00766. Field edit on TP-00765 was not completed by the close of the ship's field season. Field edit and final review of T. sheets was completed. Data shown on smooth sheet reflects reconcillation with hydrographic data during verification.

I. CROSSLINES

Crosslines on this survey were run perpendicular to the main scheme in range/range areas, and as radials in the area of range/azimuth areas. Total crossline miles equal 9.2% of the miles of main scheme hydrography. In addition, hydrography run from different range/azimuth setups frequently overlapped, providing checks in the same manner as crosslines.

Agreement is generally very good, usually 0-1 foot. Greater discrepancies sometimes appear in areas of very irregular bottom, and in many bays and inlets on the north plotter sheet, where real tides were sometimes found to differ significantly from predicted

tides. The application of real tides to sdgs shown on the smooth sheet did not eliminate 1-2' crossing conflicts.

J. JUNCTIONS

This survey junctions with H-9724 (WH-10-2-77), 1:10,000, 1977 along the western survey limit, and with H-9661, 1:10,000, 1976 along the southern survey limit. Agreement with H-9724 is good, with depth differences generally 0-2 feet. Agreement with H-9661 is excellent, with depth differences of 0-1 foot.

K. COMPARISON WITH PRIOR SURVEYS

This survey was compared to the last complete survey of the area, registry numbers 2272 and 2273, surveyed in 1896, and 2318, surveyed in 1897. No useful comparison can be made over much of the area, due to numerous man-made changes. An approach to the Cape Cod Canal was dredged along the north side of Wing's Neck and east of Hog and Mashnee Islands. Later, this was replaced by a new channel, still used and dredged regularly, to the west of Hog and Mashnee Islands. Stony Point Dike has been created, and Hog and Mashnee Islands are now part of a peninsula. Comparison with a 1917 survey of the old canal approach, registry numbers 3980 and 3981, shows the old channel has shoaled considerably since falling into disuse, as it is no longer dredged. In general, no other comparisons can be drawn from the tip of Stony Point Dike to Taylor Point.

Many channels or harbors have been dredged, causing large differences from 1896-7. However, most of the survey area is the same depth, or one to two feet shallower than in the 1896-7 surveys. Areas of greater discrepancy are Buttermilk Bay (two to three feet shallower than 1896), Little Buttermilk Bay (two to five feet shallower), and Abiels Ledge (four to ten feet shallower than 1896).

Hydrography for pre-survey review items was generally run in grids of fifty meter spacing, or closer spacing when warranted. The results of those investigations follow.

Listed after the PSI number is the searched-for item, followed by the position numbers included in the investigation. Listed depths were found either on the given sounding number in parenthesis, or between the given and the next sounding number. Depths listed have been transferred to the main scheme sheet.

Predicted tides have been used to reduce soundings to mean low water. Draft and velocity correctors have also been applied.

PSI 17~~4~~ - 4 foot shoal (3530-3585)

7' - (3533,3562) - 41°39'~~18~~22"N, 70°~~40~~39'~~00~~59"W, charted position
6' - (3568)+4 - 41°39'2~~3~~2"N, 70°40'03"W, 100 meters NW
13'- (3544)+1 - 41°39'12"N, 70°40'0~~3~~2"W
14- (3573)+3 - 41°39'12"N, 70°40'07"W

A 7 foot sounding was found in the spot of the charted 4 foot

sounding; several other 7 foot soundings were also found in the area. The shoalest depth found was 6 feet, 100 meters NW of the charted 4 feet. Due to the irregular nature of the bottom, retaining the 4 foot sounding as charted is recommended. concur

PSI 17B - 7 foot shoal (3706-3730, 4568-dive)

6' - (3716, 4568) - 41°39'07"N, 70°38'49"W, 50 meters WNW

Divers described Cataumet Rock as a small cluster of rocks, with the largest 15feet x 15feet x 10feet high. Divers obtained a minimum depth of 6.3 feet at MLW at a position approximately 50 meters WNW of the charted 7 foot sounding. A 6 foot sounding was also found in the same spot during development. Charting of the 6 foot rock in the new position is recommended.

PSI 17C - 5 foot shoal (344-350, 3802-3831)

11' - (3828) - 41°40'29"N, 70°38'45"W, charted position

Although the area was developed on two occasions, Eustis Rock was not found as charted. The shoalest sounding was an 11 foot spike in the charted position of the 5 foot sounding. However, retention of the 5 foot sounding is recommended. concur

PSI 17D - 13 foot shoal (1084-1095)

12' - (1099) - 41°41'09"N, 70°41'07"W, 50 meters E

The shoalest depth found in the investigation was a 12 foot sounding approximately 50 meters E of the charted 13 foot sounding. Charting of the 12 foot sounding in the new location is recommended. concur

PSI 17E - 13 foot shoal (6841-6851)

11' - (6841) - 41°41'24"N, 70°40'57"W, charted position

An 11 foot sounding was found in the approximate position of the charted 13 foot sounding. Charting of the 11 foot sounding in that location is recommended. concur

PSI 17K - 12 foot shoal (1084-1095)

11' - (1086, 1094) - 41°41'20"N, 70°40'31"W, 50 meters E
11' - (1090) - 41°41'21"N, 70°40'35"W, 50 meters NW

11 foot soundings were found in two locations. The first is approximately 50 meters east of the charted 12 foot sounding, found in main scheme and duplicated in development. The second, found during development, is approximately 50 meters NW of the charted 12 foot sounding. Charting of the new 11 foot soundings is recommended. concur

PSI 17g (L) - 6 foot rock (1060-1071)

11' - (main scheme (Pos 4149+8)) - 41°41'31"N, 70°39'49"W, 50 meters NW

Nothing shoaler than an 11 foot sounding in the main scheme, approximately 50 meters NW of the charted 6 foot rock, was found in the vicinity. However, retention as charted is recommended. concur

PSI 18a (C) - rock awash (351-362)

27' flat bottom - 41°40'05"N, 70°40'17"W

No evidence of the rock awash was found during the investigation. However, retention as charted is recommended, pending wire drag. concur

PSI 17h (M) - 4 foot rock (7179-7206)

7' - many in area - 41°42'57"N, 70°38'45"W

No evidence of the charted 4 foot rock was found. 7 foot soundings were obtained in the vicinity, with depths considerably shoaler toward shore to the south. Retention as charted is recommended. concur

PSI 18b (A) & 8 (B) - rocks awash (3625-3682 on main scheme)

A: 41°39'46"N, 70°39'15"W
B: 41°39'43"N, 70°39'05"W

This area was investigated in conjunction with the 50 meter spacing survey of the Seal Rocks area, and plotted on main scheme. The area of these charted rocks awash is too full of rocks to identify individual rocks. Charting the area around these rocks as a foul area is recommended. concur

PSI 22a & b - sunken rock & rock awash (1014-1047)

3' - (1033 +3) - 41°42'12"N, 70°37'51"W, charted position
7' - (1040 +5) - 41°42'10"N, 70°37'54"W, charted position

These two items were investigated as a single development. The two shoalest depths were found in the charted positions of the two rocks. A 3 foot sounding was obtained in the charted position of the sunken rock, and a 7 foot sounding was obtained in the charted position of the rock awash. Retention as charted is recommended. concur

PSI 22c - sunken rock (1048-1059)

5' - (1050 +3) - 41°41'57"N, 70°38'27"W, charted position

A 5 foot sounding was obtained during development in the charted position of the sunken rock. Minimum depth may be shoaler than

found, therefore, retention as charted is recommended. concur

PSI 22d - rock awash (363-380, 393-402)

1' - (397) - 41°39'57"N, 70°39'55"W, charted position
0' - (367) - 41°39'50"N, 70°40'01"W
1' - (366) - 41°39'50"N, 70°39'50"W
6' - (394) - 41°39'52"N, 70°39'57"W
0' - (370) - 41°39'53"N, 70°40'06"W

The rock hit the launch bottom (draft ~~2.0~~ 1.3 feet) with predicted tide of 1.0 feet, hence, a 1 foot sounding was obtained in the charted position. Recommend retention of rock awash as charted. The north end of Southwest Ledge was also developed in conjunction with this investigation, with the shoalest soundings listed here transferred to the main scheme sheet. least depth 0-5t.

