T-12979

NOAA Form 76-35
U.S. Department of Commerce
National Oceanic and Atmospheric Administration
National Ocean Survey

Descriptive Report

Type of Survey: Shoreline (Photogrammetric)
Job No.: PH-6601
Map No.: T-12979
Classification No.
Edition No.
Field Edited

Locality

State: Massachusetts
General Locality: Boston, to Plum Island
Locality: Marblehead Harbor

1965 to 1968
Alfred C. Holmes, Director, AMC

Registry in Archives

Date

OBJECT NO. (III):
Job PH-6601

FIELD OFFICE (III):
None

PHOTOGRAMMETRIC OFFICE (III):
Atlantic Marine Center, Norfolk, VA

CHIEF OF PARTY

OFFICER-IN-CHARGE
Alfred C. Holmes, Director, AMC

INSTRUCTIONS DATED (III) (IV):
Field - Aug. 4, 1965
Field - Aug. 19, 1965 Provisional instructions, Aerial photography
Office - Oct. 8, 1965 Instructions, Aerotriangulation
Office - Jan. 27, 1966
Office - Feb. 2, 1966 Instructions, Aerotriangulation
Office - Apr. 28, 1966
Field - May 20, 1966 Supplement I
Office - July 11, 1966 Supplement I

METHOD OF COMPILATION (III):
Wild B-8 Plotter and Graphic

MANUSCRIPT SCALE (III):
1:10,000

STEREOGRAPHIC PLOTTING INSTRUMENT SCALE (III):
This entire map was traced from photo reductions of 1:5,000 scale manuscripts T-12973, T-12974, T-12975 and T-12976.

DATE RECEIVED IN WASHINGTON OFFICE (IV):

DATE REPORTED TO NAUTICAL CHART BRANCH (IV):

DATE REGISTERED (IV):
SEPT. 1975

GEOGRAPHIC DATUM (III):
NA 1927

REFERENCE STATION (III):
Lee (USE) 1914

LAT.: 42°31'54.48" (1681.2m)
LONG.: 70°52'29.863" (681.6m)

PLANE COORDINATES (IV):
y = 558,807.27 Ft.
x = 768,475.64 Ft.

STATE: MASS
ZONE: Mainland
**DESCRIPTIVE REPORT - DATA RECORD**

- **T-12979**

**FIELD INSPECTION BY (III):**  
None

**MEAN HIGH WATER LOCATION (III) (STATE DATE AND METHOD OF LOCATION):**  
Air Photo Compilation  
Date of Photography: August 24, 1965

**PROJECTION AND GRIDS RULED BY (IV):**  
A.E. Roundtree  
5/26/66

**PROJECTION AND GRIDS CHECKED BY (IV):**  
R. Glaser  
6/1/66

**CONTROL PLOTTED BY (III):**  
C. Blood  
9/16/66

**CONTROL CHECKED BY (III):**  
L. Neterer  
9/16/66

**RADIAL PLOT OR STEREOSCOPIC CONTROL EXTENSION BY (III):**  
H.P. Eichert (W.O.)  
11/1/66

**STEREOSCOPIC INSTRUMENT Compilation (III):**  
PLANIMETRY Traced from photo reductions of T-12973, T-12974, T-12976, and T-12977.  
CONTOURS  
March 1968

**MANUSCRIPT DELINEATED BY (III):**  
R.R. White  
March 1968

**SCRIBING BY (III):**  

**PHOTOGRAMMETRIC OFFICE REVIEW BY (III):**  
C.H. Bishop  
March 1968

**REMARKS:**  
*Verified tracing, verifield processing of color photos for photo-hydro support. CHB  
3/15/68*
**Wild RC-8 "S"**

