

9645

Diagram No. 1210-4

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-10-7-76 .....

Registry No. . H-9645 .....

LOCALITY

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

General Locality Buzzards Bay .....

Sublocality . . . . . Mishaum Ledge to .....

Elizabeth Islands .....

19 76

CHIEF OF PARTY

CDR J.W. Carpenter .....

LIBRARY & ARCHIVES

DATE . . . . . October 12, 1989 .....

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HYDROGRAPHIC TITLE SHEET

H-9645

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

FIELD NO.

WH-10-7-76

State MASSACHUSETTS

General locality BUZZARD'S BAY

Locality ~~PENIKESE AND CUTTYHUNK ISLANDS~~ MISHAUM LEDGE TO ELIZABETH ISLANDS

Scale 1:10,000 Date of survey \_\_\_\_\_

Instructions dated January 13, 1976 Project No. OPR-503-WH-76

Vessel NOAA Ship WHITING

Chief of party CDR. J. W. Carpenter

Surveyed by D.M. Wilson, D.W. Yeager, J.G. Gofus, N. Konchuba, G.M. Barone  
D. M. Goodrich, J. P. Rubino

Soundings taken by echo sounder, ~~XXXXXX~~

Graphic record scaled by WHITING Personnel

Graphic record checked by WHITING Personnel

Protracted by N/A Automated plot by HYDROPLOT System

Soundings penciled by N/A/

Soundings in ~~XXXXXX~~ feet at MLW ~~XXXXXX~~

REMARKS: All times are Greenwich Mean Time.

*PAUL SURF G.K. ITNERS  
10/24/89*

*X.W.W. 10/16/91*

## DESCRIPTIVE REPORT

WH-10-7-76

### A. PROJECT

This survey was conducted in accordance with Project Instructions OPR-503-WH-76, dated January 13, 1976, as supplemented by Change No. 1, dated January 22, 1976; Change No. 2 dated April 7, 1976; and Change No. 3, dated April 15, 1976.

### B. AREA SURVEYED

The area surveyed includes most of the mouth of Buzzard's Bay. Adjacent coastline includes all of Penikese and Gull Islands, the northern side of Cuttyhunk Island, and the western tip of Nashwena Island. The sheet overall has the following limits:

Latitude (North) 41 23'15"-41 30'33"  
Longitude (West) 70 53'28"-71 00'00"

Scale of the survey is 1:10,000, except for the region of Cuttyhunk Harbor delineated in the previously mentioned Change No. 1; this area was done at a scale of 1:5,000. Line spacing in the 1:10,000 section of the sheet was 100 meters with developments to 50 meters in shoal areas. The 1:5,000 inset was run with 50 meter spacing throughout.

Bottom morphology is highly irregular. Several shoal areas are included in the survey, including Mishaum Ledge, Coxen's Ledge, Ribbon Reef, and Sow and Pigs Reef. Regions of considerable depth are frequently located immediately adjacent to shoals. Also in the survey area was Canapitsit Channel, a narrow cut with strong tidal currents.

The survey was conducted from July 10, 1976 (Julian Day 192) through September 28, 1976 (Julian Day 272).

### C. SOUNDING VESSELS

WHITING Launch 2, equipped with the HYDROPLOT System, performed all survey operations on the sheet except for Cuttyhunk Pond and .2 miles of sounding line in Cuttyhunk Harbor. WHITING Launch 1 accomplished .2 miles on this sheet. The HYDROPLOT system was operated on line for the purpose of steering lines only. Digital depths recorded on the printout were put in the sounding volumes at the correct times. Two short lines were run by Launch 1 during this survey. Cuttyhunk Pond and its entrance channel were surveyed by a WHITING 16' skiff, using range azimuth methods.

Due to the rocky, irregular nature of the shoreline, close-in soundings were difficult to obtain. Groundings, often with rudder and propeller damage, were frequent when running shoreline.

Electronic Data Processing numbers for WHITING Launch 1, WHITING Launch 2, and the WHITING 16' skiff are 2931, 2932, and 2933, respectively.

#### D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

Echo sounders used on Launches 1 and 2 were Raytheon Model 723D's, serial numbers 37010 and 37018, respectively. Bar checks were taken daily, conditions permitting. Frequent A-F scale checks were taken, and the initial monitored constantly during operations. The fathometers performed well throughout the course of the survey. The only exception to this statement occurred on Julian Day 207, when, due to a paper loading error, the paper advance halted on several occasions, resulting in some missed soundings. The problem was not serious and was remedied that day. Transducer draft was measured at 1.5 feet, ✓ for both launches.

Skiff soundings in Cuttyhunk Pond were taken with a Raytheon Model 719B shoal water fathometer, serial number 3947. Calibrations were done by taking pole soundings next to the transducer; they showed virtually no instrument error. Transducer draft was measured and is taken into account on the fathometer trace. This was necessary due to fathometer initial covering calibration line so draft had to be present on this instrument, therefore, for these soundings, no TRA is used on ✓ corrector tapes.

Velocity corrections are based on both vertical casts and bar check averages. TDC casts were taken on Julian Days 202, 244, and 260. Results were input into program RK 530 with curve fit option specified. Velocity corrections thus derived were plotted against actual surface depth minus velocity corrections. Corrections derived from bar check averages were plotted on the same sheet, and are essentially identical, as shown in the Appendix, Corrections to Echo Soundings Abstract. The velocity corrections tables were taken from this graph. Bar checks were never taken below 50 feet, so velocity corrections past this depth were extrapolated from TDC casts. This table was used for plotting soundings of all three vessels; however, for Cuttyhunk Harbor and Cuttyhunk Pond, an abbreviated version of the table was used due to computer program constraints. Squat and settlement corrections were taken from May 1976 trials of WHITING Launch 1, and January 1976 trials of Launch 2 made by the NOAA Ship MT MITCHELL. All Cuttyhunk ✓

Harbor work was done by reduced speed. Supporting data for velocity corrections and TC/TI tape can be found in the appendix, along with bar check abstracts. *No TRA correctional abstract for Ves NO 2931*

#### E. HYDROGRAPHIC SHEETS

The <sup>field</sup>~~smooth~~ sheets were prepared by WHITING personnel using a Houston Instruments DP-3-5 Roll Plotter, serial number 504. The 1:10,000 scale survey is divided into two sheets at 70°56'45". The 1:5,000 visual inset of Cuttyhunk Harbor is enclosed. Due to density of soundings, the Cuttyhunk Pond Range-Azimuth section is plotted on the 1:5,000 inset. It should be noted that the skew of the 1:10,000 sheets is 90°, while that of the Cuttyhunk Harbor sheet is 0°.

Velocity corrections, tide corrections, and static draft corrections have been applied to the soundings. Tide corrections are based on predicted tides from Newport, R.I., with corrections of +00.0 minutes applied to times of high tide, 4 minutes applied to time of low tide and a ratio of 1.06 applied to heights of both high and low tides. These values were furnished as preliminary correctors by Tides Division, Rockville. Electronic position correctors have been applied during the plotting.

For operations purposes, the 1:5,000 Cuttyhunk Harbor inset was kept entirely separate from the 1:10,000 scale work, and the data stored in different places. All data for the 1:5,000 inset is labeled as "WH-10-7-76, 1:5,000 inset, Cuttyhunk Harbor."

The sheets will be sent to Atlantic Marine Center, Norfolk, Virginia, for verification and smooth plotting.

#### F. CONTROL STATIONS

The following were used as electronic and/or visual control stations:

<u>Electronic Control No.</u>	<u>Name</u>
136	Joy RM4, <del>1943</del> 1976
140	B41 S41, 1943 (West Island Tower)
146	Poto, 1976
164	Penikese, 1948
168	Nox, 1976
170	San, 1976
178	Cuttyhunk Harbor North Jetty Light, 1976
180	Pig, 1976
182	Dun, 1976
184	Hun, 1976
188	Rub, 1976

<u>Electronic Control No.</u>	<u>Name</u>	
190	Ant. 1976	1976
192	Cuttyhunk Water Tower, <del>1939</del>	
210	Pon, 1976	
212	Rod, 1976	

Station Joy RM4 is a reference mark to station Joy, 1943, which was not recovered. The position was computed using AM 407 and distance and direction furnished in station description. ✓

Station B4/1 S4/1 (West Island, 1943) was originally established by traverse from station West Island USE, by U.S. Engineers in 1943. ✓

Station Penikese, 1948 is monumented and recoverable. ✓

Stations Poto, Nox, San, Pig, Dun, Hun, Rub, Ant, Cuttyhunk Harbor North Jetty Light, Pon, and Rod were established by 3rd order traverse in 1976 by Photo Party 62. Documentation will be forwarded in their control report. ✓

#### G. HYDROGRAPHIC POSITION CONTROL

Three different methods of hydrographic position control were used in this survey. For all of the 1:10,000 scale work, with the exception of Cuttyhunk Pond, position control was established using the Del Norte system in a Range-Range configuration. Stations were chosen so that intersection of Del Norte arcs was at no time less than 30°.

Field calibrations were obtained in two ways. During the first days of the survey visual calibrations were taken using sextant fixes with check angles. Results of fixes were entered into program RK 561 on line. The resulting pattern correctors from fixes with less than 15 meter inverses were averaged and inserted onto corrector tapes.

A second method of calibration involved the use of Cuttyhunk North Jetty Light. Since it was possible to approach within 5 meters of the Light with the launch, readings on the Del Norte DMU were observed and compared to the measured distances from the stations in question to the Light. Inverse distances compared to observed ranges were computed to a point 5 meters southeast of jetty light. Correctors were taken from these readings. Jetty calibrations were recorded in the sounding volume while visual calibrations can be found at the back of the survey folder.

In addition, every two weeks, the system was calibrated along a baseline of known length in accordance with the procedures described in the Del Norte Manual.

WHITING Launch 2, which ran all of the Range/Range work on this sheet, was equipped with a HYDROPLOT system, which performed well throughout the survey. On occasion the system produced a somewhat irregular sounding interval; however, it never varied from the preset interval by more than four seconds. It should be noted that on Julian Day 230 the left/right indicator was not working; crosslines were steered this day on compass courses. A more serious problem occurred on Day 208, when frequent red lights on the DMU and poor position control resulted from what was ultimately found to be a faulty voltage regulator on the launch. The problem was later corrected, but for this reason Day 208 was rejected in entirety.

A characteristic of Launch 2 was that after extended operation at reduced speed, a voltage drain was created on the battery which would frequently shut down the Del Norte. This was the cause of numerous rejected lines; a period of revving the engine was necessary to restore voltage.

A curious effect was observed on 211 Day with regard to ranges obtained from the remote unit on station Joy RM4 (136). A shadow zone extending from the northwest end of Penikese Island toward the station was found; no readings from this station could be taken in this area. This section was rerun on a later day. It is interesting to note that the station had a completely clear view of the survey area.

With these minor exceptions, Del Norte control was stable and consistent during the course of the survey.

The area of Cuttyhunk Pond was surveyed by the 16' skiff on Day 259 using Range/Azimuth control from stations San, Pon, and Rod. Data from this day is filed with the 1:5,000 visual inset.

The 1:5,000 Cuttyhunk Harbor inset was accomplished by using the hydroplot system on line to provide lines to steer and to record digital depths. Position control for this inset (with two exceptions as noted below) was strictly visual. Del Norte units were set up on stations Penikese (164) and Nox (168), and the inset was run on Days 266, 267, and 272. The work on these three days comprise almost all of the survey as plotted. However, two short lines from Day 244 and several detached positions from Day 238 were used to fill in gaps. These are listed on the Position Data Abstract and contained on special tapes labelled "Master-Selected Lines."

Visual position control was excellent during the survey. One advantage of running the visual control simultaneously with electronic control is that there is a crosscheck on the

sextant fixes if they plot in a questionable location. The range readings are found on the raw printouts contained in the folders. All plotted soundings on the inset are from visual fixes with the exception of the two positions: 5136 and 5326. The visual fix 5136 plotted over a shelf on the northern edge of Cuttyhunk Island. The electronic fix 5136 plotted slightly north, off of the ledge. The electronic fix was accepted and a dummy visual fix was made up, which would plot in this location. The visual fix 5326 was a swinger; in order to fill in this gap, the electronic fix was used, and once again a dummy visual fix was inserted on the master tape. ✓

It should be noted that in order to keep visual fix numbers in correspondence with electronic fix numbers, numerous omitted position numbers have resulted.

#### H. SHORELINE

Shoreline on the <sup>boat</sup> sheets was taken from shoreline manuscripts TP-00775 and TP-00776. Shoreline for the Cuttyhunk Harbor Inset was obtained by enlarging sections of the above surveys to 1:5,000 scale. Enlargement was done by Photogrammetry Division, AMC. The enlargement process may be responsible for possible inaccuracy in shoreline in this area. It should be known that the manuscripts do not show either Sow and Pigs Reef or the foul area southwest of Penikese Island; in both areas rocks awash are visible at low water.

Field edit was done by Photo Party 62, Robert Tibbits, Chief of Party.

#### I. CROSSLINES

The percentage of crosslines run on this survey was 10.4%. Agreement was excellent (0-1 ft.) in almost all cases except those of highly irregular or sloping bottoms, where agreement was good.