PSI 27 - obstruction (1183-1194)

13' - (1185) - 41°41'52"N, 70°39'44"W, charted position

A 13 foot sounding was found in the charted location of the obstruction. The minimum depth may be shoaler than found. Retention as charted is recommended. concur

PSI 30 - submerged racks (1152-1175) RACKS NOT ROCKS

4' - main scheme - 41°42'33"N, 70°39'45"W, 120 meters NW pos. 4073+6

In the main scheme, a series of spikes, the shoalest being a 4 foot sounding, were found approximately 120 meters southwest of the position given as the center of the submerged racks. Splits of 45 meter spacing were run in the area with no other indication of racks found. No buoys marking the racks were observed. Retention as charted is recommended.

PSI 32a - bare rock (7175-7178)

41°42'59"N, 70°37'46"W, charted position

A pile of rocks was found in the charted position, and positions were taken on four sides. Retention as charted is recommended. Are rocks on T-sheet?

PSI 32b - bare rock (7673)

40°43'52"N, 70°37'44"W, charted position

A pile of rocks was found in the charted position. Retention as charted is recommended. Are rocks on T-sheet?

PSI 33 - dolphins (7663-7668)

41°43'45"N, 70°37'54"W

Six dolphins were found in a line parallel to the canal as

charted. Retention as charted is recommended. Are dols on T-sheet? Use T-Sheet pos.

PSI 34 - pile

On Julian Day 230, the area of the charted pile, 41°43'59"N, 70°37'39"W, was thoroughly searched, but no pile was seen above the water surface. Also, no pile was visible below the water surface, nor did the fathogram show any trace of a submerged pile or obstruction. However, recommend charting as submerged pile in the present location, pending wire drag. - improvised w.D., diver search?

PSI 35 - 21 foot control depth (main scheme)

16[8]' - main scheme - 41°37'34"N, 70°44'14"W, center of dredged area
3¼' - main scheme - edge of dredged area (pos. 8594)

This dredged area was investigated as part of the 45 meter spacing main scheme survey of the area. Considerable shoaling was determined to have occurred. 3¼ foot soundings were found within the edges of the dredged area, and a 16[7] foot sounding was found in the center of the dredged area. Charting of the shoaling as found is recommended. off limits of this survey, perhaps on junctional survey.

PSI 36 - submerged pile (8887-8892)

No evidence of a sunken pile was found at the charted location, (41°44'18"N, 70°37'15"W). However, local fisherman report a sunken pile lying on its side in 20-30 feet of water roughly between position numbers 8891 and 8892. Retention as charted is recommended. concur

PSI 62 - visible wreck

No exposed wreck was observed in running sounding lines in the area ~~(41°41'30"N, 70°38'24"W)~~. However, wooden ribs, wreckage of what local people say was a barge was observed above the mean low water line on Wing's Neck, 0.1 mile west of the entrance to Pocasset Harbor. Retention as submerged wreck in charted position is recommended pending wire drag or documented proof. concur

PSI 37 - 8 foot control depth (6442, 6445[+1]-6446 on main scheme)

6[7]' - main scheme - 41°40'33"N, 70°36'55"W - center of channel

A minimum of 7[6] feet was found in the channel. Recommend charting 7[6] foot sounding as found. concur

Areas of shoals or irregular bottom found during main scheme hydrography were generally developed with grids of fifty meter spacing, or closer spacing when warranted. The results of those investigations follow.

Listed after the development number are the position numbers included in the development. The shoalest depths listed were found either on the position number given in parenthesis or between the given and the next position number. Shoalest depths have been transferred to the main scheme sheet.

Predicted tides have been used to reduce soundings to mean low water. Draft and velocity correctors have also been applied.

DEV 1 - (3612-3624)

29' - main scheme - 41°38'59"N, 70°40'59"W (pos 2108 +3)

A 29[8] foot spike found in 31[0] - 32[1] feet of water on the main scheme was developed. Nothing shoaler than 30 feet was found during the development. Charting the 29[8] foot sounding in the obtained position is recommended.

DEV 2 - (3586-3611)

17' - (~~3606~~ 3583+3) - 41°39'0[9]"N, 70°40'33"W

This development better defines an irregular bottom shoal area. 17 foot soundings were found on the main scheme surrounded by 24 feet or more. More 17 foot soundings were found during development. Charting the area as 17 feet is recommended. concur

DEV 3 - (3372-3383)

2[3]4' - (3374[+3]) - 41°38'5[3]2"N, 70°40'10"W 23' @ (pos 3380+2)

A 2[3]4 foot spike in water 30 feet or deeper was found in this development. A 26 foot sounding had been obtained in the main scheme. Charting the 2[3]4 foot sounding in the obtained position is recommended. (two 23' sdgs obtained) concur

DEV 4 - (3358-3371)

2[5]4' - main scheme (pos 2052 +6) - 41°38'44"N, 70°40'02"W
26' - (3360[+3]) - 41°38'44"N, 70°40'02"W

During the main scheme, a 2[5]4 foot spike was found in 28 feet to 29 feet of water. A 26 foot sounding was obtained in the same position in the development. Charting the 2[5]4 foot sounding in the obtained position is recommended.

DEV 5 - (3344-3357)

22' - main scheme (pos 2018 +1) - 41°38'35"N, 70°40'14"W
28' - many

A 22 foot spike in 28-30 feet of water was developed. Nothing shoaler than 28 feet was found during development, but slight side echoes were obtained. Charting the 22 foot sounding in the obtained position is recommended.

DEV 6 - (3315-3343)

1[7]9' - main scheme (pos 2027 +1) - 41°38'3[9]"N, 70°39'49"W
21' - (3340[+2]) - 41°38'3[8]"N, 70°39'4[7]5"W

This development defines a 1[7]9 - 21 foot shoal surrounded by water 24 feet or deeper. Charting the 1[7]9 foot and 21 foot soundings in the obtained positions is recommended. Development was run east of the 19-foot found by main scheme hydrography.

DEV 7 - (3384-3403)

19' - main scheme (pos 2050+4) - 41°38'44"N, 70°39'25"W
20' - (3394) - 41°38'44"N, 70°39'25"W

This development better defines an irregular bottom area near shore. Depths are generally shallower to the southeast toward shore. Charting the 19 foot sounding in the obtained position is recommended.

DEV 8 - (3685-3705)

8' - (main scheme) (pos 2049+2) - 41°38'37"N, 70°39'09"W
9' - (3685) - 41°38'44"N, 70°39'08"W

This development better defines an irregular bottom area near shore. Depths are generally shallower nearest the shore. Charting the 8 foot and 9 foot soundings in the obtained positions is recommended.

DEV 9 - (3404-3415)

~~18~~ 20' - (main scheme) (pos 2091) - 41°38'56"N, 70°39'21"W
19' - (many) (pos 3406+6) - 41°38'54"N, 70°39'23"W

This development better defines an irregular bottom area, with 19 foot and ~~20~~ foot soundings amid ~~24~~ foot and 25 foot soundings. Charting the area as 19 feet is recommended.

DEV 10 - (415-429)

11' - (415) 41°39'51"N, 70°39'28"W
12' - (main scheme) (pos 007+4) - 41°39'50"N, 70°39'26"W

This development better defines an irregular bottom area near shore. Depths are generally shallower towards the east shore. Charting the 11 foot and 12 foot soundings in the obtained positions is recommended.