<table>
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<tr>
<th>NUMBER</th>
<th>DATE</th>
<th>TIME</th>
<th>SCALE</th>
<th>STAGE OF TIDE</th>
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<tbody>
<tr>
<td>65-S-(c)-7219 and 7220</td>
<td>Aug. 31, 1965</td>
<td>07:32</td>
<td>1:30,000</td>
<td>0.2 ft. below MLW*</td>
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<tr>
<td>65-S-(c)-7241</td>
<td>Aug. 31, 1965</td>
<td>07:45</td>
<td>1:30,000</td>
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<td>65-S-6915R thru 6917R</td>
<td>Aug. 24, 1965</td>
<td>08:35</td>
<td>1:30,000</td>
<td>7.9 ft. above MLW*</td>
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<td>65-S-6940R</td>
<td>Aug. 24, 1965</td>
<td>09:50</td>
<td>1:30,000</td>
<td>7.9 ft. above MLW*</td>
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**TIDE (III)**

| REFERENCE STATION: | BOSTON | 9.5 | 11.0 |
| SUBORDINATE STATION: | MARBLEHEAD | 9.1 | 10.6 |

WASHINGTON OFFICE REVIEW BY (IV): Bernard Kurs, AMC

DATE: Jan. 1974

**REMARKS:**

*The stage of tide at the time of photography was determined by readings on a staff at Gloucester Harbor (Ten Pound Island). See INSTRUCTIONS (OFFICE) dated April 28, 1966.*
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<th>Compilation Record</th>
<th>Completion Date</th>
<th>Remarks</th>
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<td>March 1968</td>
<td>Superseded</td>
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<tr>
<td>Partial Field Edit Applied (T-12973 and T-12974)</td>
<td>March 1968</td>
<td>Superseded</td>
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<td>Field Edit Reviewed (T-12973-74 (Transfer). Field Edit Transferred From T-12976 Partial Field Edit Transferred From T-12977.</td>
<td>October 1969 CHB</td>
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<td>Final Review</td>
<td>Jan. 1974</td>
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SUMMARY TO ACCOMPANY

DESCRIPTIVE REPORTS PH-6601

This shoreline manuscript is one of thirty-one maps that make up this project. The primary purpose of the project is to provide contemporary shoreline for nautical chart construction. Maps were also used to provide photogrammetric hydro support data for the hydrographic surveys to be conducted in the same area.

The only field work prior to compilation was recovery and identification of horizontal control required for aerotriangulation.

Field edit was accomplished by a photogrammetric field party during the years 1967, 1968, 1969 and 1970. The field edit was adequate.

Cronaflex positive and ozalids of the manuscripts were furnished for the use of the field editor and the preparation of the hydrographers boat sheets. Accompanying these were specially prepared ratio photographs to aid in the location of hydrographic signals.

Final review was accomplished at the Atlantic Marine Center from September, 1973 to April, 1974.

A cronaflex positive and negative of each reviewed manuscript are being forwarded for record and registry.
FIELD INSPECTION REPORT

Map T-12979

Project PH-6601

There was no field inspection prior to compilation.
PHOTOGRAMMETRIC PLOT REPORT
Job PH-6601
Boston to Plum Island, Massachusetts

November 1, 1966

21. **Area Covered**

This report covers aeroetriangulation for 1:5,000 and 1:10,000 scale surveys in an area north of Boston, Massachusetts. The 1:5,000 scale surveys are T-12968 thru T-12977; the 1:10,000 scale surveys are T-12959 thru T-12967 and T-12978 thru T-12985.

22. **Method**

Four strips were bridged by the analytic method. Strip 1 was at a scale of 1:30,000 using infrared photography; Strips 2 and 3 at a scale of 1:30,000 using color film; and Strip 4 using color film at a scale of 1:15,000.

The 1:30,000 scale bridges were to be used for the 1:10,000 scale compilation. The four-model 1:15,000 scale bridge was necessary to complete coverage on surveys T-12972 and T-12978.

Common points between the 1:30,000 and 1:15,000 scale photog- raphy were selected. Plane coordinate positions from our bridges were determined so that 1:15,000 scale models could be controlled to compile the 1:5,000 scale surveys. Plane coordinates are on the Massachusetts State Grid (Mainland). The attached aeroetriangulation sketch shows location of strips bridged. Closures to control have been tabulated.

23. **Adequacy of Control**

Field identified control was supplemented by office identified horizontal control points and was adequate.