#### J. JUNCTIONS

This survey junctions with contemporary surveys H-9644 (WH-10-6-76), H-9646 (WH-10-8-76), and PE-20-1-76, and with prior surveys H-8904 (1966), H-5630 (1934), and H-6445 (1939).  
H-9644 (1976)  
H-9646 (1976-77)  
H-9615 (1976)

Agreement with WH-10-6-76 and WH-10-8-76 is excellent, 0-1 feet throughout. Agreement with PE-20-1-76 is very good in areas of flat bottom and fair in the areas of highly irregular bottom north of Penikese Island.

Junction with H-8904 is in Canapitsit Channel, a narrow cut with strong tidal currents. Agreement is good between

the surveys in this area. There is also some junction off the western end of Cuttyhunk Island showing good agreement. Junction was not achieved with the westernmost line of H-8904.

A partial junction was achieved with the 1:40,000 survey H-6445 in the area of Coxen's Ledge. Agreement is excellent in this area. In the northwest section of the sheet, junction with H-5630 is also excellent.

Junction with H-8905 (1966) in the area south of Sow and Pigs Reef was not achieved. Since this is an important junction, mentioned in Project Instructions, it is recommended that this area be surveyed during the next field season (see recommendations).

#### K. COMPARISON WITH PRIOR SURVEYS

Before dealing with presurvey review items, several items should be noted. First, the general area of the survey is boulder-strewn. Small rock pinnacles are common, and this should be taken into account in the charting of this area. The area immediately southeast of Penikese Island is especially foul. It should also be noted that Photo Party 62 disposed of several items as part of their field edit.

The following items were investigated:

#### Numbered Presurvey Review Items

<u>No.</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Charted Depth</u>	<u>Remarks</u>
1 1840	41°24.01'	70°57.87	-	A possible side echo of this wreck of 11' was found immediately before position 1893; retention is recommended. <i>CONCUR</i> ✓
2 1850	41°24.6'	70°57.7	14	No indication of this wreck was seen on the fathogram with 100 meter spacing. Due to the difficulty of positively disposing of this item without wiredrag, retention is recommended. <i>CONCUR</i> ✓
5 1917	41°28.26'	70°58.40'	48	No evidence was found of this wreck on 100 meter main scheme spacing. Retention is recommended. <i>CONCUR</i> ✓

<u>No.</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Charted Depth</u>	<u>Remarks</u>
6	41°25.5'	70°55.8'	(piles)	On Field Edit ✓ Retain as charted
7	41°25.52'	70°54.4'	(wreck)	No indication of this PA wreck was found on the sounding lines; however, a wreck, considerably deteriorated, was observed on the shore above high water line opposite the charted location. It is assumed that this is the <u>Narcissus</u> . Deletion from chart is recommended. CONCUR ✓
8	41°26.87'	70°54.97'	4'	Soundings of 8' and 9' were found at this location. No indication of a shoaler sounding is seen on the fathograms at 50 meter spacing. A 5' sounding is 80 meters to the SW. The position is immediately north of a foul area. Taking into consideration the treacherous nature of this particular area, retention is recommended. CONCUR ✓
8	41°27.01'	70°54.92'	1'	A detached position (2437) was taken on a rock "1-2' submerged" at high tide (correction of 4.0' by predicted tides). It is recommended that the feature be charted as awash in the new location. Retain as charted ✓ A
57	41°27.5'	70°55.48'	(piles)	On Field Edit. ✓ No piles on chart or T-sheet at this location
58	41°26.72'	70°55.48'	(rock)	A detached position (1656) was taken on a rock 20 meters west of this location. Retention as rock awash is recommended at the new location. CONCUR ✓ A

<u>No.</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Charted Depth</u>	<u>Remarks</u>
59	41°26.82'	70°54.49'	(piles)	These charted piles north of Gull Island were observed by the launch; position is covered by Field Edit. Recommend retention at charted location. Use present survey's location of piles in area ✓

Unnumbered (Dashed Circle) Items

<u>Latitude</u>	<u>Longitude</u>	<u>Charted Depth</u>	<u>Remarks</u>
41°27.55'	70°54.65'	36'	No evidence was found on 50 meter spacing; retention recommended pending wire drag. CONCUR ✓
41°27.00'	70°54.65'	8'	Possible side echo between positions 2446-2447; retention recommended. CONCUR ✓
41°26.95'	70°54.55'	5'	No evidence was found using 50 meter spacing; retention recommended pending wire drag. CONCUR ✓
41°26.90'	70°54.60'	4'	<sup>NINE</sup> <del>Eight</del> foot soundings were found in the immediate area; however, there is a possible side echo at position 2458. Retention is recommended. CONCUR ✓
41°27.45'	70°55.20'	33'	<sup>3</sup> A 32' sounding was found between 2395-2396. Recommend retention. CONCUR ✓
41°27.40'	70°55.25'	28'	<sup>6</sup> A 25' sounding was found between positions 1198-1199. Recommend retention at new location. Chart 26fl. ✓
41°27.45'	70°55.30'	31'	<sup>30</sup> A 29' sounding was between positions 2400-2401. ✓
41°26.80'	70°55.55'	18'	<sup>16</sup> An 18' sounding was found at position 1653.
41°27.10'	70°55.75'	15'	A 15' sounding was found 40 meters NNW of the charted location. Recommend retention at new location. Retain as charted ✓

<u>Latitude</u>	<u>Longitude</u>	<u>Charted Depth</u>	<u>Remarks</u>
41°27.15'	70°56.35'	46'	No evidence found. <del>Deletion</del> recommended. Retain as charted ✓
41°26.55'	70°54.50'	6'	A 5' sounding was found 30 meters north of the charted location. ✓ Recommend retention <del>at new location:</del> Concur
41°26.45'	70°54.30'	12'	Not found on 50 meter spacing; a <sup>14</sup> <del>30'</del> sounding was found 60 meters north of the charted location. Retention is recommended pending ✓ wire drag. Concur
41°26.35'	70°54.65'	15'	<sup>16</sup> A <del>15'</del> sounding was found 40 meters SSE of the charted location. Recommend retention at <del>new location.</del> ✓ Charted
41°26.45'	70°54.85'	6'	<sup>8</sup> A <del>6'</del> sounding was found 130 meters north of this location. Recommend retention at <del>new location.</del> ✓ Charted Concur
41°26.10'	70°54.70'	18'	<sup>19</sup> A <del>20'</del> sounding was found 100 meters WSW of charted location. Recommend retention <del>of new location.</del> Concur ✓ at charted
41°26.25'	70°54.90'	12'	<sup>14</sup> A <del>13'</del> sounding was found 60 meters ESE of the charted location. Re- tention recommended at <del>new location.</del> ✓ Concur Charted
41°26.10'	70°55.05'	12'	<u>13' Found</u> , positions 2479-2480. Concur
41°26.25'	70°55.15'	15'	Not found on 50 meter spacing. Recommend retention pending wire drag. Concur ✓
41°26.15'	70°55.35'	15'	Not found on 50 meter spacing. Recommend retention pending wire drag. Concur ✓
41°26.10'	70°55.35'	12'	<sup>11</sup> A <del>10'</del> sounding was found 60 meters south of the charted location. ✓ Recommend <del>10'</del> sounding at new location. <sup>11</sup> Concur (Also retain 12ft)
41°26.40'	70°55.60'	12'	<sup>10</sup> A <del>14'</del> sounding was found 30 meters WNW- <del>ENE</del> of charted location. Reten- tion recommended at charted ✓ location. Chart 10ft

<u>Latitude</u>	<u>Longitude</u>	<u>Charted Depth</u>	<u>Remarks</u>
41°26.40'	70°55.70'	9'	<sup>10</sup> A <del>9'</del> sounding was found 60 meters east; retention recommended at <del>new</del> location. <i>CONCUR</i> <sup>Charted</sup> ✓
41°26.35'	70°55.70'	12'	<sup>12</sup> An <del>11'</del> sounding was found at positions <del>2410-2711</del> , <sup>2501-2502</sup> 50 meters SE of the charted location. Recommend <del>retain</del> <sup>retain</sup> <del>11'</del> sounding at <del>new</del> location. ✓
41°26.30'	70°56.65'	30'	<sup>12</sup> A 30' sounding was found 70 meters <del>SSW</del> <sup>Charted</sup> <del>NNW</del> of the charted location, positions <del>1488-1499</del> . Retention recommended. <sup>CONCUR</sup> <sup>1447</sup> ✓
41°26.25'	70°56.65'	29'	<del>Found in charted location.</del> ✓ <i>Chart Smooth sheet delineation L.D. 25ft</i>
41°26.20'	70°56.65'	27'	A <sup>29</sup> 24' sounding found 50 meters north of charted location. Recommend <del>24'</del> <sup>Retain as charted</sup> <del>sounding at new location.</del> ✓
41°25.60'	70°56.25'	33'	<sup>25</sup> <sup>29</sup> A <del>24'</del> depth was found at this location. <i>Chart 25ft.</i> ✓
41°27.95'	70°56.30'	22'	Found in charted location. <sup>L.D. 23ft</sup> <i>Retain as charted</i> ✓
41°28.00'	70°56.35'	26'	A <del>27</del> <sup>28</sup> sounding (position 2431) was found 35 meters west of the charted location. Recommend retention at charted location. <i>CONCUR</i> ✓
41°24.30'	70°57.40'	11'	<sup>13</sup> A <del>12'</del> sounding was found (position 1816) 50 meters west of the charted location; recommend retention. <i>CONCUR</i> ✓
41°25.00'	70°58.20'	20'	Shoaling evident at position 424; recommend retention. <i>CONCUR</i> ✓
41°25.10'	70°58.25'	29'	No evidence at this position. <i>CONCUR</i> ✓
41°25.00'	70°57.15'	13'	An 11' sounding was found at positions 2252-2253. Recommend <sup>11'</sup> 11' depth at this position. <i>CONCUR</i> ✓
41°25.07'	70°57.03'	12'	Not found on 50 meter spacing. Retention recommended pending wire drag. <i>CONCUR</i> ✓
41°25.50'	70°57.85'	35'	<sup>37</sup> A <del>35'</del> sounding was found at position 510-511, 80 meters NNW of charted location. Recommend <del>retention at new location.</del> <sup>Retain as charted</sup> ✓

<u>Latitude</u>	<u>Longitude</u>	<u>Charted Depth</u>	<u>Remarks</u>
41°25.75'	70°59.00'	24'	A <sup>25</sup> <del>23</del> ' sounding was found 70 meters NE of charted location at positions 1591-1592. Recommend <del>new depth at new location.</del> Retain as charted ✓
41°25.97'	70°57.50'	28'	Evidence of shoaling found on adjacent lines; retention recommended. ✓ CONCUR
41°26.30'	70°57.05'	24'	Evidence of shoaling found on adjacent lines; retention recommended. ✓ CONCUR
41°26.40'	70°57.55'	33'	Found; <del>retain as charted.</del> Chart present survey depths ✓
41°26.83'	70°56.93'	41'	Shoaling evident to 48'; recommend retention ✓ CONCUR
41°27.00'	70°58.90'	23'	Found, positions 898-899, 2 meters N of charted location. Recommend retention at charted location. ✓ CONCUR
41°26.95	70°58.75'	26'	Sounding of <sup>29</sup> <del>27</del> ' found position 215-216. Retain as charted. ✓ CONCUR
41°26.85'	70°58.65'	28'	No evidence found at 100 meter spacing; recommend retention. ✓ CONCUR
41°26.87'	70°58.48'	28'	Shoaling evident; recommend retention. ✓ CONCUR
41°29.33'	70°58.85'	28'	A <sup>27</sup> <del>26</del> ' sounding was found (position 2522-2523) 70 meters E of charted location. Recommend <del>26</del> 27 sounding at new location. ✓ CONCUR
41°29.20'	70°59.00'	28'	A 31' depth was found 120 meters W of charted location. Recommend retention at <del>new</del> location. ✓ CONCUR
41°29.50'	70°58.30'	14'	A <sup>15</sup> <del>14</del> ' sounding found 80 meters west of charted position. Recommend retention at <del>new</del> location. ✓ CONCUR
41°29.30'	70°58.35'	16'	Shoaling evident; retain ✓ CONCUR
41°29.40'	70°58.00'	8'	Detached positions 3000-3002 were taken 20 meters S of charted location. A dive was attempted and unsuccessful due to strong currents and poor visibility. Recommend retention at <del>new location.</del> at charted location. ✓

CONCUR

<u>Latitude</u>	<u>Longitude</u>	<u>Charted Depth</u>	<u>Remarks</u>
41°25.87'	70°55.27'	6'	A <sup>6</sup> 5' sounding was found 50 meters S of charted location. Recommend <del>6</del> 5' sounding at new location. <i>Concur</i> ✓
41°25.84'	70°55.27'	6'	Found; recommend retention <i>Concur</i> ✓
41°25.84'	70°55.23'	4'	A 6' sounding was found in the immediate vicinity; recommend retention. <i>Concur</i> ✓
41°25.62'	70°55.11'	5'	<del>Found</del> <sup>left</sup> ; recommend retention <i>Concur</i> ✓
41°25.73'	70°54.85'	10'	Not found, but there are shoal indications at the end of one line; retention recommended. <i>Concur</i> ✓
41°25.61'	70°54.54'	6'	A <sup>7</sup> 6' sounding was found 50 meters E of the charted location; recommend retention at <del>new</del> location. <i>Concur</i> ✓
41°25.54'	70°54.48'	4'	4' soundings are found within 60 meters and the position is located in area of 5' soundings on the sheet; retention recommended. <i>Concur</i> ✓

This survey was compared with prior surveys H-2267 (1896) and H-5630 (1930). Agreement was excellent (0-1 ft) in all areas of the sheet with the exception of Cuttyhunk Harbor and the Pond. In this area numerous shoreline changes have occurred since 1896, such as the building of Cuttyhunk North Harbor Jetty and the filling in of a branch of Canapitsit Channel. Cuttyhunk Pond soundings do not correspond with 1896 soundings of this area, since dredging has obviously taken place. A significant change is the fact that shoaling of 2-3 ft. has occurred along the south shore of Cuttyhunk Harbor, and between Pease Ledge and the shore.