DEV 11 - (403-414)

14' - (main scheme) (pos 74+4) - 41°40'10"N, 70°39'30"W
15' - (411) - 41°40'09"N, 70°39'30"W

A 14 foot peak was found in the main scheme in 19 feet of water. The shoalest depth found in the development was a 15 foot sounding in the same spot. Charting the 14 foot sounding in the obtained position is recommended.

DEV 12 - (452-3 out from 459) 453+1

12' - (452,459) - 41°40'17"N, 70°39'06"W

This development defines a 12 foot shoal. Surrounding depths

are more than 20 feet to the north and west, and 15 feet to the southeast toward shore. Charting the area as 12 feet is recommended.

DEV 13 - (3780-3801)

8' - (3787, 3791) - 41°40'41"N, 70°38'40"W
8' - (3791+2) - 41°40'40"N, 70°38'38"W

This development better defines an irregular bottomed area. Depths are generally shallower to the northeast toward shore. Charting the 8 foot sounding in the obtained position is recommended.

DEV 14 - (3767-3779)

8' - (main scheme) - 41°40'46"N, 70°39'11"W
6' - (3771) - 41°40'46"N, 70°39'11"W

This development defines a 6' shoal found 75 meters offshore. Other depths that distance offshore are about 16 feet. Depths are generally shallower to the north toward shore. Charting the 6 foot sounding in the obtained position is recommended.

DEV 15 - (430-451)

12' - (442) - 41°40'29"N, 70°39'33"W

A 12 foot spike was found in 18 feet of water. A 16 foot sounding had been found nearby in the main scheme. Charting the 12 foot sounding in the obtained position is recommended.

DEV 16 - (381-393)

14' - (381) - 41°40'05"N, 70°40'06"W
15' - (392) - 41°40'04"N, 70°39'59"W
17' - (386) - 41°40'07"N, 70°40'00"W

This development defines the north end of Southwest Ledge, north of PSI 22d. Depths greater than 20 feet were found to the east, north and south. Charting the 14, 15, and 17 foot soundings in the obtained positions is recommended.

DEV 17 - (3741-3755, 3832-3846)

8' - main scheme - 41°40'51"N, 70°39'52"W
8' - 3751 - 41°40'51"N, 70°39'52"W

This 8 foot shoal is surrounded by at least 12 feet of water. 19 foot soundings were found immediately to the west. Depths were generally shallower to the east toward shore. Charting the 8 foot sounding in the obtained position is recommended.

No DEV 18 was run

DEV 19 - (3847-3858)

9 ~~10~~' - main scheme - 41°39'3~~7~~"N, 70°39'4~~2~~"W

A ~~10~~ foot sounding was found in 14 feet of water on the main scheme. Nothing shoaler than ~~13~~ feet was found during the development. Charting the ~~10~~ foot sounding in the obtained position is recommended.

DEV 20 - (3859-3870)

13' - main scheme (3513+2) - 41°39'43"N, 70°39'45"W
12' (3863+9) - 41° 39' 46" N, 70° 39' 44" W

A 13 foot spike was found in water 15 feet or deeper on the main scheme. Nothing shoaler than 13 feet was found during the development. Charting the 13 foot sounding in the obtained position is recommended.

DEV 21 - (3871-3886)

13' - ~~main scheme~~ (3496+2) - 41°39'40"N, 70°40'02"W
13' - (3883)+12 - 41°39'40"N, 70°40'02"W

A 13 foot shoal was found in 13 to 18 feet of water in the main scheme A 13 foot sounding was obtained ~~in the same spot~~ just north during development. Charting the 13 foot sounding in the obtained position ~~is~~ recommended.

DEV 22 - (1110-1121)

14' - main scheme (3927+7) - 41°41'41"N, 70°41'09"W

A 14 foot peak was found in 18 - 19 feet of water on the main scheme. Nothing shoaler than 17 feet was found during the development. Charting the 14 foot sounding in the obtained position is recommended.

DEV 23 - (1122-1133)

13' - main scheme (3978+4) - 41°42'04"N, 70°41'08"W
14' - (1130)² - 41°42'04"N, 70°41'09"W

A 13 foot peak was found in 15 - 17 feet of water on the main scheme. A 14 foot sounding found nearby was the shoalest development depth found. Charting the 13 foot sounding in the obtained position is recommended.

DEV 24 - (1134-1145)

10' - main scheme - 41°42'07"N, 70°40'~~40~~39"W
10' - (1136)+9 - 41°42'10"N, 70°40'40"W

A 10 foot peak was found in 12 to 15 feet of water on the main scheme. This peak was not found again during the development, but another 10' foot peak was found 100 meters to the north. Charting both 10' foot soundings in the obtained positions is recommended.

DEV 25 - (1195-1210)

(785+4)
11.2' - main scheme - 41°41'44"N, 70°39'49"W
~~13~~ 13' - (~~1197~~)1204+5 - 41°41'44"N, 70°39'49"W

An 11.2 foot peak was found in water 16 feet or deeper on the main scheme. A ~~13~~ 13 foot sounding was obtained in the same spot during the development. Charting the ~~11~~ 13 foot sounding in the obtained position is recommended.

No DEV 26 through DEV 30 was run

DEV 31 - (1294-1310)

(707+1)
14.6' - main scheme - 41°41'17"N, 70°40'46"W
14' - (1299) - 41°41'18"N, 70°40'44"W

A 14.6 foot peak in water 17 feet or deeper was found on the main scheme. During the development, a 16 foot sounding was found 80 meters to the northeast. Charting ~~both~~ the 14 foot soundings in the obtained positions is recommended.

DEV 32 - (1131-1353)

(724+3)
12.3' - main scheme - 41°41'23"N, 70°41'00"W
~~14~~ 13' - (~~1329~~)1342+7 - 41°41'~~19~~23"N, 70°41'~~00~~05"W
~~14~~ 12' - (~~1333~~)1342+9 - 41°41'26"N, 70°41'~~04~~05"W

This development defines an irregular bottomed shoal. A 12.3 foot sounding was obtained in the main scheme. Two ~~14 foot~~ soundings in different spots were found during the development. The remainder of the bottom is 15 - 20 feet deep. Charting the 12.3 foot ~~and both 14 foot~~ soundings in the obtained positions is recommended.

Cleveland Ledge Channel & Hog Island Channel (1376-1411, 4423-4512,4569-4598,7600-7650,9600-9695).

These approaches to the Cape Cod Canal were developed by a series of parallel lines run along the length of the channels. Depths within the channels were equal to or deeper than the 32 foot controlling depth, with one important exception. A 24.5 (pos 4589+3) foot peak was found just within the eastern edge of Hog Island Channel between buoy 10 and 10A, 41°43.05'N, 70°38.67"W. Reports were sent to Coast Guard District One, The U.S. Army Corps of Engineers, and NOS headquarters (C32). Copies of these correspondences are included in the appendix.

L. COMPARISONS WITH THE CHART

This survey was compared with the most recent charts of the area, 13230, 1:40,000, 28th Ed., Jan. 22, 1977; and 13236, 1:20,000, 19th Ed., May 14, 1977.

The most significant discrepancy between the survey and the charts is the shoaling found south of Mashnee Island. A report

was filed with Coast Guard District One, recommending the shoaling be reported in Local Notice to Mariners, and a memorandum was sent to C3. Copies of these correspondences are included in the appendix.

The entire area between Hog Island Channel and the old channel to the east differs considerably from the chart. Particularly noteworthy is a long narrow 11 foot shoal just outside the east edge of Hog Island Channel opposite Stony Point Dike. Also in this area, buoys were found in the charted positions of beacons 3,4,7, and 8.

Two discrepancies west of Stony Point Dike were noted. The charted 0 foot sounding at 41°42.8'N, 70°40.2'W, and the charted submerged rock at 41°42.7'N, 70°39.7'W were not found during the survey.