24. **Supplemental Data**

Vertical control points needed for control for strip adjust- ments were taken from USGS quads.

25. **Photography**

The color photography was excellent. The infrared photography, which is not particularly suited for bridging, was adequate.

Respectfully submitted,

Henry P. Eichert
STRIP #1

1. MEAD 2 (MGS), 1934
   target (+0.1, +0.1)
   sub. pt. (-0.9, +1.7)

2. CHAPA, 1849
   target (-0.4, -0.2)

3. PLUM ISLAND COAST GUARD CUPOLA, 1943
   target (+0.5, +0.3)
   sub. pt. (-2.8, +4.5)

4. OLD TOWN, 1850
   target (-0.2, -0.2)
   RM #1 (-0.2, +0.3)

STRIP #2

5. STONEHAVEN (ROCKPORT TOWN (MGS)), 1937
   target (+1.2, -2.6)
   sub. pt. A (-0.7, -1.6)
   sub. pt. B (+1.3, -3.0)

6. MEAD 2 (MGS), 1934
   target (0.0, +3.3)
   sub. pt. (+0.7, +3.6)
7. Manchester Church Dark Spire, 1848
   target: (-6.0, +0.8)
   sub pt. A (-7.1, +3.1)

   office identified (+4.8, +1.9)

9. Fort Pickering Lighthouse, 1877
   office identified (+6.0, +1.0)

14. High Rock 2 (MGS)
   sub pt. A (+3.2, -4.4)
   sub pt. B (+2.0, -2.8)

15. High Rock 3, 1943
   office identified (+6.0, -3.7)

17. Revere Catholic Church Tower, 1934
   office identified (+4.0, -4.0)

19. Booth (MGS), 1934
   sub pt. A (+3.4, -1.4)

   office identified (-1.5, +2.2)

20. Medford Radio Station WEEI-FM Tower, 1953
    office identified (+2.1, -1.0)

21. Medford TV Station WNAC Tower, 1953
    office identified (+5.3, -1.0)
22. MEDFORD RADIO STATION. WEEK N.E. TOWER, 1958
   Office identified (414, +3.0)

23. MEDFORD RADIO STATION. WEEI, SW. TOWER, 1958
   Office identified (412, +3.1)

STRIP #3

23. BOSTON STATE HOUSE, 1934
   Office identified (426, +5.5)

27. BOSTON CUSTOM HOUSE TOWER, 1916
   Office identified (43.2, +4.7)

25. CHARLESTOWN BUNKER HILL MON., 1846
   Office identified (42.2, +0.1)

26. EAST BOSTON, BOSTON AND ALBANY R.R. TANK, 1916
   Office identified (41.6, +5.5)

24. CHELSEA QUIGLEY HEM. HOSPITAL W.T., 1952
   Office identified (423, -2.0)

17. REVERE CATHOLIC CHURCH TOWER, 1934
   Office identified (-4.0, -5.0)

13. REVERE BEACH STACK, 1919
   Office identified (-41, -2.2)

14. HIGH ROCK #2
   Sub. pt. B (429, +3.9)

16. Nahant COAST GUARD GUPOLA, 1919
   Office identified (43.6, +6.4)
13. Swampscott High School, Finial, 1940
   office identified (+0.7, +3.4)

12. Swampscott, Larger Standpipe, 1934
   office identified (+0.7, +1.8)

11. Marblehead, Aged Tower, 1919
   office identified (-0.6, +1.4)

10. Marblehead Lighthouse, 1914
    office identified (+2.0, +5.1)

  2. Manchester Church, Park Spire, 1848
    target (-3.5, -5.3)
    sub pt A (-4.1, -5.2)

  1. Mead 2 (MS), 1934
    target (+3.8, -0.7)
    sub pt. (+6.2, -1.2)

  5. Stonehaven (Rockport Town (MS)), 1989
    target (-2.1, +0.3)
    sub pt A (-1.3, +1.6)
    sub pt B (-2.0, +1.2)

  6. Straitsmouth Lighthouse, 1922
    office identified (-3.1, -5.2)
STICK # 4

29  Danvers  Cooke  / Cooke  Co. Chimney, 1919
    100.46  sta  (-0.18  +0.79)

  35  "A"  (-0.01  -0.01)