#### L. COMPARISON WITH THE CHART

The survey was compared with Chart 13230, Buzzard's Bay, dated October 25, 1975 (27th Edition, soundings in feet). The 1:5,000 Cuttyhunk Harbor inset was compared to the 1:12,000 insert of this area on Chart 13229, South Coast of Cape Cod and Buzzards Bay, dated February 1976 (12th Edition). Overall agreement with the chart was very good. Description of agreement in specific areas is as below.

The shoal areas of Sow and Pigs Reef were generally found as charted. This is a foul area with considerable exposure; several groundings of the launch occurred. One disagreement was found with the charted 15 at 41°23.92'N, 70°58.55'W; a twelve foot depth was obtained at this location. ✓

13#

General topography of Ribbon Reef was found as charted; however, the 18' and 24' least depths were found approximately 80 meters south of their location. Least depths of Coxen's Ledge were generally found as charted; areas of less than 30' depth were found to be not as extensive as charted. ✓

The charted wire drag soundings of 73' and 79' in the vicinity of 41°28.3'N, 70°57.2'W were not found. However, line spacing in this area was only 100 meters; retention is recommended. ✓  
1981 759  
Caircur

Topography of Mishaum Ledge was generally found to be as charted, a ledge with ambient depth of approximately 24', having numerous isolated rock pinnacles as shoal as 8'. One uncharted 15' pinnacle was found at 41°29.47'N, 70°57.69'W. ✓ A

16

At 41°26.24'N, 70°56.70'W a least depth of 24' was found; this is charted as 27'. The charted 18' sounding north of Penikese Island at 41°27.75'N, 70°55.32'W was not found on 100 meters spacing; however, there are indications of shoaling. Retention is recommended. The rock awash and sand bar between Gull and Penikese Islands charted at 41°26.98'N, 70°54.68'W was found at a location 120 meters WSW. ✓

Overall correspondence of the Cuttyhunk Harbor inset with chart 13229 was good. The area immediately SW of Pease Ledge was found to be primarily 6' or less; it is recommended that this area be charted as shown in the insert. ✓  
Caircur

#### M. ADEQUACY OF SURVEY

The survey is complete and adequate except as noted in recommendations, and should supercede all prior surveys.

#### N. AIDS TO NAVIGATION

Fourteen buoys and two lights are located within the survey area. Detached positions were taken on all of these. Positions were not obtained for the following buoys: R"2S+P" (Sow and Pigs Reef); RB, N (Middle Ledge); and C"3" (northeast of Middle Ledge). Fixes obtained by Launch 2 showed 3 buoys to be different from charted position: C"1" (Middle Ground) was found to be 100 meters west of charted position; C"5" (Canapitsit Channel) was found 60 meters ESE of charted location; and C"5" (southeast of Gull Island) was found 110 meters WSW of charted position. Buoy positions were compared to chart 13230 dated October 25, 1976.

Positions of Cuttyhunk Light and Cuttyhunk North Harbor Jetty Light were obtained by Photo Party 62 and will be forwarded in the signal report.

O. STATISTICS

Miles Hydro, Launch 1 (2931)	.2
Miles Hydro, Launch 2 (2932)	333.1
Miles Hydro, 16' Skiff (2933)	10.6
Total Miles Hydro	343.9
Square Miles, Launch 1	.01
Square Miles, Launch 2	14.86
Square Miles, Skiff	.11
Total Square Miles	14.98
Percentage of Crosslines	10.4
Number of positions, Launch 1	4
Number of Positions, Launch 2	2930
Number of Positions, Skiff	172
Total Number of Positions	3106
Bottom Samples	34
TDC Casts	2
Tide Gages	5

P. MISCELLANEOUS

None

Q. RECOMMENDATIONS

It is recommended that the area immediately south of Sow and Pigs Reef be surveyed to bring about proper junction with contemporary surveys H-8904 and H-8905 during the coming field season.

R. AUTOMATED DATA PROCESSING

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

<u>Number</u>	<u>Name</u>	<u>Version Date</u>
RK 111	Range-Range Real Time Hydroplot	1/30/76
RK 201	Grid and H/R Lattice Plot	4/18/75
RK 211	Range-Range Off-Line Plot	1/15/76
RK 212	Visual Station Table Load and Plot	4/1/74
RK 215	Visual Position and Sounding Plot	5/16/74
RK 216	Range-Azimuth Position and Sounding Plot	2/5/76
RK 300	Utility Computations	2/10/76
RK 330	Data Reformat and Check	3/12/76
AM 500	Predicted Tide Generator	11/10/72
PM 360	Electronic Corrector Abstract	2/2/76
RK 530	Velocity Correction Computations	5/10/76
RK 561	Hyberbolic and Range-Range Geodetic Calibrations	2/19/75
AM 602	Extended Line Oriented Editor	3/10/72

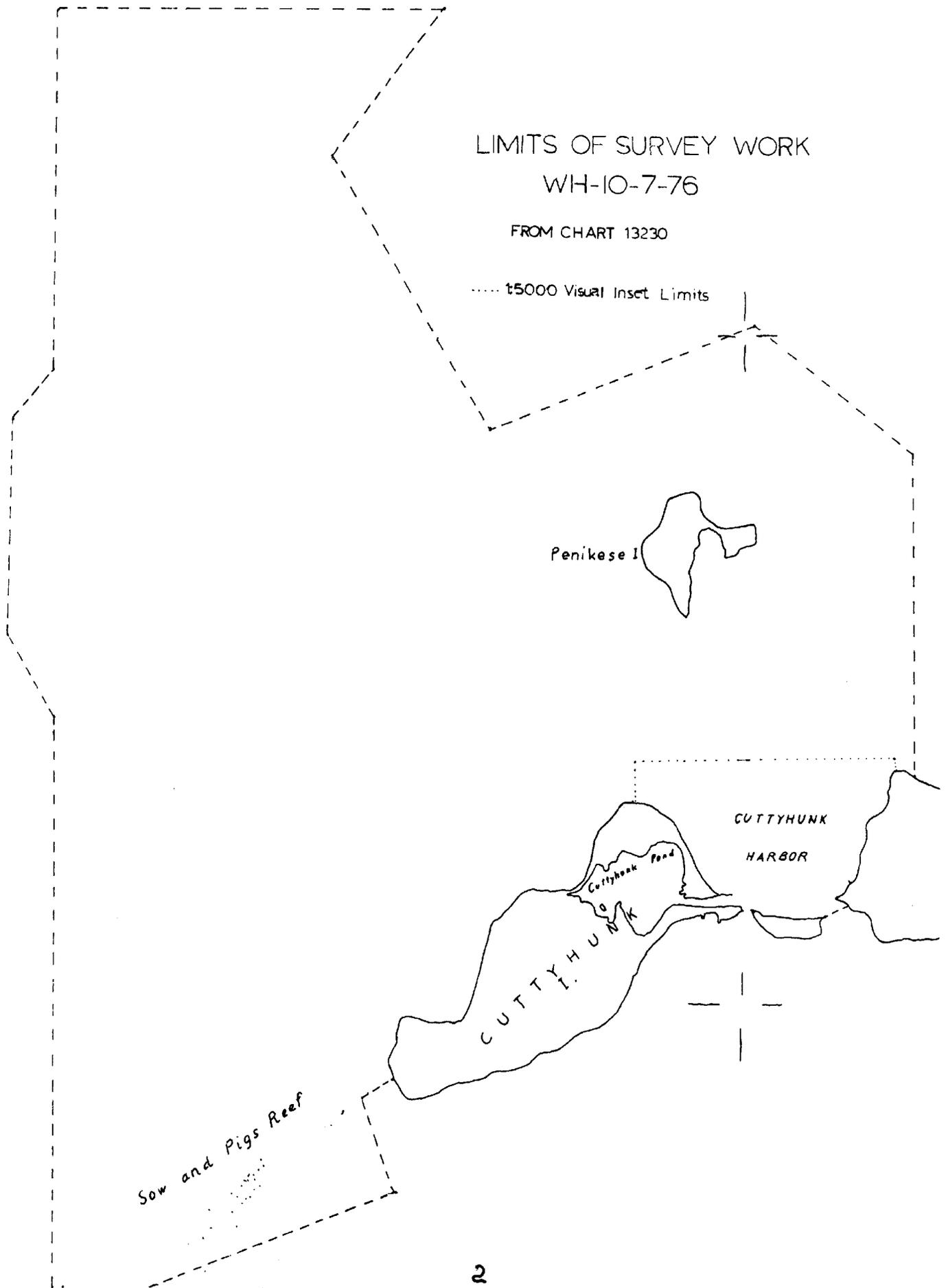
S. REFERENCES TO REPORTS

The signal report and field edit report will be forwarded by Photo Party 62, Robert Tibbits, Chief of Party.

LIMITS OF SURVEY WORK  
WH-10-7-76

FROM CHART 13230

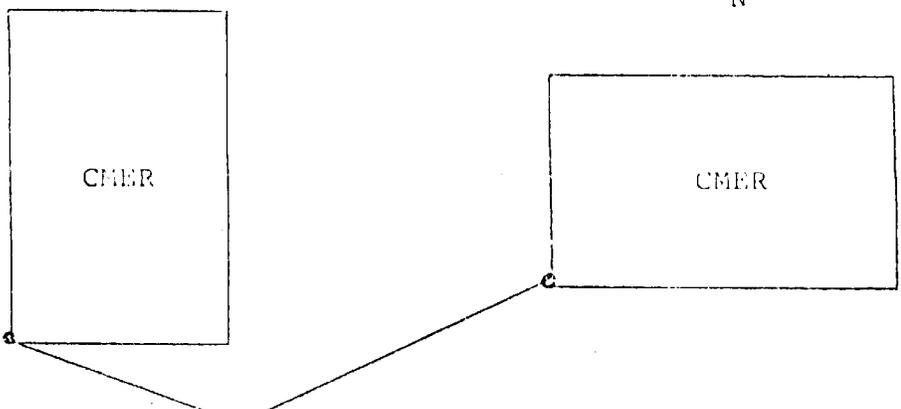
..... t5000 Visual Inset Limits



C 400 3 1  
1/31/74

PROJECTION PARAMETERS  
POLYCONIC OR MODIFIED TRANSVERSE MERCATOR

- 1. Project No. OPR-503-WH-76
- 2. Reg. No. H-9645
- 3. Field No. WH-10-7-76
- 4. Requested By \_\_\_\_\_
- 5. Ship or Office NOAA Ship WHITING
- 6. Date Required \_\_\_\_\_
- 7. Polyconic  Modified Transverse Mercator
- 8. Central Meridian of Projection 70 ° 49 ' 30 "
- 9. Survey Scale: 1: 10,000
- 10. Size of Sheet (check one):  
 36 x 54  36 x 60  Other  Specify \_\_\_\_\_
- 11. Sheet Orientation (check one):  
 NYX = 1  NYX = 0   
 N N



- 12. Plotter Origin: S.W. Corner of Sheet (not necessarily a grid intersection)  
 Latitude 41 ° 23 ' 15 "  
 Longitude 71 ° 00 ' 00 "
- 13. G.P.'s of triangulation and/or signals attached
- 14. Material Desired: Tracing Paper  Mylar   
 Smooth Sheet  Other  Specify \_\_\_\_\_
- 15. Remarks: \_\_\_\_\_

ATLANTIC MARINE CENTER  
ELECTRONIC CONTROL PARAMETERS

1. Project # OPR-503-WH-76 Reg. # H-9645 3. Field # WH-10-7-76  
 4. Type of Control: Del Norte (Hi-Fix, Raydist, EPI, etc.)  
 5. Frequency \_\_\_\_\_ (For conversion of electronic lanes to meters)  
 6. Mode of operation (check one):

Range-Range:

Range-Visual

Range One (R<sub>1</sub>)  
 Station I.D. I36 Barneys Joy  
 Range Two (R<sub>2</sub>)  
 Station I.D. I40 West Is. Twr.

Lat.	<u>41</u>	°	<u>30</u>	'	<u>43.663</u>	"
Long.	<u>70</u>	°	<u>59</u>	'	<u>07.018</u>	"
Lat.	<u>41</u>	°	<u>35</u>	'	<u>00.950</u>	"
Long.	<u>70</u>	°	<u>49</u>	'	<u>27.429</u>	"

Hyperbolic (3-station)

Hyper-Visual

Slave One  
 Station I.D. \_\_\_\_\_  
 Master  
 Station I.D. \_\_\_\_\_  
 Slave Two  
 Station I.D. \_\_\_\_\_

Lat.	_____	°	_____	'	_____	"
Long.	_____	°	_____	'	_____	"
Lat.	_____	°	_____	'	_____	"
Long.	_____	°	_____	'	_____	"
Lat.	_____	°	_____	'	_____	"
Long.	_____	°	_____	'	_____	"

7. Location of Survey:

Range-Range  Imagine an observer is standing at R<sub>1</sub> Station and looking directly at R<sub>2</sub> (check one):

Survey area is to observer's Right  A=θ

Survey area is to observer's Left  A=1

Hyperbolic  Looking from survey area toward Master Station:

Slave One must be to observer's Left;

Slave Two must be to observer's Right.