Depths somewhat shoaler than charted were often found in the bays and inlets in the north portion of the survey area. 0 foot soundings were obtained in the area of charted deeper water in Muddy Cove and the area east of Onset Island. The area between Onset Island and Wicketts Island was found several feet shoaler than charted.

The section of the old channel southwest of Agawam Point was found several feet shoaler than charted. The surrounding area was also found somewhat shoaler than charted.

Nothing as deep as the charted 7 foot sounding was found south of Peters Neck, and many 0 foot soundings were found west of Taylor Point, where deeper water is charted.

Buttermilk Bay was found 1 - 3 feet shoaler than charted, and no soundings deeper than 4 feet were obtained in Little Buttermilk Bay, which contains charted soundings of 5 feet and 10 feet.

Agreement over the rest of the survey area is generally excellent.

M. ADEQUACY OF SURVEY

This survey is complete and accurate, and should supersede all prior surveys.

N. AIDS TO NAVIGATION

All floating and non-floating aids to navigation located in this survey are listed in the appendix, Section G, Abstract of Positions.

O. STATISTICS

Miles Hydro - 2931	171.6 miles
Miles Hydro - 2932	237.9 miles
Miles Hydro - 2933	144.8 miles
Total Miles Hydro	554.3 miles
Percentage of Crosslines as Main Scheme	9.2%
Number of Positions - 2931	1428

Number of Positions - 2932	1466
Number of Positions - 2933	3160
Total Number of Positions	6054
Bottom Samples	61
Tide Stations	14

P. MISCELLANEOUS

NONE

Q. RECOMMENDATIONS

NONE

R. AUTOMATED DATA PROCESSING

The following computer programs were used during the course of the survey:

Number	Name	Version Date
RK 111	Range/Range Real Time Hydroplot	1/30/76
RK 201	Grid, Signal, and Lattice Plot	4/18/75
RK 211	Range/Range Non-Real Time Plot	1/15/76
RK 212	Visual Station Table Load	4/1/74
RK 216	Range/Azimuth Non-Real Time Plot	2/5/76
RK 300	Utility Computations	2/10/76
RK 330	Reformat and Data Check	5/4/76
AM 500	Predicted Tide Generator	11/10/72
RK 561	Hyperbolic and Range/Range Geodetic Calibration	2/19/75
AM 602	Extended Line Oriented Editor	5/21/75

S. REFERENCES TO REPORTS

NONE

SIGNAL TAPE PRINTOUT WH-10-1-77

005	6	41	35	00950	070	49	27429	250	0000 000000	West Island Twr off sheet
007	6	41	40	35480	070	42	59940	250	0000 000000	But, 1977
*009	6	41	40	09099	070	43	04241	139	0000 000000	Bird I Lt, 1904
011	6	41	37	51087	070	41	40931	139	0000 000000	Clev Ldg Lt, 1963
013	6	41	40	48508	070	39	42260	139	0000 000000	Wing Nk Lt
*019	6	41	38	26928	070	39	00933	139	0000 000000	Nye Nk Wtr Tr, 1910
*033	6	41	31	33071	070	39	43352	139	0000 000000	Wood Hl ~~Wtr~~ stone Tr
049	6	41	39	22398	070	37	31642	250	0000 000000	Meg
051	6	41	41	00414	070	38	36163	250	0000 000000	Poc
053	6	41	41	17518	070	37	41025	250	0000 000000	Bar
055	6	41	40	25290	070	37	35910	250	0000 000000	Lon
057	6	41	43	24484	070	43	18090	250	0000 000000	Cro
061	6	41	43	01851	070	36	22457	139	0000 000000	Monument Steel Tk
063	6	41	42	15663	070	37	58340	139	0000 000000	Old Cape Chan 15
*065	6	41	41	40584	070	38	46911	139	0000 000000	Old Cape Chan 8
067	6	41	39	28372	070	37	16959	250	0000 000000	And
069	6	41	39	31756	070	37	22357	250	0000 000000	Ise
071	6	41	40	12543	070	38	18525	250	0000 000000	Rag
073	6	41	42	51416	070	38	02441	250	0000 000000	Mas
075	6	41	38	53003	070	38	14395	250	0000 000000	Fid
077	6	41	42	01321	070	37	17063	250	0000 000000	Tob
081	6	41	43	12487	070	37	00894	250	0000 000000	Mon
083	6	41	41	48114	070	40	12057	250	0000 000000	100SO
087	6	41	44	04033	070	38	08455	250	0000 000000	Sia
089	6	41	43	04530	070	38	22644	250	0000 000000	Wid
091	6	41	42	53682	070	39	08919	250	0000 000000	Dik

* not used

093 6 41 45 07570 070 37 36987 250 0000 000000 Stp

095 6 41 45 25300 070 36 56197 139 0000 000000 Bon

097 6 41 45 48007 070 36 53861 250 0000 000000 Buc

099 6 41 44 26041 070 39 12095 250 0000 000000 Wix

101 6 41 44 04146 070 39 46421 250 0000 000000 ~~Dla~~ Fla

103 6 41 44 21441 070 39 50302 139 0000 000000 She

105 6 41 46 01590 070 36 32283 250 0000 000000 Old

107 6 41 45 39468 070 36 14544 250 0000 000000 Ced

109 6 41 43 50282 070 38 58819 250 0000 000000 Ges

111 6 41 44 40363 070 37 25841 250 0000 000000 Hit

113 6 41 44 49603 070 37 19051 139 0000 000000 Buz

115 6 41 44 43062 070 39 16647 250 0000 000000 Bur

117 6 41 44 58869 070 39 0889 139 0000 000000 Vit

119 6 41 44 52311 070 39 23335 250 0000 000000 Pav

121 6 41 44 59074 070 39 39300 139 0000 000000 Boo

123 6 41 44 35131 070 40 15469 250 0000 000000 Ric

125 6 41 45 07836 070 39 35862 250 0000 000000 Mud

141 6 41 41 32505 070 40 28849 250 0000 000000 Use 625

FIXED AIDS TO NAVIGATION

VESNO 2932

POSNO	OBJECT
4290	Channel Beacon #3
4504	Channel Beacon #8
~~4505~~	~~Channel Beacon #8~~
~~4506~~	~~Channel Beacon #8~~
~~4507~~	~~Channel Beacon #8~~
4508	Channel Beacon #7
~~4509~~	~~Channel Beacon #7~~
~~4510~~	~~Channel Beacon #7~~
~~4511~~	~~Channel Beacon #7~~
~~4512~~	~~Channel Beacon #7~~

VESNO 2933

7651	Channel Beacon #11
7877	Channel Beacon #9

HYDROGRAPHIC NAMES ON FIELD SHEET

Rands Harbor
Cataumet Rk
Megansett Harbor
Halftide Rk
Squeteague Harbor
Southwest Ledge
Eustis Rock
Hospital Cove
Red Brook Harbor
Hen Cove
Pocasset Harbor
Abiels Ledge
Wings Cove
Pocasset River
Phinneys Harbor
Back River
The Widows Cove
Cape Cod Canal
Butler Cove
Cohasset Narrows
Miller Cove
Buttermilk Bay
Queen Sewell Cove
Little Buttermilk Bay
Onset Bay
Sunset Cove
Broad Cove
Muddy Cove

TOPOGRAPHIC NAMES ON FIELD SHEET

Scraggy Neck

Seal Rock

Wings Neck

Bassetts Is.

Tobys Is.

Mashnee Is.

Hog Is.

Cedar Is. Pt.

Stony Point Dike

Hog Neck

Burgess Pt.

Great Neck

Onset Is.

Sias Pt.

Wickets Is.

Onset

Taylor Pt.