  35  "B"  (-1.83  +1.74)

50  Beverly  United Shoe Mfg. Co. Stk., 1934
    (-0.01  -0.01)

51  Beverly  Odd Fellows Cupola, 1934
    (-1.39  +1.35)

32  Beverly  St. Mary's Church Spike, 1934
    (-1.32  -1.09)

33  Beverly  1st Baptist Church, 1919
    (+1.35  +1.10)

TIE POINTS

12601  (-0.28  -0.78)
12602  (-3.79  -3.20)
13601  (-2.56  -3.97)
14601  (-3.15  -1.53)
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<tr>
<th>Station</th>
<th>Source of Information</th>
<th>Datum</th>
<th>Latitude or Y Coordinate</th>
<th>Longitude or X Coordinate</th>
<th>Distance from Grid or Projection in Meters</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEE (USE) 1914</td>
<td>Vol. I, Pg. 507</td>
<td>NA</td>
<td>42° 31' 54.484&quot;</td>
<td>70° 52' 29.863&quot;</td>
<td>1681.2 (170.2)</td>
</tr>
<tr>
<td>FORT PICKERING LIGHTHOUSE 1877</td>
<td>Vol. I, Pg. 828</td>
<td>&quot;</td>
<td>42° 31' 34.99&quot;</td>
<td>70° 52' 01.09&quot;</td>
<td>1079.7 (771.7)</td>
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<tr>
<td>MARBLEHEAD LIGHTHOUSE 1914</td>
<td>Vol. I, Pg. 33</td>
<td>&quot;</td>
<td>42° 30' 19.187&quot;</td>
<td>70° 50' 03.052&quot;</td>
<td>592.0 (1259.4)</td>
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<tr>
<td>MARBLEHEAD ABBOT TOWER 1919</td>
<td>Vol. I, Pg. 54</td>
<td>&quot;</td>
<td>42° 30' 08.862&quot;</td>
<td>70° 51' 11.081&quot;</td>
<td>273.4 (1578.0)</td>
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<tr>
<td>MARBLEHEAD YELLOW STANDPIPE 1934</td>
<td>Vol. I, Pg. 53</td>
<td>&quot;</td>
<td>42° 30' 02.555&quot;</td>
<td>70° 51' 54.770&quot;</td>
<td>253.0 (1172.6)</td>
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<tr>
<td>HOSPITAL POINT LIGHTHOUSE 1877</td>
<td>Vol. I, Pg. 507</td>
<td>&quot;</td>
<td>42° 32' 48.026&quot;</td>
<td>70° 51' 23.304&quot;</td>
<td>1451.0 (400.4)</td>
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<td>KETTLE BOTTOMS BEACON, 1914</td>
<td>Vol. I, Pg. 508</td>
<td>&quot;</td>
<td>42° 31' 08.510&quot;</td>
<td>70° 50' 12.823&quot;</td>
<td>292.7 (1077.0)</td>
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<td>MONUMENT BAR BEACON 1914</td>
<td>Vol. I, Pg. 510</td>
<td>&quot;</td>
<td>42° 32' 22.294&quot;</td>
<td>70° 52' 25.558&quot;</td>
<td>687.9 (1163.5)</td>
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<td>MARBLEHEAD WEATHER SERVICE DISPLAY TOWER 1914</td>
<td>Vol. I, Pg. 510</td>
<td>&quot;</td>
<td>42° 30' 31.72&quot;</td>
<td>70° 50' 30.28&quot;</td>
<td>978.8 (872.6)</td>
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<tr>
<td>ABBOT ROCK STONE BEACON 1848</td>
<td>Vol. I, Pg. 823</td>
<td>&quot;</td>
<td>42° 31' 48.907&quot;</td>
<td>70° 51' 46.357&quot;</td>
<td>1509.1 (342.3)</td>
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<td>GREAT AQUA VITAE STONE, BEACON 1848</td>
<td>Vol. I, Pg. 823</td>
<td>&quot;</td>
<td>42° 31' 34.01&quot;</td>
<td>70° 51' 28.26&quot;</td>
<td>1049.4 (802.0)</td>
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<td>LITTLE HASTE BEACON 1848</td>
<td>Vol. I, Pg. 825</td>
<td>&quot;</td>
<td>42° 32' 07.14&quot;</td>
<td>70° 50' 35.964&quot;</td>
<td>220.3 (1631.1)</td>
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Computed by: L.G.  
Checked by: J.P. and A.L.S.  
Date: 10/10/66  
Date: 10/11/66
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<tr>
<th>STATION</th>
<th>SOURCE OF INFORMATION (INDEX)</th>
<th>DATUM</th>
<th>LATITUDE OR Y COORDINATE</th>
<th>LONGITUDE OR X COORDINATE</th>
<th>DISTANCE FROM GRID OR PROJECTION IN METERS (1 FT = 3048000 M)</th>
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<td>MARBLEHEAD FIRST CONGREGATIONAL CHURCH 1919</td>
<td>Vol. I Pg. 871</td>
<td>&quot;</td>
<td>42° 30' 25.081&quot;</td>
<td>773.9</td>
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<td>70° 50' 54.145&quot;</td>
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<td>MARBLEHEAD NECK 1940</td>
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<td>&quot;</td>
<td>42° 30' 17.472&quot;</td>
<td>539.1</td>
<td>1312.3</td>
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<td>&quot;</td>
<td>70° 50' 00.625&quot;</td>
<td>14.3</td>
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COMPUTED BY: L.L.G.  DATE: 10/10/66