8.  This form is submitted as an aid in preparing a boat sheet.

This form applies to all data on this survey.

This form applies to part of the data on this survey.

Vessel EDP #	From Time Day	To Time Day	Position Numbers (inclusive)
<u>2932</u>	<u>I7I406</u>	<u>I95</u>	<u>000I</u> to <u>0III</u>
<u>2932</u>	<u>I52247</u>	<u>I96</u>	<u>0II2</u> to <u>0I99</u>
<u>2932</u>	<u>I35542</u>	<u>I97</u>	<u>0200</u> to <u>0406</u>

9. Remarks: \_\_\_\_\_

ATLANTIC MARINE CENTER  
ELECTRONIC CONTROL PARAMETERS

1. Project # OPR-503-WH-76 Reg. # II-9645 3. Field # WH-10-7-76  
 4. Type of Control: Del Norte (HI-Fix, Raydist, EPI, etc.)  
 5. Frequency \_\_\_\_\_ (for conversion of electronic lanes to meters)  
 6. Mode of Operation (check one):

Range-Range

Range-Visual

Range One (R<sub>1</sub>)  
 Station I.D. I36 Barneys Joy  
 Range Two (R<sub>2</sub>)  
 Station I.D. I40 West Is. Twr.

Lat.	<u>41</u> °	<u>30</u>	<u>43.663</u> "
Long.	<u>70</u> °	<u>59</u>	<u>07.018</u> "
Lat.	<u>41</u> °	<u>35</u>	<u>00.950</u> "
Long.	<u>70</u> °	<u>49</u>	<u>27.429</u> "

Hyperbolic (3-station)

Hyper-Visual

Slave One  
 Station I.D. \_\_\_\_\_  
 Master  
 Station I.D. \_\_\_\_\_  
 Slave Two  
 Station I.D. \_\_\_\_\_

Lat.	_____°	_____	_____"
Long.	_____°	_____	_____"
Lat.	_____°	_____	_____"
Long.	_____°	_____	_____"
Lat.	_____°	_____	_____"
Long.	_____°	_____	_____"

7. Location of Survey:

Range-Range  Imagine an observer is standing at R<sub>1</sub> Station and looking directly at R<sub>2</sub> (check one):

Survey area is to observer's Right  A=β

Survey area is to observer's Left  A=1

Hyperbolic  Looking from survey area toward Master Station:

Slave One must be to observer's Left;

Slave Two must be to observer's Right.

8.  This form is submitted as an aid in preparing a boat sheet.  
 This form applies to all data on this survey.  
 This form applies to part of the data on this survey.

Vessel EDP #	From Time Day	To Time Day	Position Numbers (inclusive)
<u>2932</u>	<u>I43628</u> <u>I98</u>	<u>I70510</u> <u>I98</u>	<u>0407</u> to <u>0477</u>
<u>2932</u>	<u>I50836</u> <u>20I</u>	<u>I93500</u> <u>20I</u>	<u>0472</u> to <u>0634</u>
<u>2932</u>	<u>I32332</u> <u>202</u>	<u>I95916</u> <u>202</u>	<u>0635</u> to <u>0864</u>

9. Remarks: \_\_\_\_\_

ATLANTIC MARINE CENTER  
ELECTRONIC CONTROL PARAMETERS

1. Project # OP1503-WH-762. Reg. # H-9645 3. Field # WH-10-7-76  
 4. Type of Control: Del Norte (HI-Fix, Raydist, EPI, etc.)  
 5. Frequency \_\_\_\_\_ (for conversion of electronic lanes to meters)  
 6. Mode of Operation (check one):

Range-Range

Range-Visual

Range One (R<sub>1</sub>)  
 Station I.D. I46 Poto, I976  
 Range Two (R<sub>2</sub>)  
 Station I.D. I40 West Is. Twr.

Lat.	<u>41</u> °	<u>31</u>	<u>49.835</u>
Long.	<u>70</u> °	<u>58</u>	<u>23.299</u>
Lat.	<u>41</u> °	<u>35</u>	<u>00.950</u>
Long.	<u>70</u> °	<u>49</u>	<u>27.429</u>

Hyperbolic (3-station)

Hyper-Visual

Slave One  
 Station I.D. \_\_\_\_\_  
 Master  
 Station I.D. \_\_\_\_\_  
 Slave Two  
 Station I.D. \_\_\_\_\_

Lat.	_____°	_____	_____
Long.	_____°	_____	_____
Lat.	_____°	_____	_____
Long.	_____°	_____	_____
Lat.	_____°	_____	_____
Long.	_____°	_____	_____

7. Location of Survey:

Range-Range  Imagine an observer is standing at R<sub>1</sub> Station and looking directly at R<sub>2</sub> (check one):

Survey area is to observer's Right   $A=\beta$

Survey area is to observer's Left   $A=1$

Hyperbolic  Looking from survey area toward Master Station:

Slave One must be to observer's Left;

Slave Two must be to observer's Right.

This form is submitted as an aid in preparing a boat sheet.

This form applies to all data on this survey.

This form applies to part of the data on this survey.

Vessel EDP #	From Time Day	To Time Day	Position Numbers (inclusive)
<u>2932</u>	<u>I93343</u>	<u>205</u>	<u>20430I</u> to <u>0865</u>
<u>2932</u>	_____	_____	_____ to <u>0900</u>
_____	_____	_____	_____ to _____

9. Remarks: \_\_\_\_\_

ATLANTIC MARINE CENTER  
ELECTRONIC CONTROL PARAMETERS

1. Project # OPR 503-WH-762 Reg. # H-9645 3. Field # WH-10-7-76  
 4. Type of Control: Del Norte (Hi-Fix, Raydist, EPI, etc.)  
 5. Frequency \_\_\_\_\_ (For conversion of electronic lanes to meters)  
 6. Mode of Operation (check one):

Range-Range

Range-Visual

Range One (R <sub>1</sub> )	Lat.	<u>41</u> °	<u>30</u>	<u>43.663</u> "
Station I.D. <u>I36 Barneys Joy</u>	Long.	<u>70</u> °	<u>59</u>	<u>07.018</u> "
Range Two (R <sub>2</sub> )	Lat.	<u>41</u> °	<u>35</u>	<u>00.950</u> "
Station I.D. <u>I40 West Is. Twr.</u>	Long.	<u>70</u> °	<u>49</u>	<u>27.429</u> "

Hyperbolic (3-station)

Hyper-Visual

Slave One	Lat.	_____°	_____	_____"
Station I.D. _____	Long.	_____°	_____	_____"
Master	Lat.	_____°	_____	_____"
Station I.D. _____	Long.	_____°	_____	_____"
Slave Two	Lat.	_____°	_____	_____"
Station I.D. _____	Long.	_____°	_____	_____"

7. Location of Survey:

Range-Range  Imagine an observer is standing at R<sub>1</sub> Station and looking directly at R<sub>2</sub> (check one):

Survey area is to observer's Right  A=0

Survey area is to observer's Left  A=1

Hyperbolic  Looking from survey area toward Master Station:

Slave One must be to observer's Left;

Slave Two must be to observer's Right.

This form is submitted as an aid in preparing a boat sheet.

This form applies to all data on this survey.

This form applies to part of the data on this survey.

Vessel	From		To		Position Numbers	
IDP #	Time	Day	Time	Day	(inclusive)	
<u>2932</u>	<u>135529</u>	<u>206</u>	<u>181959</u>	<u>206</u>	<u>0901</u>	to <u>1008</u>
<u>2932</u>	<u>160701</u>	<u>207</u>	<u>193534</u>	<u>207</u>	<u>1009</u>	to <u>1097</u>
<u>2932</u>	<u>160849</u>	<u>210</u>	<u>190727</u>	<u>210</u>	<u>1198</u>	to <u>1309</u>

9. Remarks: \_\_\_\_\_

ATLANTIC MARINE CENTER

ELECTRONIC CONTROL PARAMETERS

1. Project # OPB 503-WH-76<sup>2</sup> Reg. # H 9645 3. Field # WH-10-7-76  
 4. Type of Control: Del Norte (Hi-Fix, Raydist, EPI, etc.)  
 5. Frequency \_\_\_\_\_ (for conversion of electronic lanes to meters)  
 6. Mode of Operation (check one):

Range-Range

Range-Visual

Range One (R<sub>1</sub>)  
 Station I.D. I36 Barneys Joy  
 Range Two (R<sub>2</sub>)  
 Station I.D. I40 West Is. Twr.

Lat.	<u>41</u> °	<u>30</u>	<u>43.663</u> "
Long.	<u>70</u> °	<u>59</u>	<u>07.018</u> "
Lat.	<u>41</u> °	<u>35</u>	<u>00.950</u> "
Long.	<u>70</u> °	<u>49</u>	<u>27.429</u> "

Hyperbolic (3-station)

Hyper-Visual

Slave One  
 Station I.D. \_\_\_\_\_  
 Master  
 Station I.D. \_\_\_\_\_  
 Slave Two  
 Station I.D. \_\_\_\_\_

Lat.	_____°	_____	_____"
Long.	_____°	_____	_____"
Lat.	_____°	_____	_____"
Long.	_____°	_____	_____"
Lat.	_____°	_____	_____"
Long.	_____°	_____	_____"

7. Location of Survey:

Range-Range  Imagine an observer is standing at R<sub>1</sub> Station and looking directly at R<sub>2</sub> (check one):

Survey area is to observer's Right  A=0

Survey area is to observer's Left  A=1

Hyperbolic  Looking from survey area toward Master Station:

Slave One must be to observer's Left;

Slave Two must be to observer's Right.

8.  This form is submitted as an aid in preparing a boat sheet.  
 This form applies to all data on this survey.  
 This form applies to part of the data on this survey.

Vessel EDP #	From Time Day	To Time Day	Position Numbers (inclusive)
<u>2932</u>	<u>I23207</u> <u>211</u>	<u>I72352</u> <u>1 211</u>	<u>I310</u> to <u>I491</u>
<u>2932</u>	<u>I44311</u> <u>215</u>	<u>I72411</u> <u>215</u>	<u>I492</u> to <u>I577</u>
<u>2932</u>	<u>I40358</u> <u>216</u>	<u>I50934</u> <u>216</u>	<u>I578</u> to <u>I617</u>

9. Remarks: \_\_\_\_\_

ATLANTIC MARINE CENTER

ELECTRONIC CONTROL PARAMETERS

1. Project # OPR 503-WH-76. Reg. # II-9645 3. Field # WH-10-7-76  
 4. Type of Control: Del Norte (Hi-Fix, Raydist, EPI, etc.)  
 5. Frequency \_\_\_\_\_ (for conversion of electronic lanes to meters)  
 6. Mode of Operation (check one):

Range-Range

Range-Visual

Range One (R<sub>1</sub>)  
 Station I.D. I36 Barneys Joy  
 Range Two (R<sub>2</sub>)  
 Station I.D. I64 Penikese, I948

Lat.	<u>41</u> °	<u>30</u>	<u>43.663</u> "
Long.	<u>70</u> °	<u>59</u>	<u>07.018</u> "
Lat.	<u>41</u> °	<u>27</u>	<u>03.516</u> "
Long.	<u>70</u> °	<u>55</u>	<u>26.254</u> "

Hyperbolic (3-station)

Hyper-Visual

Slave One  
 Station I.D. \_\_\_\_\_  
 Master  
 Station I.D. \_\_\_\_\_  
 Slave Two  
 Station I.D. \_\_\_\_\_

Lat.	_____°	_____	_____"
Long.	_____°	_____	_____"
Lat.	_____°	_____	_____"
Long.	_____°	_____	_____"
Lat.	_____°	_____	_____"
Long.	_____°	_____	_____"

7. Location of Survey:

Range-Range  Imagine an observer is standing at R<sub>1</sub> Station and looking directly at R<sub>2</sub> (check one):

Survey area is to observer's Right  A=β

Survey area is to observer's Left  A=1

Hyperbolic  Looking from survey area toward Master Station:

Slave One must be to observer's Left;

Slave Two must be to observer's Right.

8.  This form is submitted as an aid in preparing a boat sheet.

This form applies to all data on this survey.

This form applies to part of the data on this survey.

Vessel EDP #	From Time Day	To Time Day	Position Numbers (inclusive)
<u>2932</u>	<u>I3I948</u>	<u>218</u>	<u>I648</u> to <u>I759</u>
<u>2932</u>	<u>I73653</u>	<u>218</u>	<u>I760</u> to <u>I826</u>
<u>2932</u>	<u>I6II00</u>	<u>230</u>	<u>I827</u> to <u>I973</u>

9. Remarks: \_\_\_\_\_

ATLANTIC MARINE CENTER  
ELECTRONIC CONTROL PARAMETERS

1. Project # OPR-503-WH-76 Reg. # H-9645 3. Field # WH-10-7-76  
 4. Type of Control Del Norte (Hi-Fix, Raydist, EPI, etc.)  
 5. Frequency \_\_\_\_\_ (For conversion of electronic lanes to meters)  
 6. Mode of Operation (check one):

Range-Range

Range-Visual

Range One (R<sub>1</sub>)  
 Station I.D. I36 Barneys Joy  
 Range Two (R<sub>2</sub>)  
 Station I.D. I40 West Is. Twr.