Peters Neck

U.S. DEPARTMENT OF COMMERCE
August 29, 1978 NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

TIDE NOTE FOR HYDROGRAPHIC SHEET

Processing Division: Atlantic Marine Center:

Hourly heights are approved for Form 362

Tide Station Used (NOAA Form 77-12): See below.

Period: July 6 - October 16, 1977

HYDROGRAPHIC SHEET: H-9712

OPR: 503

Locality: Buzzards Bay, MA

Plane of reference (mean ~~lower~~ low water): See below.

Height of Mean High Water above Plane of Reference is

Remarks: Recommended zoning - see page 2.

Tide Station	Mean Low Water (ft.)	MHW (above MW)
844-7368 Great Hill	2.40	4.0
844-7478 Red Brook Harbor (7/10-7/18)	1.29	4.1
844-7478 Red Brook Harbor (7/19-7/27)	4.6	4.1
844-7417 Stony Point Dike	2.22	3.9
844-7355 Monument Beach	2.55	4.1
844-7277 Onset	1.83	3.7
844-7232 Buttermilk Bay (8/16-9/13)	3.5	3.5
844-7232 Buttermilk Bay (9/13-9/26)	3.1	3.5

Dan M. Gallman
BS Chief, Tides Branch

HI TED SOUNDINGS ON CHART # 13236 = BLUE
FROM H-9712 = RED
NOS 13236
1:20,000

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

H-9712

Recommended zoning:

(1). West of Stony Point Dike and south of a line extending from the southern tip of Stony Point Dike to the southern tip of Wings Neck zone direct on Great Hill.
(2). In Red Brook Harbor zone direct on Red Brook Harbor.
(3). North of the line between Stony Point Dike and Wings Neck to a line extending between Hog Neck and Hog Island zone direct on Stony Point Dike.
(4). In Phinneys Harbor zone direct on Monument Beach.
(5). In Buttermilk Bay zone direct on Buttermilk Bay.
(6). From the line between Hog Neck and Hog Island north to Buttermilk Bay and west to Sunset Cove zone direct on Onset.

APPROVAL SHEET

Submitted by:

Robert M. Mandzi

Robert M. Mandzi
Ensign, NOAA

Supervision of field and office work on this hydrographic survey was continuous on a day to day basis to ensure completeness of the survey and that all work was done in accordance with the Project Instructions.

Approved/Forwarded:

Dirk R Taylor

for John W. Carpenter
CDR, NOAA
Commanding, NOAA Ship Whiting

(10)
2272 - 1896-1901
1:10 2273 - 1896
2316
2318

2272-

3980 partial coverage - 1:5 (1917) - Cape Cod Canal
3981 partial coverage 1:5 (1917)

National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY

DATE: May 17, 1978

TO: C32, National Ocean Survey

THRU: Director, Atlantic Marine Center

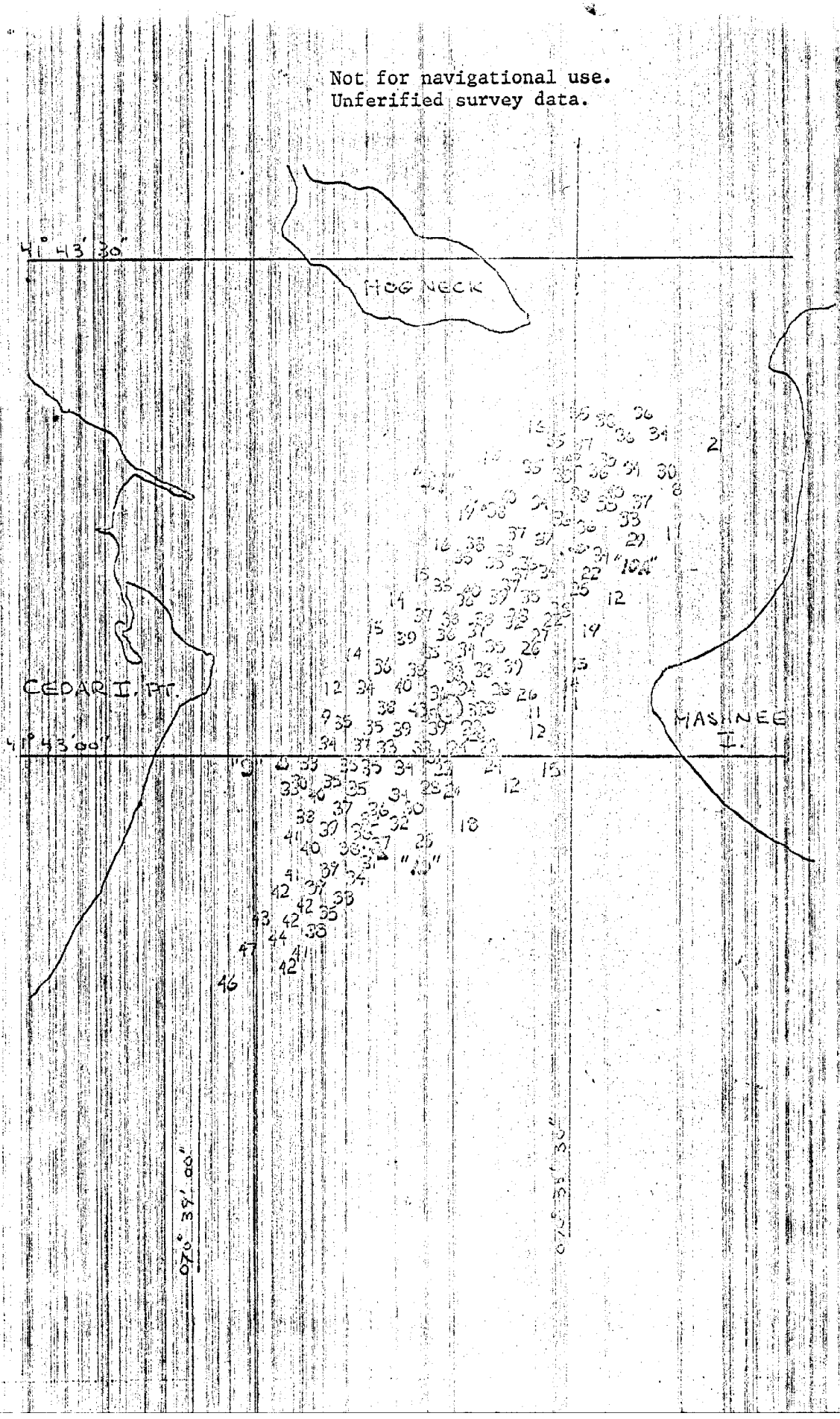
FROM: Karl Wm. Kieniger, CDR, NOAA
Commanding Officer, NOAA Ship Whiting

SUBJECT: Danger to Navigation Report, Hog Island Channel, Buzzards Bay

A previously unreported Danger to Navigation was found during the processing of the NOAA Ship Whiting's hydrographic survey of Buzzards Bay done during 1977.

A shoal covered by 24 feet of water at mean low water was discovered in Hog Island Channel, Buzzards Bay, approaches to Cape Cod Canal, Chart No. 13236; latitude 41°43'03"N, longitude 70°38'40.2"W. This shoal was found during range/range hydrography, Del Norte controlled. The least depth found was by fathometer.

Enclosed is a sketch of the area and a copy of the fathogram. Similar reports have been sent to the U.S. Coast Guard, First District, and the U.S. Army Corps of Engineers, New England District.


Not for navigational use.
Unverified survey data.
41° 43' 30"
HOG NECK
CEDAR H. PT.
41° 43' 00"
MASINEE I.
070° 39' 00"
070° 38' 30"

DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY

DATE: May 16, 1978

TO: Carl Boutilier
U.S. Army Corps of Engineers

FROM: Karl Wm. Kienzinger, CDR, NOAA
Commanding Officer, NOAA Ship Whiting

SUBJECT: Danger to Navigation - Hog Island Channel

A previously unreported Danger to Navigation was found during the processing of the NOAA Ship Whiting's hydrographic survey of Buzzards Bay during 1977.