CHECKED BY: J.P. and A.L.S.  DATE: 10/11/66
COMPILATION REPORT

Map Manuscript T-12979

Boston to Plum Island

Project PH-6601

31. DELINEATION

This map was compiled in its entirety at 1:5,000 scale on four different map manuscripts, T-12973, T-12974, T-12976 and T-12977. Photographic reductions of the 1:5,000 scale manuscripts were made on cronaflex and all necessary compilation was transferred to T-12979 (scale 1:10,000) by tracing. See the COMPILATION REPORTS for Map Manuscripts T-12973, T-12974, T-12976 and T-12977.

37. LANDMARKS AND AIDS

Form 567 (NONFLOATING AIDS OR LANDMARKS FOR CHARTS) for landmarks and fixed aids to navigation in the area covered by this map manuscript have been submitted with T-12973, T-12974, T-12976 and T-12977 and are not repeated for this map.

Submitted:

Charles H. Bishop
Charles H. Bishop
Cartographer

Approved:

Albert C. Rauck, Jr.
Chief, Coastal Mapping Section, AMC
GEOGRAPHIC NAMES

FINAL NAME SHEETS

Ph-6601 (Boston to Plum Island, Mass.)

T-12979

Abbot Rock
Allen Head
Beverly
Beverly Cove
Beverly Harbor
Black Joe Pond
Black Rock
Boston and Maine (RR)
Brown Island
Cat Cove
Cat Island
Cat Island Channel
Cloutman Point
Coney Island
Coney Ledge
Cove Village
Curtis Point
Dolliber Cove
Dolliber Point
Eagle Island
Fluen Point
Fort Pickering
Fort Sewall
Gerry Island
Grays Rock
Great Aquavitae
Great Haste
Hospital Point
Jack Point
Juniper Point
Kettlebottom
Little Aquavitae
Little Haste

Mackerel Cove
Marblehead
Marblehead Channel
Marblehead Harbor
Marblehead Neck
Marblehead Rock
Middle Ground
Mingo Beach
Monument Bar
Naugus Head
Patch Beach
Peach Point
Reds Pond
Salem Harbor
Salem Neck
Salem Sound
Smith Point
Winter Island
Woodbury Point

Prepared by:

C. E. Harrington
Staff Geographer
NOTES FOR THE HYDROGRAPHER AND FIELD EDITOR

Separate edit ozalids have been prepared for your respective uses. These are intended to simplify your efforts and eliminate the possibility of any duplication of edit procedures.