Lat.	<u>41</u> °	<u>30</u>	<u>43.663</u> "
Long.	<u>70</u> °	<u>59</u>	<u>07.018</u> "
Lat.	<u>41</u> °	<u>35</u>	<u>00.950</u> "
Long.	<u>70</u> °	<u>49</u>	<u>27.429</u> "

Hyperbolic (3-station)

Hyper-Visual

Slave One  
 Station I.D. \_\_\_\_\_  
 Master  
 Station I.D. \_\_\_\_\_  
 Slave Two  
 Station I.D. \_\_\_\_\_

Lat.	_____°	_____	_____"
Long.	_____°	_____	_____"
Lat.	_____°	_____	_____"
Long.	_____°	_____	_____"
Lat.	_____°	_____	_____"
Long.	_____°	_____	_____"

7. Location of Survey:

Range-Range  Imagine an observer is standing at R<sub>1</sub> Station and looking directly at R<sub>2</sub> (check one):

Survey area is to observer's Right  A=0

Survey area is to observer's Left  A=1

Hyperbolic  Looking from survey area toward Master Station:

Slave One must be to observer's Left;

Slave Two must be to observer's Right.

8.  This form is submitted as an aid in preparing a boat sheet.

This form applies to all data on this survey.

This form applies to part of the data on this survey.

Vessel EDP #	From Time	Day	To Time	Day	Position Numbers (inclusive)
<u>2932</u>	<u>I32255</u>	<u>217</u>	<u>I64848</u>	<u>217</u>	<u>I622</u> to <u>I647</u>
_____	_____	_____	_____	_____	to _____
_____	_____	_____	_____	_____	to _____

9. Remarks: \_\_\_\_\_

ATLANTIC MARINE CENTER  
ELECTRONIC CONTROL PARAMETERS

1. Project # OPR 503-WH-76 Reg. # II-9645 3. Field WH-10-7-76  
 4. Type of Control: Del Norte (Hi-Fix, Raydist, EPI, etc.)  
 5. Frequency \_\_\_\_\_ (for conversion of electronic lanes to meters)  
 6. Mode of Operation (check one):

Range-Range

Range One (R<sub>1</sub>)  
 Station I.D. I68 NoX  
 Range Two (R<sub>2</sub>)  
 Station I.D. I84 Hun, I976

Range-Visual

Lat.	<u>41</u> <sup>o</sup>	<u>26</u>	<u>01.443</u> "
Long.	<u>70</u> <sup>o</sup>	<u>54</u>	<u>02.921</u> "
Lat.	<u>41</u> <sup>o</sup>	<u>25</u>	<u>53.458</u> "
Long.	<u>70</u> <sup>o</sup>	<u>55</u>	<u>41.799</u> "

Hyperbolic (3-station)

Slave One  
 Station I.D. \_\_\_\_\_  
 Master  
 Station I.D. \_\_\_\_\_  
 Slave Two  
 Station I.D. \_\_\_\_\_

Hyper-Visual

Lat.	_____	_____	_____
Long.	_____	_____	_____
Lat.	_____	_____	_____
Long.	_____	_____	_____
Lat.	_____	_____	_____
Long.	_____	_____	_____

7. Location of Survey:

Range-Range

Imagine an observer is standing at R<sub>1</sub> Station and looking directly at R<sub>2</sub> (check one):

- Survey area is to observer's Right  A=0  
 Survey area is to observer's Left  A=1

Hyperbolic

Looking from survey area toward Master Station:

- Slave One must be to observer's Left;  
 Slave Two must be to observer's Right.

8.  This form is submitted as an aid in preparing a boat sheet.  
 This form applies to all data on this survey.  
 This form applies to part of the data on this survey.

Vessel	From		To		Position Numbers
EDP #	Time	Day	Time	Day	(inclusive)
<u>2932</u>	<u>145613</u>	<u>233</u>	<u>180903</u>	<u>233</u>	<u>1974</u> to <u>2074</u>
<u>2932</u>	<u>140358</u>	<u>234</u>	<u>192352</u>	<u>234</u>	to <u>2246</u>

9. Remarks: \_\_\_\_\_

ATLANTIC MARINE CENTER  
ELECTRONIC CONTROL PARAMETERS

1. Project # OP-503-WH-76<sup>2</sup>. Reg. # II-9645 3. Field # WH-10-7-76  
 4. Type of Control: Del Norte (Hi-Fix, Raydist, EPI, etc.)  
 5. Frequency \_\_\_\_\_ (For conversion of electronic lanes to meters)  
 6. Mode of Operation (check one):

Range-Range

Range-Visual

Range One (R<sub>1</sub>)  
 Station I.D. I36 Barneys Joy  
 Range Two (R<sub>2</sub>)  
 Station I.D. I64 Penikese, I948

Lat.	<u>41</u> °	<u>30</u>	<u>43.663</u> "
Long.	<u>70</u> °	<u>59</u>	<u>07.018</u> "
Lat.	<u>41</u> °	<u>27</u>	<u>03.516</u> "
Long.	<u>70</u> °	<u>55</u>	<u>26.254</u> "

Hyperbolic (3-station)

Hyper-Visual

Slave One  
 Station I.D. \_\_\_\_\_  
 Master  
 Station I.D. \_\_\_\_\_  
 Slave Two  
 Station I.D. \_\_\_\_\_

Lat.	_____°	_____	_____"
Long.	_____°	_____	_____"
Lat.	_____°	_____	_____"
Long.	_____°	_____	_____"
Lat.	_____°	_____	_____"
Long.	_____°	_____	_____"

7. Location of Survey:

Range-Range

Imagine an observer is standing at R<sub>1</sub> Station and looking directly at R<sub>2</sub> (check one):

Survey area is to observer's Right  A=β

Survey area is to observer's Left  A=1

Hyperbolic

Looking from survey area toward Master Station:

Slave One must be to observer's Left;

Slave Two must be to observer's Right.

8.  This form is submitted as an aid in preparing a boat sheet.  
 This form applies to all data on this survey.  
 This form applies to part of the data on this survey.

Vessel EDP #	From Time	Day	To Time	Day	Position Numbers (inclusive)
<u>2932</u>	<u>I30733</u>	<u>236</u>	<u>I62502</u>	<u>236</u>	<u>2247</u> to <u>2340</u>
_____	_____	_____	_____	_____	to _____
_____	_____	_____	_____	_____	to _____

9. Remarks: \_\_\_\_\_

ATLANTIC MARINE CENTER  
ELECTRONIC CONTROL PARAMETERS

1. Project # OPR 503-WH-76 Reg. # H-9645 3. Field # WH-10-7-76  
 4. Type of Control: Del Norte (Hi-Fix, Raydist, EPI, etc.)  
 5. Frequency \_\_\_\_\_ (For conversion of electronic lanes to meters)  
 6. Mode of Operation (check one):

Range-Range

Range-Visual

Range One (R<sub>1</sub>)  
 Station I.D. I36 Barneys Joy  
 Range Two (R<sub>2</sub>)  
 Station I.D. I40 West Is. Twr.

Lat.	<u>41</u> °	<u>30</u>	<u>43.663</u> "
Long.	<u>70</u> °	<u>59</u>	<u>07.018</u> "
Lat.	<u>41</u> °	<u>35</u>	<u>00.950</u> "
Long.	<u>70</u> °	<u>49</u>	<u>27.429</u> "

Hyperbolic (3-station)

Hyper-Visual

Slave One  
 Station I.D. \_\_\_\_\_  
 Master  
 Station I.D. \_\_\_\_\_  
 Slave Two  
 Station I.D. \_\_\_\_\_

Lat.	_____°	_____	_____"
Long.	_____°	_____	_____"
Lat.	_____°	_____	_____"
Long.	_____°	_____	_____"
Lat.	_____°	_____	_____"
Long.	_____°	_____	_____"

7. Location of Survey:

Range-Range  Imagine an observer is standing at R<sub>1</sub> Station and looking directly at R<sub>2</sub> (check one):

Survey area is to observer's Right  A=0

Survey area is to observer's Left  A=1

Hyperbolic  Looking from survey area toward Master Station:

Slave One must be to observer's Left;

Slave Two must be to observer's Right.

8.  This form is submitted as an aid in preparing a boat sheet.

This form applies to all data on this survey.

This form applies to part of the data on this survey.

Vessel EDP #	From Time Day	To Time Day	Position Numbers (inclusive)
<u>2932</u>	<u>171342</u> <u>236</u>	<u>195202</u> <u>236</u>	<u>2341</u> to <u>2436</u>
_____	_____	_____	_____ to _____
_____	_____	_____	_____ to _____

9. Remarks: \_\_\_\_\_

ATLANTIC MARINE CENTER  
ELECTRONIC CONTROL PARAMETERS

1. Project # OPS 503-WH-762 Reg. # H-9645 3. Field # WH-10-7-76  
 4. Type of Control: Del Norte (HI-Fix, Raydist, EPI, etc.)  
 5. Frequency \_\_\_\_\_ (For conversion of electronic lanes to meters)  
 6. Mode of Operation (check one):

Range-Range

Range-Visual

Range One (R<sub>1</sub>)  
 Station I.D. I64 Penikese, I948  
 Range Two (R<sub>2</sub>)  
 Station I.D. I40 West Is. Twr.

Lat.	<u>41</u> °	<u>27</u>	<u>03.516</u> "
Long.	<u>70</u> °	<u>55</u>	<u>26.254</u> "
Lat.	<u>41</u> °	<u>35</u>	<u>00.950</u> "
Long.	<u>70</u> °	<u>49</u>	<u>27.429</u> "

Hyperbolic (3-station)

Hyper-Visual

Slave One  
 Station I.D. \_\_\_\_\_  
 Master  
 Station I.D. \_\_\_\_\_  
 Slave Two  
 Station I.D. \_\_\_\_\_

Lat.	_____°	_____	_____"
Long.	_____°	_____	_____"
Lat.	_____°	_____	_____"
Long.	_____°	_____	_____"
Lat.	_____°	_____	_____"
Long.	_____°	_____	_____"

7. Location of Survey:

Range-Range  Imagine an observer is standing at R<sub>1</sub> Station and looking directly at R<sub>2</sub> (check one):

Survey area is to observer's Right  A=β

Survey area is to observer's Left  A=1

Hyperbolic  Looking from survey area toward Master Station:

Slave One must be to observer's Left;

Slave Two must be to observer's Right.

8.  This form is submitted as an aid in preparing a boat sheet.  
 This form applies to all data on this survey.  
 This form applies to part of the data on this survey.

Vessel EDP #	From		To		Position Numbers (inclusive)	
	Time	Day	Time	Day		
<u>2932</u>	<u>125137</u>	<u>238</u>	<u>152738</u>	<u>238</u>	<u>2437</u>	to <u>2511</u>
_____	_____	_____	_____	_____	_____	to _____
_____	_____	_____	_____	_____	_____	to _____

9. Remarks: \_\_\_\_\_

ATLANTIC MARINE CENTER

ELECTRONIC CONTROL PARAMETERS

1. Project # OPB 503-WH-76<sup>2</sup> Reg. # II-9645 3. Field # WH-10-7-76  
 4. Type of Control: Del Norte (Hi-Mix, Raydist, EPI, etc.)  
 5. Frequency \_\_\_\_\_ (for conversion of electronic lanes to meters)  
 6. Mode of Operation (check one):

Range-Range

Range-Visual

Range One (R<sub>1</sub>)  
 Station I.D. I36 Barneys Joy  
 Range Two (R<sub>2</sub>)  
 Station I.D. I40 West Is. Twr.

Lat.	<u>41</u> <sup>o</sup>	<u>30</u>	<u>43.663</u> "
Long.	<u>70</u> <sup>o</sup>	<u>59</u>	<u>07.018</u> "
Lat.	<u>41</u> <sup>o</sup>	<u>35</u>	<u>00.950</u> "
Long.	<u>70</u> <sup>o</sup>	<u>49</u>	<u>27.429</u> "

Hyperbolic (3-station)

Hyper-Visual

Slave One  
 Station I.D. \_\_\_\_\_  
 Master  
 Station I.D. \_\_\_\_\_  
 Slave Two  
 Station I.D. \_\_\_\_\_

Lat.	_____	_____	_____
Long.	_____	_____	_____
Lat.	_____	_____	_____
Long.	_____	_____	_____
Lat.	_____	_____	_____
Long.	_____	_____	_____

7. Location of Survey:

Range-Range

Imagine an observer is standing at R<sub>1</sub> Station and looking directly at R<sub>2</sub> (check one):

Survey area is to observer's Right  A=β

Survey area is to observer's Left  A=1

Hyperbolic

Looking from survey area toward Master Station:

Slave One must be to observer's Left;

Slave Two must be to observer's Right.

8.  This form is submitted as an aid in preparing a boat sheet.  
 This form applies to all data on this survey.  
 This form applies to part of the data on this survey.