As per LT Taylor's conversation with you on Friday, 12 May, enclosed is a tracing of our survey in the area of the danger. The least depth is 24 feet at mean low water. It is located just inside of a line between buoys "10" and "10A", geographic position of 41°43.05'N, 70°38.67'W.

This Danger to Navigation has also been reported to the First District, U.S. Coast Guard and to National Ocean Survey headquarters.

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY

DATE: May 16, 1978

TO: Commander, First District
United States Coast Guard

FROM: Karl Wm. Kieninger, CDR, NOAA
Commanding Officer, NOAA Ship Whiting

SUBJECT: Danger to Navigation Report

A previously unreported Danger to Navigation was found during the processing of the NOAA Ship Whiting's hydrographic survey of Buzzards Bay done during 1977.

A shoal covered by 24 feet of water at mean low water was discovered in Hog Island Channel, Buzzards Bay, approaches to Cape Cod Canal, charts nos. 13230 & 13236; latitude 41°43.05'N, longitude 70°38.67'W. This shoal is located just inside a line between buoys "10" and "10A" in the channel that has a published controlling depth of 32 feet.

Enclosed is a sketch of the survey done in the area of the shoal showing the 24 foot depth.

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY

Date: November 29, 1977

To: C3

From: Commanding Officer, NOAA Ship Whiting

Subject: Dangers to Navigation Report

Hydrographic survey H-9712(June-Sept,1977), conducted by the NOAA ship Whiting, discovered shoaling taking place in the area south and southwest of Mashnee Island, Buzzards Bay, Massachusetts. The area has the following boundries:

East: 70° 38' 00''
South: 41° 42' 00''
West: Hog Island Channel
North: Mashnee Island

Soundings in this area were found to be on the average, 0-6 feet. Currently, NOS charts 13230 and 13236 have depths of 3-17 feet charted in this area.

The method used to survey this area was range/range using the Del Norte positioning units in conjunction with the hydroplot system.

A report was filed to Coast Guard District 1 recommending this area be noted in Local Notice to Mariners.

ANX O
1
02

FI DE AMC

R 181357Z NOV 77
FM NOAA SHIP WHITING/WTEW
TO CCGDONE BOSTON MA
BT
UNCLAS
LOCAL NOTICE TO MARINERS INFORMATION
HYDROGRAPHIC SURVEYS BY THE WHITING HAVE LOCATED THE FOLLOWING DANGERS TO NAVIGATION.
1. AN UNCHARTED ROCK COVERED BY SIX FEET OF WATER AT MEAN LOW WATER LOCATED: NOS CHARTS 13229 AND 13230 AT LATITUDE 41 DEGREES 26 MINUTES 07.8 SECONDS NORTH AND LONGITUDE 70 DEGREES 54 MINUTES 04.0 DEGREES WEST. THIS POSITION IS APPROXIMATELY ONE TENTH OF A NAUTICAL MILE NORTH OF KNOX POINT ON NASHAWENA ISLAND. THIS ROCK IS JUST EAST OF A CHARTED 13 FOOT SOUNDING AND IS KNOWN LOCALLY AS CENTERBOARD ROCK.
2. AN EXTENSIVE AREA OF UNCHARTED SHOALING LIES EAST OF HOG ISLAND CHANNEL LIGHT NUMBER 8 (LIGHTLIST NUMBER 657); NOS CHARTS 13229, 13230 AND 13236. THIS SHOALING CAN BEST BE DESCRIBED AS BEING CONTAINED WITHIN A CIRCLE WITH A 0.4 NAUTICAL MILE RADIUS CENTERED AT LATITUDE 41 DEGREES 42 MINUTES 24 SECONDS NORTH AND LONGITUDE 70 DEGREES 38 MINUTES 37 SKBCBFDS WEST. SOUNDINGS WITHIN THE CIRCLE ARE AS MUCH AS 10 FEET SHOALER THAN CHARTED SOUNDINGS AND REACH A MINIMUM DEPTH OF ONE FOOT NEAR THE CENTER OF THE CIRCLE.
BT
C TO 37 SECONDS IN PARA 2

TOD: 18/1414Z NOV 77 DC
DE FI R AJ

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
ATLANTIC MARINE CENTER
439 West York Street
Norfolk, Virginia 23510-1114

April 11, 1989

MEMORANDUM FOR: Users of Hydrographic Survey H-9712

FROM: Lieutenant Commander William A. Wert, NOAA
Chief, Hydrographic Surveys Branch

SUBJECT: Limited Processing of Survey H-9712

REFERENCE: Memorandum from CDR Russell C. Arnold, dated December 27, 1988, Processing Buzzards Bay Surveys

Office processing of survey H-9712 at the Atlantic Marine Center was limited only to the verification phase of the survey field data. The hydrographic data are presented on a smooth sheet which includes shoreline transferred from field edited and office reviewed Shoreline Manuscripts. Conflicts between the Shoreline Maps and the hydrographic data were resolved on the smooth sheet. Notes were added in pencil to the Descriptive Report from verification. Internal quality control checks were performed on the verification process.

Evaluation & Analysis (including an Evaluation Report), final Inspection, and Approval were not accomplished for H-9712. The data presented should only be used to supplement the presently charted hydrography. This survey is not considered adequate to supersede the charted hydrography without a detailed comparison and evaluation of the prior surveys and charted data. The digital records/files for this survey are considered incomplete.

Hydrographic Surveys Branch recommends that copies of this survey and the accompanying data **not be sold to the public without noting that it is preliminary data. Users of these survey data should exercise caution.**

cc:
MOA232
N/CG24
N/CG243

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

DEC 27 1988

MEMORANDUM FOR: Lieutenant Commander William Wert, NOAA
Chief, Hydrographic Surveys Branch

FROM: Commander Russell C. Arnold, NOAA
Chief, Hydrographic Surveys Branch

SUBJECT: Processing of Wire Drag/Item, Buzzards Bay Surveys

Per our December 1, 1988, meeting in Norfolk, I think we are in agreement that the subject surveys, most of which are now 5-15 years old, are well past due for processing. Obviously, your resources are not adequate to conduct full verification of these surveys without compromising other processing goals; a modified approach seems warranted to get these surveys off your inventory.

Buzzards Bay Surveys

Based on a cursory look at two of these surveys, they are not of sufficient quality to supersede the prior surveys in the area; many soundings and features from these prior surveys will need to be carried forward. These surveys do appear adequate, however, to provide supplemental information for charting.

I propose that you expend effort as outlined in your attached December 16, 1988, memo through verification of smooth sheet only. No evaluation and analysis need be done on these surveys. Sufficient priority should be given to this task such that all survey records and recommendations arrive in Rockville by June 30, 1989.

Wire Drag/Item Surveys

Attached is a prioritized list (supersedes 12/9/88 list) of surveys remaining in your inventory. Most of these surveys were conducted in areas where resurvey activity is scheduled in the near future (e.g., Long Island Sound, Rhode Island Sound, Calcasieu, Pascagoula). A cursory look at these surveys may be sufficient. We are primarily looking for information to update AWOIS. Unverified field recommendations may be adequate; we are willing to expand field resurvey effort to resolve items in lieu of waiting for full verification of prior surveys, which has historically resulted in recommendations for considerable resurvey work anyway. I believe that we are currently using better, more conclusive methods to resolve items more efficiently than ever before.

It is understood that our 6-month processing goal for current surveys will have to be temporarily relaxed to accomplish even modified processing of older surveys. However, current requirements for timely preprocessing examinations remain in effect as does the special request to process WHITING side scan sonar records in preparation for HECK's New Jersey Coast project.