On each are noted pertinent remarks concerning doubtful interpretations or items of compilation requiring additional clarification and/or verification.

For the field editor, notes include all items inshore from the approximate M.L.W.L. All offshore items are noted for the Hydrographer's attention.

Among these items requiring edit by both parties, are "Landmarks and Aids". These are indicated by a numeral. The following key is an explanation of the attention they may require:

1. Object not visible on photos. Verify by edit.
2. Object visible, position verified. (by compiler)
3. Object visible, position re-determined. Verify by edit.
4. Object which may be a landmark or new aid. Verify by edit.

Forms 567 should be submitted for all "Landmarks and Aids".
# Photogrammetric Office Review

**T-12979**

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**Control Stations**

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<tr>
<th>5. Horizontal Control Stations of Third-Order or Higher Accuracy</th>
<th>6. Recoverable Horizontal Stations of Less Than Third-Order Accuracy (Topographic stations)</th>
<th>7. Photo Hydro Stations</th>
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**Bench Marks**

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**Alongshore Areas (Nautical Chart Data)**

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**AIDS TO NAVIGATION**

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**Physical Features**

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**Cultural Features**

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**CULTURAL FEATURES**

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**Boundaries**

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**Miscellaneous**

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**Discrepancy Overlay**

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</table>

**Reviewer**

<table>
<thead>
<tr>
<th>Charles H. Bishop</th>
<th>10/31/69</th>
<th>SUPERVISOR, REVIEW SECTION OR UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albert C. Rauick, Jr.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Remarks (See Attached Sheet)**

**Field Completion Additions and Corrections to the Manuscript**

Additions and corrections furnished by the field completion survey have been applied to the manuscript. The manuscript is now complete except as noted under item 43.

**Compiler:** B.T. Barge 1/6/68 & 11/9/68
L.O. Neeter 9/13/68
**Reviewer:** C.H. Bishop 10/31/69

**Remarks**

Field Edit Applied From Photo Reductions of 1:5000 Scale Manuscripts T-12973, T-12974, T-12976 and T-12977.
FIELD EDIT REPORT

Map T-12979

Project PH-6601

There was no field edit done in this area at 1:10,000 scale. For field edit on this map, see FIELD EDIT REPORTS with the 1:5,000 scale maps from which T-12979 was compiled, (T-12973, T-12974, T-12976 and T-12977).
* Field Editor submitted Form 567 stating method of location as Triangulation; but verified on the Field Photo that it did not hold the triangulation position. It is now submitted as Photogrammetrically located.

** Field Editor did not submit Form 567, but verified on Field Photo. Photogrammetric position does not agree with Triangulation position.

*** Field Editor submitted Form 567 stating method of location as Photo., but it appears he copied position from triangulation data and also has a typographical error in the D.P. meters value in longitude.
**NONFLOATING AIDS EXCEPT LANDMARKS FOR CHARTS**

Atlantic Marine Center  
October 26, 1967

I recommend that the following objects which have been inspected from seaward to determine their value as landmarks be charted on the charts indicated.

The positions given have been checked after listing by R. E. Smith

J. Bull, RADM, USA

Chief of Naval Operations

<table>
<thead>
<tr>
<th>STATE</th>
<th>MASSACHUSETTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHARTING NAME</td>
<td>DESCRIPTION</td>
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<tr>
<td>----------</td>
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<tr>
<td>----------</td>
<td>--------------</td>
</tr>
<tr>
<td>SALEM HARBOUR APPROACHES</td>
<td></td>
</tr>
<tr>
<td>MAIN CHANNEL</td>
<td></td>
</tr>
<tr>
<td>Hospital Point Range Front Light</td>
<td>(Hospital Point Lighthouse 1877)</td>
</tr>
<tr>
<td>DAYBEACON</td>
<td>Little Haste Daybeacon</td>
</tr>
<tr>
<td>DAYBEACON</td>
<td>South Rock Daybeacon (South Rock Stand Beacon 1888)</td>
</tr>
<tr>
<td>DAYBEACON</td>
<td>Port Pickering Light (Port Pickering Lighthouse 1877)</td>
</tr>
<tr>
<td>DAYBEACON</td>
<td>Great Aquavita Daybeacon</td>
</tr>
<tr>
<td>SALEM SOUTH CHANNEL</td>
<td></td>
</tr>
<tr>
<td>DAYBEACON</td>
<td>Little Aquavita Daybeacon</td>
</tr>
<tr>
<td>BAYS HORN CHANNEL</td>
<td></td>
</tr>
<tr>
<td>DAYBEACON</td>
<td>Monument Bar Daybeacon</td>
</tr>
</tbody>
</table>