Vessel BDP #	From Time Day	To Time Day	Position Numbers (inclusive)
<u>2932</u>	<u>I42428</u> <u>245</u>	<u>I44018</u> <u>245</u>	<u>2512</u> to <u>2523</u>
<u>2932</u>	<u>I42558</u> <u>246</u>	<u>I51254</u> <u>246</u>	<u>3000</u> to <u>3002</u>

9. Remarks: \_\_\_\_\_

PARAMETER TAPE LISTING

WH-10-7-76 EAST

FEST=25000

CLAT=4576000

CMER=70/49/30

GRID=00/00/30

PLSCL=10000

PLAT=41/23/15

PLOW=70/53/28

VESNO=2931

YR=76

ANDIST=0.0

PARAMETER TAPE LISTING

WH-10-7-76 WEST

FEST=25000

CLAT=4576000

CMER=70/49/30

GRID=00/00/30

PLSCL=10000

PLAT=41/23/15

PLON=70/56/45

VESNO=2931

YR=76

ANDIST=0.0

PARAMETER TAPE LISTING

WH-10-7-76

1:5000 INSET

CUTTYHUNK HARBOR

FEST=25000

CLAT=4576000

CMER=70/49/30

GRID=00/00/15

PLSCL=5000

PLAT=41/25/00

PLON=70/57/00

VESNO=2931

YR=76

ANDIST=0.0

## Field Tide Note

The soundings on the field sheet of this survey were reduced for predicted tides based on preliminary zoning furnished by Oceanographic Division. Values of +04 minutes to low water, +00 minutes to high water, and a ratio of 1.06 were applied to tides predicted for Newport, Rhode Island. Tide gages were installed at the following locations:

<u>Name</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Dates of Operation ('76)</u>
Mishaum Pt.	41°31.4N	70°57.3W	July 9 - Aug. 9 Aug. 13 - Sept. 24
Penikese Island	41°27.1N	70°55.2W	June 23 - Aug. 9 Aug. 11 - Oct. 7
Cuttyhunk Island	41°25.5N	70°55.1W	June 21 - Oct. 20
North Quicks Hole (Nashawena Is.)	41°26.9N	70°51.5W	July 22 - Aug. 9 Aug. 11 - Oct. 7
Middle Quicks Hole (Nashawena Is.)	41°26.9N	70°51.4W	July 22 - Aug. 9 Aug. 11 - Oct. 20

Marigrams and levelling records have been sent to the Oceanographic Division C331. Smooth tides and zoning have been requested from Rockville and will be forwarded to Atlantic Marine Center, for application to smooth sheets.

## Geographic Names List

Mishaum Ledge

Coxen's Ledge

Ribbon Reef

Sow and Pigs Reef

Penikese Island

Gull Island

Cuttyhunk Island

Nashawena Island

Cuttyhunk Harbor

Cuttyhunk Pond

Canapitsit Channel

Pease Ledge

Whale Rock

Edwards Rock

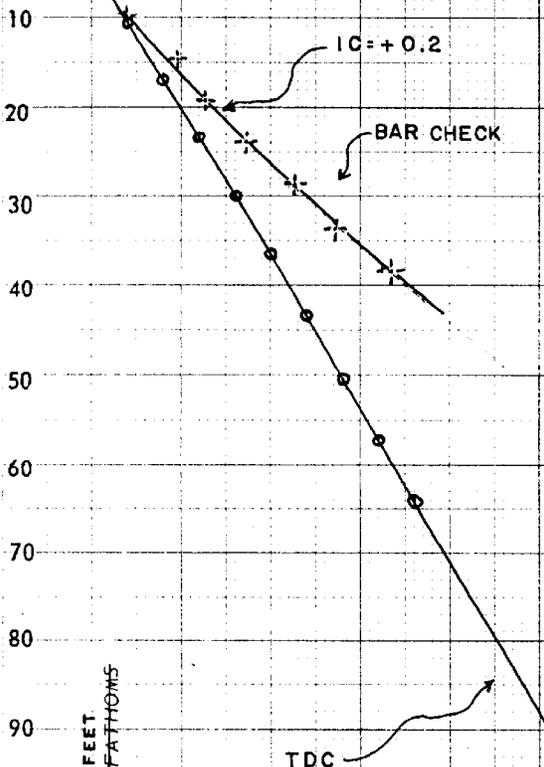
Knox Point

Middle Ledge

Middle Ground

0.0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0  
 (Let 1 inch equal 4 fathoms for deep water and 1 inch equal 0.4 fathom for shoal.)

CORRECTIONS IN FEET, FATHOMS



NOAA FORM 75-21 (10-72) U.S. DEPARTMENT OF COMMERCE  
 NATIONAL OCEAN SURVEY  
**VELOCITY CORRECTIONS**

Ship NOAA Ship WHITING  
 Launch 2932, 2931 Comdg.  
 These corrections are to be used  
 between July 10 1976 and Sept 28 1976  
 in the locality Buzzards Bay, Mass.  
 for hydrographic surveys Nos. H-9645

(For deep water add a 0 to these figures)

Table # 8

Depth	Corr.
4.6	0.0
10.7	0.2
17.0	0.4
23.4	0.6
30.0	0.8
36.6	1.0
43.4	1.2
50.3	1.4
57.4	1.6
64.0	1.8
70.6	2.0
77.4	2.2
84.3	2.4
91.4	2.6
98.0	2.8
104.6	3.0
111.4	3.2
118.3	3.4
125.4	3.6
132.0	3.8
138.6	4.0
145.4	4.2
152.3	4.4

RF 2/3/89  
 DNF 2/3/87

FILE NAME: 80244150.WHB

NOAA UNIT: WHITING *202-260AIG* YEAR 1980  
DAY-OF-THE-YEAR ~~244~~ LATITUDE 41/27/20 N  
TIME 15:00 LONGITUDE 070/52/40 W  
MEASUREMENT INSTRUMENT MARTEK 101

DATA POINT	CAST DEPTH (M)	VELOCITY (M/S)
1	0.0	1511.0
2	1.5	1511.4
3	2.0	1508.4
4	3.0	1508.8
5	4.0	1508.4
6	4.6	1508.1
7	6.0	1506.6
8	6.1	1507.4
9	7.6	1506.7
10	8.0	1506.6
11	9.1	1506.3
12	10.0	1505.8
13	10.7	1505.8
14	12.2	1505.2
15	13.7	1504.9
16	15.0	1503.9

H-9645

VELOCITY TABLE #8  
JDC Avg

----- VELOCITY CORRECTOR TABLE -----  
----- FOR DRAFT OF 1.5 FT -----

CAST 80244150.WH  
NOAA UNIT WHITING YEAR 1980  
DAY-OF-THE-YEAR 202,244,260 <sup>Aug</sup> LATITUDE 41/27/20 N  
TIME 15:00 LONGITUDE 070/52/40 W  
MEASUREMENT INSTRUMENT MARTEK 101

INCREMENT (FT)	DEPTH (FT)
.2	120
1	660
2	12000

APPLICABLE DEPTH INTERVAL  
BELOW SURFACE  
(FT)

VELOCITY CORRECTION  
(FT)

1.5 -	4.6	0.0
4.6 -	10.7	0.2
10.7 -	17.0	0.4
17.0 -	23.4	0.6
23.4 -	30.0	0.8
30.0 -	36.6	1.0
36.6 -	43.4	1.2
43.4 -	50.3	1.4
50.3 -	57.4	1.6
57.4 -	64.0	1.8
	70.6	2.0
	77.4	2.2
	84.3	2.4
	91.4	2.6
	98.0	2.8
	104.6	3.0
	111.4	3.2
	118.3	3.4
	125.4	3.6
	132.0	3.8
	139.6	4.0
	145.4	4.2
	152.3	4.3

Comp over 7/1/81

VELOCITY TABLE #9  
VESNO 2923  
H-4045

----- SUMMARY OF VELOCITY PROFILE -----

FLAG = -2: Point flagged as 'bad' by operator.  
FLAG = -1: Point flagged as 'bad' by EDIT program.  
FLAG = 0: Point is 'good'.  
FLAG = 1: Point is extrapolated using historical data.  
FLAG = 2: Point is extended by operator input.  
FLAG = 3: Point is extended using most probable slope algorithm.  
FLAG = 4: Point selected by operator (manual override of automatic edit)

CAST 80244150.WH  
NOAA UNIT: WHITING  
YEAR 1980  
DAY-OF-THE-YEAR 244 LATITUDE 41/27/20 N  
TIME 15:00 LONGITUDE 070/52/40 W  
INSTRUMENT USED: MARTEK 101

DATA POINT	CAST DEPTH (M)	VELOCITY (M/S)	FLAG
1	0.0	1511.0	0
2	1.5	1511.4	0
3	2.0	1508.4	0
4	3.0	1508.8	0
5	4.0	1508.4	0
6	4.6	1508.1	0
7	6.0	1506.6	0
8	6.1	1507.4	0
9	7.6	1506.7	0
10	8.0	1506.6	0
11	9.1	1506.3	0
12	10.0	1505.8	0
13	10.7	1505.8	0
14	12.2	1505.2	0
15	13.7	1504.9	0
16	15.0	1503.9	0
17	19.5	1502.3	3

TABLE #9

VES NO 2933

H.9645  
TDC AVC

----- VELOCITY CORRECTOR TABLE -----  
----- FOR DRAFT OF 1.0 FT -----

CAST 80244150.WH  
NOAA UNIT WHITING  
DAY-OF-THE-YEAR<sup>262</sup>244760  
TIME 15:00  
MEASUREMENT INSTRUMENT MARTEK 101  
YEAR 1980  
LATITUDE 41/27/20 N  
LONGITUDE 070/52/40 W

INCRMENT (FT)	DEPTH (FT)
.2	120
.4	12000

APPLICABLE DEPTH INTERVAL  
BELOW SURFACE  
(FT)

VELOCITY CORRECTION  
(FT)

1.0 - 4.1	0.0
4.1 - 10.2	0.2
10.2 - 16.5	0.4
16.5 - 22.9	0.6
22.9 - 29.4	0.8
29.4 - 36.0	1.0
36.0 - 42.8	1.2
42.8 - 49.7	1.4
49.7 - 56.8	1.6
56.8 - 64.0	1.8

## ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2932

SHEET : WH-10-7-76

TIME	DAY	PATTERN 1	PATTERN 2
171406	195	-00003	+00003
152247	196	-00003	+00003
135542	197	-00003	+00003
143628	198	-00003	+00003
150836	201	-00003	+00003
132332	202	-00003	+00003
193343	205	-00005	+00003
135529	206	-00020	-00011
160701	207	-00020	-00011
160849	210	-00006	-00011
123207	211	-00006	-00011
144311	215	-00004	+00007
140358	216	+00000	+00009
132255	217	-00010	-00010
131948	218	-00003	-00005
173653	218	-00003	-00005
161100	230	+00002	+00010
145618	233	+00013	-00002
140358	234	+00010	-00002
125137	238	-00009	+00000
130733	236	-00017	-00003
171342	236	-00006	-00006
142428	245	-00006	-00006

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2932

SHEET : WH-10-7-76

TIME	DAY	PATTERN 1	PATTERN 2
142558	246	-00006	-00006

DEL NORTE EQUIPMENT USED

<u>Day</u>	<u>Remote Unit/Serial No.</u>	<u>Station</u>	<u>Remote Unit/Serial No.</u>	<u>Station</u>	<u>Master Unit/Serial No.</u>
195	B/245	136	D/222	140	C/185
196	B/245	136	D/222	140	C/185
197	B/245	136	D/222	140	C/185
198	B/245	136	D/222	140	C/185
201	B/245	136	D/222	140	C/185
202	B/245	136	D/222	140	C/185
205	A/248	146	D/222	140	C/185
206	B/245	136	D/222	140	C/185
207	B/245	136	D/222	140	C/185
208	B/245	136	D/222	140	C/185
210	B/245	136	D/222	140	C/185
211	B/245	136	D/222	140	C/185
215	B/245	136	D/222	140	C/185
216	B/245	136	D/222	140	C/185
217	B/245	136	D/222	140	C/185
218	B/245	136	A/248	164	C/185
230	B/245	136	A/248	164	B/250
233	C/251	168	A/248	184	B/250
234	C/251	168	A/248	184	B/250
236	B/245	136	A/248	164	B/250
	B/245	136	C/251	140	B/250
238	A/248	164	C/251	140	B/250
	B/245	136	A/248	164	B/250

<u>Day</u>	<u>Remote</u> <u>Unit/Serial No.</u>	<u>Station</u>	<u>Remoter</u> <u>Unit/Serial No.</u>	<u>Station</u>	<u>Master</u> <u>Unit/Serial No.</u>
245	B/245	136	C/251	140	B/250
246	B/245	136	C/251	140	B/250

Source: Sounding volumes

Masters and DMU's were always kept paired.