Attachments

NOAA FORM 76-97
(2-72)
(PRES. BY HYDROGRAPHIC MANUAL, 6-94)

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

VERIFIER'S REPORT

HYDROGRAPHIC SURVEY, H 9712

INSTRUCTIONS - This form serves to identify items of a check list in verification together with items which are separately reported to the Reviewer. The form is not to be forwarded to the Reviewer. A report, which is prepared for the Reviewer, should identify items by number and letter and will be filed in the Descriptive Report until the survey is reviewed.

CL - Check List Items: should be checked as having been completed during the verification processes.

R - Report Item: This column refers to those items reported to the reviewer and is used to indicate the items discussed.

Part I - DESCRIPTIVE REPORT Note: The verifier should first read the Descriptive Report for general information and problems.	CL	R
1. The Descriptive Report was consulted, paragraphs checked if found satisfactory, and notations were made in soft black pencil regarding action taken. Remarks Required: -- None	✓	
2. Soundings originating with the survey and mentioned in the Descriptive Report have been verified and checked in soft black pencil, including latitude and longitude, together with position identification. Remarks Required: --None	✓	
3. All reference to survey sheets mentioned in the Descriptive Report should include registry number and year. Remarks Required: -- None	✓	
Part II - SHORELINE AND SIGNALS		
4. Source of shoreline signals Remarks Required: -- List all surveys		
a. Give earliest and latest dates of photographs	✓	✓
b. Field inspection date		
c. Field Edit date		
d. Reviewed-Unreviewed		
5. The transfer of contemporary topographic information was carefully examined and reconciled with the hydrography. Remarks Required: -- Discuss remaining differences.	✓	
6. The plotting of all triangulation stations, topographic stations and hydrographic signals has been checked and noted in processing stamp No. 42 on the smooth sheet. Remarks Required: -- None	✓	
7. Objects on which signals are located and which fall outside of the high-water line have been described on the sheet. Remarks Required: -- List those signals still unidentified.	✓	✓
Part III - JUNCTIONS Note: Make a cursory comparison preliminary to inking soundings in area of overlap.		
8. All junctions of contemporary or overlapping sheets were compared and overlapping curves were made identical. Remarks Required: -- None	✓	
9. The notation in slanted lettering "JOINS H---- (19)" was added in colored ink for all verified contemporary adjoining or overlapping sheets. Those not verified are shown in pencil. Remarks Required: -- None	✓	

Part III - JUNCTIONS (Continued)	CL	R
10. Junctions with contemporary surveys were satisfactory except as follows: Remarks Required: -- Consider conditions after adjustments have been made; note adjustments made. Make special notes of Butt junctions and areas which are SUPERSEDED.	✓	✓
Part IV - VOLUMES		
11. All items affecting the plotting of the survey which are entered in the remarks columns of the sounding records were noted and check marked. In all cases appropriate action was taken and exceptions noted in the volumes. Remarks Required: -- None	✓	
12. Condition of sounding records was satisfactory except as follows: Remarks Required: -- Mention deficiencies in completeness of notes or actions for the following: (a) rocks (b) line turns (c) position values of beginning and ending of lines (d) bar check or velocity correctors (e) time recording (f) notes or markings on fathograms (g) was reduction of soundings accurately done? (h) was scanning accurate? (i) were peaks at uneven intervals missed? (j) were stamps completed? (k) references to adjacent features	✓	
Part V - MACHINE PLOTTING		
13. All positions verified instrumentally were check marked in color in the sounding records, and verifier initialed the processing stamp. Remarks Required: -- None	✓	
14. The plotting of all unsatisfactory crossings was verified. Remarks Required: -- None	✓	
15. All detached positions locating critical soundings, rocks, buoys, breakers, obstructions, kelp, etc., were verified and the position numbers are legible. Remarks Required: -- None	✓	

Part V - PROTRACTING (Continued)	CL	R
16. The protracting was satisfactory except as follows: Remarks Required: -- Refers to protracting in general except for specific faults repeated often, or faults in control information, which required considerable replotting or adjustments.	✓	
17. The protractor has been checked within the last three months. Remarks Required: -- Date of check, type of protractor and number.	✓	
Part VI - SOUNDINGS		
18. All soundings are clear and legible, and critical soundings are a little larger than adjacent soundings. Remarks Required: -- None	✓	
19. Sounding line crossings were satisfactory except as follows: Remarks Required: -- Discuss adjustments.	✓	
20. The spacing of soundings as recorded in the records was closely followed; Remarks Required: -- None	✓	
21. The scanning, reduction, spacing, plotting of questionable soundings have been verified. Remarks Required: -- None	✓	
22. The smooth plotting of soundings was satisfactory except as follows: Remarks Required: -- Refer to legibility, errors in spacing, and errors in numbers - but not to errors in scanning.	✓	
Part VII - CURVES		
23. The depth curves have been inspected before inking. Remarks Required: -- By whom was the penciled curves inspected.	✓	
24. The low-water line and delineation of shoal areas have been properly shown in accordance with the following: a. From T-Sheet in dotted black lines b. From soundings in orange c. Approximate position of sketched curve is dashed orange d. Approximate position of shoal area not sounded in black dashed Remarks Required: -- None	✓	
25. Depth curves were satisfactory except as follows: (This statement should not refer to the manner in which the curves were drawn). Remarks Required: -- Indicate areas where curves could not be drawn completely because of lack of soundings. For some inshore areas a general statement is sufficient.	✓	

Part VIII - AIDS TO NAVIGATION	CL	R
26. All fixed aids located together with those on the contemporary topographic sheets, have been shown on the survey. Remarks Required: -- Conflicts of any nature listed.	✓	
27. All floating aids listed in the Descriptive Report should be verified and checked in soft black pencil, including latitude and longitude and position identification. Remarks Required: -- None	✓	✓
Part IX - BOATSHEET		
28. The boat sheet was constantly compared with the smooth sheet with reference to notes, position of sounding lines and supplemental information. Remarks Required: -- None	✓	
29. Heights of rocks awash were correctly reduced and compared with topographic information. Remarks Required: -- Note excessive conflicts with topographic information.	✓	
Part X - GENERAL		
30. All information on the sheet is shown in accordance with figures 82 and 83 in the Hydrographic Manual (Pub. 20-2). Remarks Required: -- None	✓	
31. Unnecessary pencil notes have been removed from the sheet. Remarks Required: -- None	✓	
32. Degree, minute values and symbols have been checked; also electronic distance arcs have been properly identified and checked on the smooth sheet. Remarks Required: -- None	✓	
33. The bottom characteristics are adequately shown. Remarks Required: -- None	✓	
Part XI - NOTES TO THE REVIEWER		
34. Unresolved discrepancies and questionable soundings.	✓	✓
35. Notation of discrepancies with photogrammetric survey inserted in report of unreviewed photogrammetric survey or on copy.	✓	
36. Supplemental information.		

Verified by Robert R. Neff

Date 4-13-89

* U.S. G.P.O. 1972-769380/540 REG.#6

Verifier's Report

H-9712

Part II – Shoreline and Signals

4. TP-00762

TP-00765

TP-00766

TP-00770

a. Date of Photographs: April 1974

b. Field inspection date: None

c. Field Edit date: TP-00762 - July 1977
TP-00765 - Oct 1978 & Sept. 1980
TP-00766 July 1977 & Sept 1980
TP-00770 - Sept 1977

d. Dates of Final Review: TP-00762 - Nov. 1984
TP-00765 - Nov. 1984
TP-00766 - Nov. 1984
TP-00770 - Oct. 1984

H-9712

(7) Station # 97 (Buc, 1977) plots outside the high water on this smooth sheet. No description was provided by the hydrographer for this station.