This form shall be prepared in accordance with Hydrographic Manual, Publication 20.2, Sec. 1-15, 2-39, 6-16, 7-18 to 22 inclusive, and Fig. 79. Positions of charted landmarks and non-floating aids to navigation, if re-determined, shall be reported on this form. Revisions shall show both the old and new positions. The data should be considered for the charts of the area and not by individual field survey sheets. Information under each column heading should be given.
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<thead>
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<th>STATE</th>
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<td>DESCRIPTION</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SALEM HARBOR APPROACHES</td>
</tr>
<tr>
<td></td>
<td>MARBLEHEAD HARBOR</td>
</tr>
<tr>
<td>LIGHT</td>
<td>(Marblehead Lighthouse, 1914) Ht. = 108 (137) Ft.</td>
</tr>
<tr>
<td></td>
<td>SALEM SOUTH CHANNEL</td>
</tr>
<tr>
<td>DATEBEACON</td>
<td>(Kettle Bottoms Beacon, 1914)</td>
</tr>
<tr>
<td></td>
<td>NAHANT BAY APPROACH</td>
</tr>
<tr>
<td>DATEBEACON</td>
<td>(Roaring Bull Ledge Beacon, 1916)</td>
</tr>
</tbody>
</table>

This form shall be prepared in accordance with Hydrographic Manual, Publication 20.2, Sec. 1-53, 2-39, 6-36, 7-19 to 22 inclusive, and Fig. 79. Positions of charted landmarks and nonfloating aids to navigation, if reetermined, shall be reported on this form. Revisions shall show both the old and new positions. The data should be considered for the charts of the area and not by individual field survey sheets. Information under each column heading should be given.

* Tabulate seconds and meters.

Allen L. Powell
Director, AMC
Chief of Party
### COAST AND GEODETIC SURVEY

**NONFLOATING AIDS OR LANDMARKS FOR CHARTS**

Atlantic Marine Center

Nov. 12 1968

I recommend that the following objects which have been inspected from seaward to determine their value as landmarks be charted on (exclude from) the charts indicated.

The positions given have been checked after listing by

B. Barge

Howard J. Cole

Director, AMC
Chief of Ports

<table>
<thead>
<tr>
<th>STATE</th>
<th>MASSACHUSETTS</th>
<th>CHARTING NAME</th>
<th>DESCRIPTION</th>
<th>SIGNAL NAME</th>
<th>LATITUDE*</th>
<th>LONGITUDE*</th>
<th>DATUM</th>
<th>METHOD OF LOCATION AND SURVEY NO.</th>
<th>DATE OF LOCATION</th>
<th>CHARTS AFFECTED</th>
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<tbody>
<tr>
<td></td>
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<td></td>
<td>SALEM HARBOR APPROACHES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>CAT ISLAND CHANNEL</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>DAYBEACON Satan Rock Daybeacon</td>
<td></td>
<td>42 30</td>
<td>36.535</td>
<td>03.330</td>
<td>N.A.</td>
<td>T-12977</td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(Satan Rocks Beacon 1914)</td>
<td></td>
<td></td>
<td>1127.3</td>
<td>70 18</td>
<td>76.0</td>
<td>10/2/67</td>
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<td></td>
<td></td>
<td>DAYBEACON Brimbles Daybeacon</td>
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<td>42 31</td>
<td>16.170</td>
<td>30.263</td>
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<td>10/2/67</td>
<td>210, 211</td>
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<td></td>
<td></td>
<td></td>
<td>(Brimbles Beacon 1914)</td>
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<td></td>
<td>158.9</td>
<td>70 18</td>
<td>690.8</td>
<td>10/2/67</td>
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<tr>
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<td>HARBLEHEAD CHANNEL</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>DAYBEACON Tom Koore Rock Daybeacon</td>
<td></td>
<td>42 29</td>
<td>41.270</td>
<td>48.699</td>
<td></td>
<td>6/7/68</td>
<td>210, 211</td>
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<td></td>
<td></td>
<td></td>
<td>(Tom Koorees Rock Beacon 1914)</td>
<td></td>
<td></td>
<td>1273.1</td>
<td>70 49</td>
<td>1112.1</td>
<td>12/07</td>
<td></td>
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This form shall be prepared in accordance with Hydrographic Manual, Publication 20.2, Sec. 1-55, 2-39, 6-36, 7-18 to 22 inclusive, and Fig. 79. Positions of charted landmarks and nonfloating aids to navigation, if recomputed, shall be reported on this form. Revisions shall show both the old and new positions. The data should be considered for the charts of the area and not by individual field survey sheets. Information under each column heading should be given.