## 6. LIST OF STATIONS

SIGNAL TAPE LISTING

WH-10-7-76

~~100 6 41 36 50518 070 55 37620 254 0000 000000 DIKE, 1976~~  
~~102 6 41 37 22468 070 55 32369 254 0000 000000 ST JAMES CH~~  
~~104 6 41 35 34214 070 55 40690 254 0000 000000 TP01~~  
~~106 6 41 36 00017 070 54 49218 254 0000 000000 TP02~~  
~~108 6 41 35 34348 070 55 41335 254 0000 000000 TP03~~  
~~110 6 41 35 08952 070 56 51936 254 0000 000000 DART, 1976~~  
~~112 6 41 35 19590 070 56 28226 254 0000 000000 PADANARAM CH~~  
~~114 6 41 34 59490 070 51 22422 254 0000 000000 TATER, 1976~~  
~~116 6 41 38 30252 070 53 12307 139 0000 000000 F. HAVEN WTR TR~~  
~~118 6 41 34 26398 070 56 23229 139 0000 000000 PAD BKWTR LT~~

~~(1976)~~

~~120 6 41 36 13285 070 53 42007 139 0000 000000 BUT FLT LH~~  
~~122 6 41 34 40951 070 51 46667 139 0000 000000 BLK RK BCN~~  
~~124 6 41 33 19287 070 55 56695 139 0000 000000 BAREKJEE~~  
~~126 6 41 32 24234 070 55 50761 139 0000 000000 ROUND HILL LT~~

(RADOME)

~~128 6 41 32 24248 070 55 50472 254 0015 000000 GREEN ECC~~  
~~130 6 40 31 47229 070 56 56005 254 0003 000000 FIRE 1976~~  
~~131 6 41 31 46619 070 56 55949 252 0003 000000 FIRE OFFSET~~  
~~132 6 40 30 52195 070 57 15188 254 0006 000000 HEAD, 1976~~  
~~134 6 41 35 05500 070 57 22760 254 0000 000000 DART OFFSET~~  
~~136 6 <sup>41</sup> 30 43663 070 59 07018 254 0010 000000 BARNEYS JOY RM 4, 1976~~  
~~138 6 41 32 04003 070 55 50503 254 0015 000000 GREEN 1940~~  
~~139 6 41 32 23871 070 55 50825 252 0015 000000 GREEN OFFSET~~

B 4/1 5 4/1, 1943

<del>140</del>	6	41	35	00950	070	49	27429	254	0014	000000	<del>WEST IS. TOWER</del>
<del>142</del>	6	41	32	16723	070	55	19151	254	0000	000000	<del>DUMPLING LT</del>
<del>144</del>	6	41	33	23229	070	56	08290	254	0000	000000	<del>TP-05</del>
146	6	41	31	49835	070	58	23299	254	0000	000000	POTO, 1976
<del>148</del>	6	41	31	42737	070	58	42843	254	0000	000000	<del>LLOYDS</del>
<del>150</del>	6	41	31	52567	070	58	53344	139	0000	000000	<del>PASS, 1936</del>
<del>152</del>	6	41	32	37921	070	59	09181	254	0000	000000	<del>SLOCUM, 1976</del>
<del>154</del>	6	41	32	44013	070	59	38559	254	0000	000000	<del>BEND, 1976</del>
<del>156</del>	6	41	32	48907	070	00	08495	254	0000	000000	<del>POISON, 1976</del>
<del>158</del>	6	41	33	31106	071	00	09009	254	0000	000000	<del>FROG, 1976</del>
<del>160</del>	6	41	33	31107	071	00	09156	254	0000	000000	<del>MAN, 1976</del>
<del>162</del>	6	41	34	05243	070	00	20124	254	0000	000000	<del>BLURP, 1976</del>
164	6	41	27	03516	070	55	262 <sup>5</sup> <del>74</del>	<del>139</del> 250	0014	000000	PENIKESE 1948
<sup>A</sup> <del>166</del>	6	40	24	50578	070	56	54720	139	0000	000000	GOSNOLD MON, 1904
168	6	41	26	01 <sup>4</sup> <del>0</del> 43	070	54	02921	254	0006	000000	NOX
170	6	41	25	37442	070	55	17062	254	0000	000000	SAN
172	6	40	25	13628	070	56	03629	139	0000	000000	CUTTYHUNK USE, 1960
<del>174</del>	6	41	23	47128	070	02	02492	139	0000	000000	<del>BUZZARDS BAY TWR</del>
<sup>B</sup> <del>176</del>	6	41	24	51800	070	57	00348	<del>139</del> 200	0000	000000	<del>CUTTYHUNK LT</del>
178	6	41	25	29983	070	55	02828	<del>254</del> 243	0000	000000	CUTTY HBR N JETTY L
180	6	40	25	38347	070	54	17705	<del>254</del> 243	0000	000000	PIG, 1976
182	6	41	24	20 <sup>7</sup> <del>0</del> 95	070	54	41474	<del>254</del> 243	0000	000000	DUN, 1976
184	6	41	25	53458	070	55	40 <sup>9</sup> <del>7</del> 89	254	0003	000000	HUN, 1976
186	6	41	20	54002	070	50	07728	139	0000	000000	GAY HEAD LT HSE, 1875
188	6	41	25	47391	070	54	14595	<del>254</del> 243	0000	000000	ROB, 1976
190	6	41	25	29213	070	54	23443	<del>254</del> 243	0000	000000	ANT, 1976

243  
192 6 41 25 15589 070 56 01014 254 0000 000000 CUTTYHUNK WTR TWR, 1976  
~~194 6 41 32 07622 070 58 09728 254 0000 000000 ART, 1976~~  
~~196 6 41 32 20414 070 58 13719 254 0000 000000 EON, 1976~~  
~~198 6 41 32 37649 070 58 31934 254 0000 000000 BALL, 1976~~  
~~200 6 41 32 25269 070 58 05123 254 0000 000000 FEZ, 1976~~  
~~202 6 41 32 07483 070 58 09634 254 0000 000000 BIZZ, 1976~~  
~~204 6 41 26 57274 070 50 04579 139 0000 000000 PASQUE, 1844~~  
~~206 6 41 26 56504 070 50 30016 254 0000 000000 FUSS, 1976~~  
~~208 6 41 26 15130 070 52 46732 139 0000 000000 NECK, 1948~~  
210 6 41 25 38798 070 55 38549 139 0000 000000 POW, 1976 ✓  
212 6 41 25 35580 070 55 54321 139 0000 000000 ROD, 1976

## 7. ABSTRACT OF POSITIONS

WH - 10 - 7 - 76

POSITION DATA ABSTRACT

<u>Vessel 2932</u>			
<u>Date</u>	<u>Positions</u>	<u>Sheet</u>	<u>Remarks</u>
195	1-111	W	Main Scheme; 4th out, 41-1 out 42 rejected ✓
196	112-145		Main Scheme
	146		Rejected ✓
	147-173		Main Scheme
	174		Rejected ✓
	175-199		Main Scheme; 1st out 180 re- jected, 3 out 183 rejected ✓
197	200-406	W	Main Scheme
198	407-477	W	Main Scheme; 2nd, 3rd out 447 rejected, Line ends w/o fix no. 457, 5th out 468 rejected, 458- 477 2 hrs 16 min subtracted ✓
201	472-477	W	Duplicate position nos. 472 on rejected ✓
	478-512		Main Scheme; 487 on rejected 2nd out 500 rejected, 4th out 509 rejected ✓
	513-514		Rejected ✓
	515-542		Main Scheme; 3rd out 519 rejected ✓
	543-545		Rejected (on tape????)
	546-634		Main Scheme; 5th out 600 rejected ✓ On 601 rejected
202	635-648	W	Main Scheme
	649		Rejected ✓
	650-698		Main Scheme
	699-700		Rejected ✓
	701-728		Main Scheme
	729		Rejected ✓
	730		D.P. Buoy
	731-864		Main Scheme; 1st out 837 rejected ✓
	844-847	E	Main Scheme
205	865-884	W	Main Scheme
	885-895		Crossline
	896		D.P. Buoy
	897-900		Crossline
206	901	E	(1 hr subtracted from all times this day) D.P. Buoy
	902-920		Crosslines
	921-975		Developments; On 941 rejected ✓
	976-985		Crossline
	986-996		Main Scheme; 3rd out
	997-1001		Rejected ✓
	1002-1008		Main Scheme
207	1009-1034	W	Developments
	1035-1044		Crossline

<u>Date</u>	<u>Positions</u>	<u>Sheet</u>	<u>Remarks</u>
207	1045-1066	W	Developments; 5th out 1049 re- jected, 5th out 1063 rejected ✓
	1067-1076		Crossline
	1077		D.P. Buoy
	1078-1085		Rejected ✓
	1086-1097		Main Scheme
208	1098-1187	E	Rejected (plots on beach) ✓
210	1188-1226		Main Scheme; 3rd, 4th out 1210 rejected, 4th, 5th out 1221 re- jected ✓ <i>on 1222 rejected</i>
	1227-1291	E	Main Scheme; 3rd out 1234 re- jected ✓
	1292-1302		Crossline
	1303-1309		Main Scheme; On, 1st, 2nd out 1305 rejected ✓
211	1310-1318	E	Crossline
	1319-1467	E	Main Scheme; 4th <sup>5th</sup> out 1325, 1st <sup>on,</sup> out 1326 rejected, 2nd out 1340-5th out 1340 rejected ✓ On 1400 rejected ✓ 2nd out 1416 rejected ✓
	1468-1479	E	Developments
	1480-1491	E	Main Scheme
215	1492-1577	E	Main Scheme
216	1578-1587	W	Crossline
	1588-1614	W	Developments; On 1599 rejected Rejected ✓
	1615		Bottom Samples
	1616-1617	W	Omitted
217	1618-1621	W	Bottom Samples
	1622-1647	W	Shoreline; 1st out 1648 rejected On 1650 rejected ✓
218	1648-1655	E	Shoreline; 1st out 1648 rejected On 1650 rejected ✓
	1656	E	D.P. Rock
	1657-1737	E	Main Scheme
	1738-1752	E	Shoreline
	1760-1773	W	Main Scheme; 4th out 1766 re- jected ✓
	1774-1775		Rejected ✓
	1776-1811	W	Main Scheme; 3rd out 1792 rejected 1st out 1793 rejected
	1812	W	Bottom Samples
	1813-1825	W	Main Scheme
	1826	W	Bottom Sample
230	1827-1832	W	Shoreline
	1835		Rejected ✓
	1836-1846	W	Main Scheme
	1847		Rejected ✓
	1848-1851	W	Main Scheme
	1852		Rejected ✓
	1853-1857	W	Main Scheme
	1858		Rejected
	1859-1871	W	Main Scheme
	1872-1875		Rejected ✓
	1876	W	D.P. Rock
	1877-1895	W	Main Scheme

<u>Date</u>	<u>Positions</u>	<u>Sheet</u>	<u>Remarks</u>	
230	1896-1899	W	Rejected ✓	
	1900-1924	W	Main Scheme; 1st,2nd, 5th out 1911 rejected	
	1925		Rejected ✓	
	1926-1934	W	Main Scheme; 4th out	
	1935-1943		Development	
	1944	W	D.P. Rocks	
	1944-1948	W	Main Scheme; 1st out	
	1949-1951		Rejected ✓	
	1952-1959	W	Main Scheme	
	1960-1967		Crossline	
	1968	W	D.P. Rock	
	1969-1973	W	Main Scheme	
	1974-1989	E	Shoreline	
	1990-1991		Rejected ✓	
	1992-1996	E	Shoreline	
	1997-1998		Rejected ✓	
	1999-2018	E	Shoreline	
	2019	E	D.P. Rock	
	233	2020		Rejected
		2021	E	D.P. Rock
		2022-2028	E	Shorline
	234	2029-2074	E	Main Scheme
		2075-2086	E	Main Scheme
2087		E	D.P. Rock	
2088-2092		E	Shoreline; 1st,3rd,5th out 2088 rejected	
2093-2105		E	Main Scheme; 5th out 2100 rejected?	
2106-2143		E	Developments	
2144-2149		E	Main Scheme	
2150-2155		E	Developments	
2156-2160			Rejected ✓	
2161-2165		E	Main Scheme	
2166-2168		E	Developments	
2169-2225		E	Main Scheme	
2226		E	Bottom Sample	
2227-2232		E	Crossline	
2233		E	Bottom Sample	
2234-2238		E	Crossline	
2239		E	Bottom Sample	
2240		E	Rejected ✓	
2241-2244		E	Crossline	
2245		E	Rejected ✓	
2246		E	Bottom Sample	
236		2247-2255	W	Developments
		2256-2259	W	Developments
	2260-2261		Rejected ✓	
	2262-2301	W	Developments	
	2302	W	D.P. Rock	
	2303		Rejected ✓	
	2304	W	D.P. Aground	
	2305-2306		Rejected ✓	
	2307-2314	W	Developments	
	2315		Rejected ✓	
	2316-2325	W	Main Scheme	

<u>Date</u>	<u>Position</u>	<u>Sheet</u>	<u>Remarks</u>	
236	2326-2328	W	Rejected ✓	
	2329-2340	W	Main Scheme	
	2341-2358	E	Development	
	2359		Rejected ✓	
	2360-2369	E	Development	
	2370	E	Bottom Sample	
	2371-2379	E	Development	
	2380-2388		Rejected ✓	
	2389-2393	E	Development	
	2394		Rejected ✓	
	2395-2396	E	Development	
	2397		Rejected ✓	
	2398-2409	E	Development	
	2410	E	Bottom Sample	
	2411-2436	E	Development	
	238	2437	E	D.P. Rock
		2438-2460	E	Developments
		2461	E	D.P. Buoy
		2462-2491	E	Developments
		2492	E	D.P. Buoy
2493-2494			Rejected ✓	
2495		E	D.P. Buoy	
2496-2497			Rejected ✓	
2498		E	D.P. Buoy	
2499-2511		E	Developments	
245	2512-2523	W	Developments	
246	3000-3002	W	D.P.'s	

1:5000 CUTTYHUNK HARBOR INSET

POSITION DATA ABSTRACT

Vessel 2931

<u>Day</u>	<u>Positions</u>	<u>Remarks</u>
238	5599-5600, 5603-5604	Main Scheme
244	5463,5479,5535,5536	Detached Positions