III - Junctions

(10) The junctions with H-9724 (1977) was not completed. This survey (H-9724) is not available to the verifier (survey [redacted] in Rockville Md) for adjustments at this time.

VIII - Aids to Navigation

(27) A Red nun # 8 in Pocasset Harbor (lat 41° 41' 15.33", long 70° 37' 53.0") appear to be plotting on the wrong side of the channel

H-9712

XI Notes to The Reviewer

(34) At lat. 41°39'12.5", long 70°40'07.2" a 15ft depth is shown on the field sheet. This 15 ft depth has been applied to the latest chart (#13236) of this area, however this depth is incorrect and should be removed. (see pos # 4057)

Charted depth falls in depths of 26 ft. on present survey. Chart 13236, 23rd Edition, dated 12/27/86. GKM 4/15/89

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
ATLANTIC MARINE CENTER

July 16, 1984 N/MOA232:RDS

N/CG24
N/CG24KT
N/CG24K2
N/CG242

TO: N/CG24- Roy K. Matsushige

FROM: N/MOA23 - David B. MacFarland, Jr.

SUBJECT: Hydrographic Surveys H-9661 (PE-10-3-76) and H-9712 (WH-10-1-77)

The above surveys were transmitted to your office with the intent processing, that is: verification, evaluation, and final inspection, would be completed at NOS Headquarters in Rockville. "Smooth plots" of the surveys were provided by the AMC Hydrographic Surveys Branch to facilitate the completion of survey processing.

The "smooth plots" reflect substantially verified data that were in digital form with all appropriate correctors to depths and positions considered. Computer listings of survey control, positions, soundings, and various corrector files accompanies the "smooth plots". To complete the processing of those surveys, it will be necessary to:

a. Consider the "smooth plot" against any preliminary verification overlays, notes and appropriate field records provided.

b. Resolve any difference between the "smooth plot", field records, and contemporary shoreline maps.

c. Complete the cartographic delineation on the "smooth plot" in accordance with NOS standards.

d. Evaluate the survey data relative to contemporary shoreline maps, prior survey data, contemporary nautical charts, consider the "Condition of Survey," effect junctions with adjoining surveys, charting recommendations, make recommendations for additional work if necessary, evaluate compliance with project instructions, and make appropriate corrections, annotations, and revisions in the Descriptive Report.

e. Perform a final inspection of the results indicated above and obtain approval by an appropriate NOS program manager such as the Director, AMC, or N/CG2.

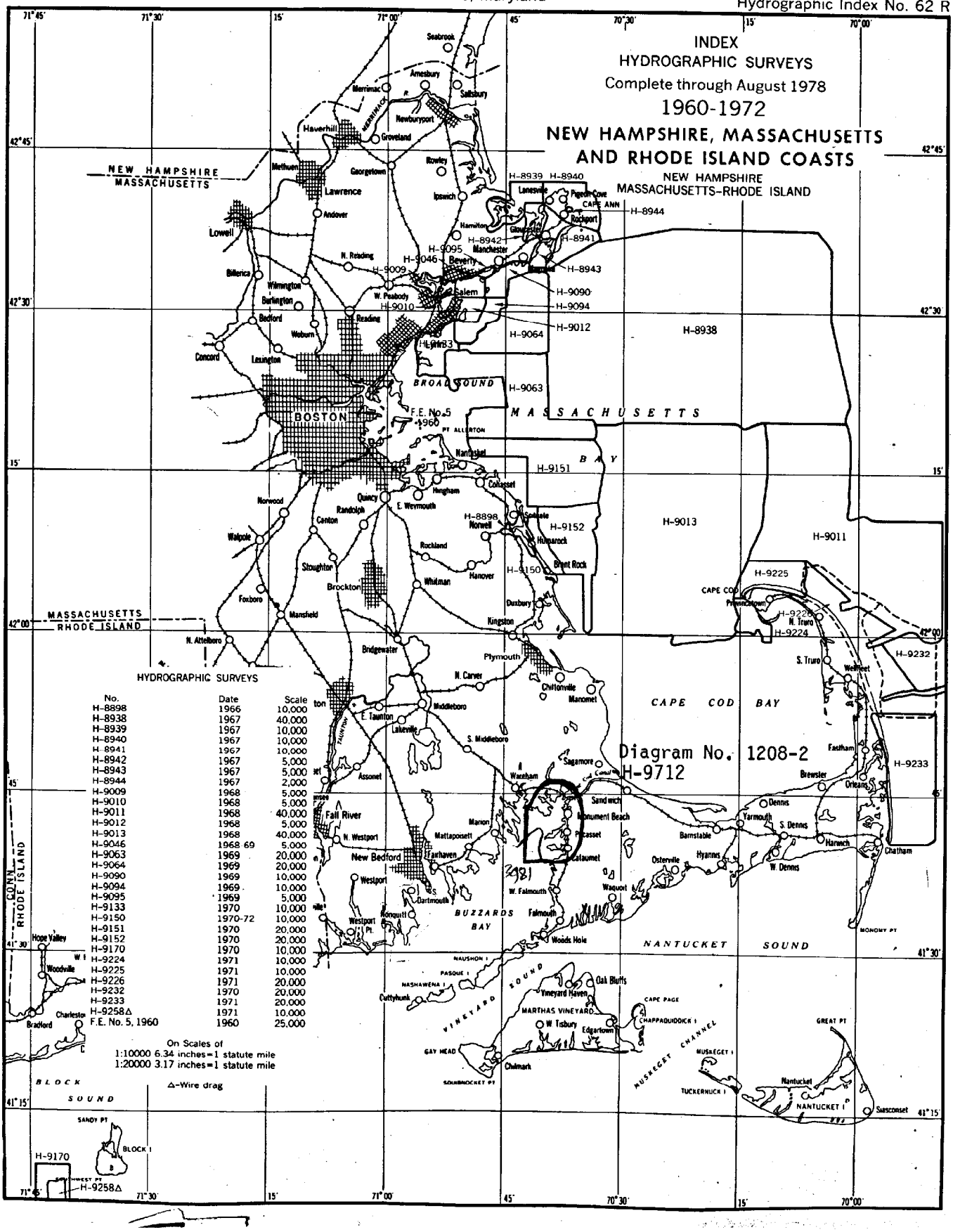
The data on the "smooth plots" may be considered for critical corrections to nautical charts. It is recommended that copies of the "smooth plots" be made into "blueprints" for that purpose. A fixative has not been applied to the "smooth plots" and should not be applied until processing is completed. The "smooth plots" should be archived with the other survey data transmitted if the surveys are not going to be promptly processed. Consideration of the Descriptive Reports should be deferred for chart application until the processing of the survey has been completed. Full application of the data should be deferred until processing of the surveys are completed.

Recommend that these surveys be fully processed

J. P. Saulsbury

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

Hydrographic Index No. 62 R



EXAMINED FOR NM
GDBU

FORM C&GS-8352
(3-25-63)

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS 8-24-90 JB 13236 13229 GH 13230

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-9712

INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.
1. Letter all information.
2. In "Remarks" column cross out words that do not apply.
3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

CHART	DATE	CARTOGRAPHER	REMARKS
13236	12/17/90	L. ArKenau	~~Full~~ Part ~~Before After Verification~~ Review Inspection Signed Via
			Drawing No. #34
13230	12/19/90	L. ArKenau	[redacted] Part Before [redacted] Review Inspection Signed Via
			Drawing No. #48
13229	1/15/90	L. ArKenau	[redacted] Part Before [redacted] Review Inspection Signed Via
			Drawing No. #24
13246	1/16/90	L. ArKenau	Full Part Before After Verification Review Inspection Signed Via
			Drawing No. #43 Examined No Correction 1/16/90
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
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			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.

FORM C&GS-8352 SUPERSEDES ALL EDITIONS OF FORM C&GS-975.

USCOMM-DC 8558-P68