Vessel 2932

<u>Day</u>	<u>Positions</u>	<u>Remarks</u>
266	5000-5103	Main Scheme; Omitted positions 5003,5014,5028-30, 5041,5056,5063,5071-2, 5082,5091
267	5104-5138	Shoreline; Omitted positions 5117,5124,5127,5133-5
	5139-5142	Omitted
	5143-5256	Main Scheme; Omitted 5145, 5148-50, 5153-8, 5182, 5188, 5200-2, 5206, 5231, 5232-5, 5247-8; Detached position 5187
272	5257-5397	Main Scheme; Omitted 5261, 5266, 5282-3, 5301, 5318, 5329, 5362-3, 5386
	5398-5399	Omitted
	5400-5404	Shoreline

OCEANOGRAPHIC LOG SHEET - M  
BOTTOM SEDIMENT DATA

VESSEL	2932	PROJ. NO. OPR-503	YEAR 76	Sheet			WH-10-7-76	CHECKED BY	DATE CHECKED		
				DEPTH	WEIGHT	AP. PROX.					
SERIAL NO.	DATE Julian	SAMPLE POSITION		DEPTH (Fathoms)	WEIGHT OF SAM- PLER	AP. PROX. TRAN- SITION	LENGTH OF CORE	COLOR OF SEDI- MENT	FIELD DESCRIPTION	REMARKS (Unusual conditions, cohesiveness, density, cutter, stat. no., type of bottom relief, etc.)	OBS. INIT.
1616	216	25' 41	58' 70	24.9'	08.0'				rk. sh. d.		
1617	"	25' 15.0'	58' 10.5'	15.0'	10.5'				pbs.		
1622	217	26' 40.8'	56' 51.8'	40.8'	51.8'				m. s. sh.		
1624	"	27' 09.8'	57' 17.9'	09.8'	17.9'				m. s. sh.		
1625	"	27' 44.3'	57' 18.0'	44.3'	18.0'				m. s. sh.		
1626	"	28' 14.4'	57' 43.9'	14.4'	43.9'				m. s. sh.		
1627	"	28' 14.8'	56' 51.5'	14.8'	51.5'				fne. m. s.		
1628	"	28' 44.1'	57' 17.6'	44.1'	17.6'				fne. m. s.		
1629	"	29' 13.4'	56' 51.0'	13.4'	51.0'				crs. m. s. sh.		
1630	"	29' 16.4'	57' 46.2'	16.4'	46.2'				rk. s. wd.		
1631	"	29' 14.1'	58' 46.2'	14.1'	46.2'				crs. s. m. rk. wd.		
1632	"	28' 43.2'	58' 20.0'	43.2'	20.0'				wd. sh. fne. m.		
1633	"	28' 17.2'	58' 49.6'	28'	49.6'				fne. m. s.		
1634	"	27' 46.1'	58' 23.4'	27'	23.4'				crs. s. sh. m.		
1635	"	27' 15.5'	59' 14.2'	15.5'	14.2'				m. s. wd.		
1636	"	27' 14.0'	58' 17.6'	27'	17.6'				crs. s. sh.		
1637	"	26' 41.9'	58' 55.2'	26'	55.2'				crs. s. sh.		

Use more than one line per sample if necessary.

OCEANOGRAPHIC LOG SHEET - M  
BOTTOM SEDIMENT DATA

VESSEL		PROJ. NO.		YEAR		SHEET		CHECKED BY		DATE CHECKED	
2932		OPR-503		76		Sheet		MH-10-7-76			
SERIAL NO.	DATE	SAMPLE POSITION		DEPTH (Fathoms)	WEIGHT SAMPLER	AP. PROX. PENETRATION	LENGTH OF CORE	COLOR OF SEDIMENT	FIELD DESCRIPTION	REMARKS (Unusual conditions, core/venezas, dented, INIT., cutter, size, no., type of bottom felt, etc.)	OBS.
		LATITUDE	LONGITUDE								
1638	217	26° 58'	19.0°						crs. s. sh.		
1639	"	26° 57'	42.4°						rk		
1640	"	26° 57'	13.6°						pb. sh.		
1641	"	25° 57'	49.0°						crs. s		
1642	"	25° 56'	43.7°						crs. s sh.		
1643	"	25° 57'	16.5°						m. s. sh.		
1644	"	24° 57'	49.0°						fne. s sh.		
1646	"	24° 58'	42.7°						crs. s. sh.		
1647	"	24° 58'	21.3°						crs. s. sh.		
1812	218	23° 58'	50.7°						ms. sh. rk.		
1826	"	24° 57'	17.9°						brk. crs. s		
2226	234	26° 55'	54.8°						s. grs.		
2233	"	26° 54'	33.7°						m. s.		
2239	"	26° 54'	20.6°						wd		
2246	"	26° 56'	26.6°						m. s.		
2370	236	27° 56'	06.2°						s. m. sh.		
2410	236	27° 55'	41.3°						rk		

Use more than one line per sample if necessary.

Approval Sheet

Submitted by :

*David M. Goodrich*

David M. Goodrich  
Ens., 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 instructions.

Approved/Forwarded

*John W. Carpenter*

John W. Carpenter  
Cdr., NOAA

Commanding Officer, NOAA Ship Whiting

6/13/77

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

Processing Division: Atlantic Marine Center:

Hourly heights are approved for

Tide Station Used (NOAA Form 77-12): Round Hill Point

Period: July 13 - September 2, 1976

HYDROGRAPHIC SHEET: H-9645

OPR: 503

Locality: Buzzards Bay, Mass.

Plane of reference (mean ~~lower~~ low water): 1.85 ft.

Height of Mean High Water above Plane of Reference is  
3.4 ft.

Remarks: Zone direct.

  
\_\_\_\_\_  
Chief, Tides Branch



**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: *Russell C. Arnold*  
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



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL OCEAN SERVICE  
ATLANTIC MARINE CENTER  
439 West York Street  
Norfolk, VA 23510-1114

N/MOA232:RDS

MEMORANDUM FOR: CDR Russell C. Arnold, NOAA  
Chief, Hydrographic Surveys Branch

FROM: *for R. W. Sauski*  
LCDR William A. Wert, NOAA  
Chief, Hydrographic Surveys Branch

SUBJECT: Comments on Draft - Processing of Wire  
Drag/Item, Buzzards Bay

1. First Paragraph, 2nd sentence - revise verification to processing.
2. Buzzards Bay Surveys

The following is the status of the seven surveys we have in house:

- a. Verification phase of processing
  - 1) H-9645 - Sounding verification 95% - needs QC check before going to smooth plot and smooth sheet compilation (about 2-1/2 man/months to complete verification of smooth sheet phase).
  - 2) H-9646 - Sounding verification 95% - needs QC check before going to smooth plot and smooth sheet compilation (about 2-1/2 man/months to complete verification of smooth sheet phase).
  - 3) H-9647 - Sounding verification 95% - needs QC check before going to smooth plot and smooth sheet compilation (about 2-1/2 man/months to complete verification of smooth sheet phase).
  - 4) H-9661 - Sounding verification 30% - needs QC check after sounding verification before going to smooth plot and smooth sheet compilation (about 4-1/2 man/months to complete verification of smooth sheet phase).
  - 5) H-9669 - Presently a smooth sheet about 90%. Needs QC check to be considered verified smooth sheet (about 1 man/month) to complete verification.
  - 6) H-9712 - Presently a smooth sheet undergoing final QC check before being considered verified smooth sheet (about 1/2 man/months to complete),





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

ATLANTIC MARINE CENTER  
Atlantic Hydrographic Section  
439 West York Street  
Norfolk, VA 23510-1114

September 26, 1989

MEMORANDUM FOR: Users of Hydrographic Survey H-9645  
FROM: *for R. D. Sansone* Commander Christopher B. Lawrence, NOAA  
Chief, Atlantic Hydrographic Section  
SUBJECT: Processing Buzzards Bay Surveys  
REFERENCE: Memorandum from Commander Russell C. Arnold,  
dated December 27, 1988, Processing Buzzards Bay  
Surveys

Office Processing of survey H-9645 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 survey H-9645. 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.

The Atlantic Hydrographic Section 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:  
N/CG24  
N/CG243  
N/CG2441



**VERIFIER'S REPORT**  
**HYDROGRAPHIC SURVEY, H- 9645**

**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	CL	R	Part III - JUNCTIONS (Continued)	CL	R
<p><b>Note:</b> The verifier should first read the Descriptive Report for general information and problems.</p> <p>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</p>	X		<p>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 <b>SUPERSEDED</b>.</p>	X	
<p>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</p>	X		<p><b>Part IV - VOLUMES</b></p> <p>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</p>	X	
<p>3. All reference to survey sheets mentioned in the Descriptive Report should include registry number and year. Remarks Required: -- None</p>	X				
<p><b>Part II - SHORELINE AND SIGNALS</b></p> <p>Source of shoreline signals Remarks Required: -- List all surveys TP-00775 &amp; TP-00776</p> <p>a. Give earliest and latest dates of photographs April 1974</p> <p>b. Field inspection date - None</p> <p>c. Field Edit date Sept. 1977</p> <p>d. Reviewed-Unreviewed - Sept. 1984</p>	X		<p>12. Condition of sounding records was satisfactory except as follows: Remarks Required: -- Mention deficiencies in completeness of notes or actions for the following:</p> <p>(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</p>	X	
<p>5. The transfer of contemporary topographic information was carefully examined and reconciled with the hydrography. Remarks Required: -- Discuss remaining differences. see note</p>	X	X			
<p>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 X</p>	X				
<p>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.</p>	X				
<p><b>Part III - JUNCTIONS</b></p> <p><b>Note:</b> Make a cursory comparison preliminary to inking soundings in area of overlap.</p> <p>8. All junctions of contemporary or overlapping sheets were compared and overlapping curves were made identical. Remarks Required: -- None</p>	X		<p>13. All positions verified instrumentally were check marked in color in the sounding records, and verifier initialed the processing stamp. Remarks Required: -- None</p>	X	
<p>9. The notation in slanted lettering "JOINS H--- )" was added in colored ink for all verified contemporary adjoining or overlapping sheets. Those not verified are shown in pencil. Remarks Required: -- None see note</p>	X	X	<p>14. The plotting of all unsatisfactory crossings was verified. Remarks Required: -- None</p>	X	
			<p>15. All detached positions locating critical soundings, rocks, buoys, breakers, obstructions, kelp, etc., were verified and the position numbers are legible. Remarks Required: -- None</p>	X	

Part V - PROTRACTING (Continued)	CL	R	Part VIII - AIDS TO NAVIGATION	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.	X		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.	X	
17. The protractor has been checked within the last three months. Remarks Required: -- Date of check, type of protractor and number.	X		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	X	
<b>Part VI - SOUNDINGS</b> 18. All soundings are clear and legible, and critical soundings are a little larger than adjacent soundings.  Remarks Required: -- None	X		<b>Part IX - BOATSHEET</b> 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	X	
19. Sounding line crossings were satisfactory except as follows:  Remarks Required: -- Discuss adjustments.	X		29. Heights of rocks awash were correctly reduced and compared with topographic information.  Remarks Required: -- Note excessive conflicts with topographic information.	X	
20. The spacing of soundings as recorded in the records was closely followed;  Remarks Required: -- None	X		<b>Part X - GENERAL</b> 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	X	
21. The scanning, reduction, spacing, plotting of questionable soundings have been verified.  Remarks Required: -- None	X		31. Unnecessary pencil notes have been removed from the sheet.  Remarks Required: -- None	X	
<b>Part VII - CURVES</b> 23. The depth curves have been inspected before inking. Remarks Required: -- By whom was the penciled curves inspected.	X		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	X	
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	X		33. The bottom characteristics are adequately shown.  Remarks Required: -- None	X	
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.	X		<b>Part XI - NOTES TO THE REVIEWER</b> 34. Unresolved discrepancies and questionable soundings.	X	
			35. Notation of discrepancies with photogrammetric survey inserted in report of unreviewed photogrammetric survey or on copy.	X	
			36. Supplemental information. see note	X	
Verified by <i>Robert R. Hill</i>	Date <i>9/27/89</i>				

H-9645  
Verifier's Report

Item #5. In the vicinity of Penikese Island the field unit's smooth boatsheet is showing foul limits almost completely around this island. Also, these same foul limits are shown on Class III Photogrammetric Manuscripts TP-00775 and TP-00776. The final reviewed manuscripts in this area (TP-00775 and TP-00776) only show foul limits along the southwest shore of Penikese Island. This situation was discussed with the final reviewer in the Photogrammetry Section at the Atlantic Marine Center (AMC), and it was ascertained that the foul limits shown on the Class III manuscript should not have been removed from the Final Reviewed manuscripts. The foul limits shown on the present survey were taken from the field unit's smooth boatsheet.

Item #10. A standard junction could not be effected with junctional surveys H-9615 (1976) and H-9644 (1976) to the northeast and north, respectively, because the junctional surveys are archived at National Ocean Service (NOS) headquarters in Rockville, Maryland. Adjustments to the depth curves will have to be made by the chart compiler on the chart during chart compilation.

Item #36. The length of the smooth sheet has been extended 9 centimeters beyond the maximum smooth sheet length of 148 centimeters. This was done to accommodate the 1:5,000 scale inset of "Cuttyhunk Harbor and Pond".

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

Hydrographic Index No. 62 R