* Tabulate seconds and meters
**NONFLOTTING AIDS OR LANDMARKS FOR CHARTS**

Atlantic Marine Center  
Nov. 12, 1968

I recommend that the following objects which have been inspected from seaward to determine their value as landmarks be the charts indicated.

The positions given have been checked after listing by B. Barge

<table>
<thead>
<tr>
<th>State</th>
<th>Charting Name</th>
<th>Description</th>
<th>Signal Name</th>
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</thead>
<tbody>
<tr>
<td>MASSACHUSETTS</td>
<td>SALEM HARBOR APPROACHES</td>
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<tr>
<td></td>
<td>MARBLEHEAD CHANNEL</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TOWER (Marblehead Rock Beacon 1914) Destroyed</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>State</th>
<th>Charting Name</th>
<th>Description</th>
<th>Signal Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>MASSACHUSETTS</td>
<td>SALEM HARBOR APPROACHES</td>
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<tr>
<td></td>
<td>MARBLEHEAD CHANNEL</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TOWER (Marblehead Rock Beacon 1914) Destroyed</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Position**
  - **Latitude**
  - **Longitude**
  - **Datum**
  - **Method of Location and Survey No.**
  - **Date of Verification**
  - **Charts Affected**

<table>
<thead>
<tr>
<th>State</th>
<th>Charting Name</th>
<th>Description</th>
<th>Signal Name</th>
</tr>
</thead>
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<tr>
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<td>SALEM HARBOR APPROACHES</td>
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<tr>
<td></td>
<td>MARBLEHEAD CHANNEL</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TOWER (Marblehead Rock Beacon 1914) Destroyed</td>
<td></td>
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</tr>
</tbody>
</table>

*Reported destroyed by field party.
Reported on form 567 dated November 1968 as nonfloating aid to be charted.

This form shall be prepared in accordance with Hydrographic Manual, Publication 20.2, Sec. 1-35, 2-39, 6-56, 7-18 to 22 inclusive, and Fig. 79. Positions of charted landmarks and nonfloating aids to navigation, if redetermined, shall be reported on this form. Revisions shall show both the old and new positions. The data should be considered for the charts of the area and not by individual field survey sheets. Information under each column heading should be given.

*Tabulate seconds and meters*
<table>
<thead>
<tr>
<th>STATE</th>
<th>MASSACHUSETTS</th>
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<tbody>
<tr>
<td>CHARTING NAME</td>
<td>DESCRIPTION</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>MARBLEHEAD HARBOR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Church Tower Wood White Dark Top Ht. = 85(135) ft.</td>
</tr>
<tr>
<td></td>
<td>Standpipe steel grey Ht. = 100(180) ft.</td>
</tr>
<tr>
<td></td>
<td>Stack Brick Yellow Ht. = 70(135) ft.</td>
</tr>
<tr>
<td></td>
<td>Radio Tower Steel Ht. = 187(227) ft.</td>
</tr>
<tr>
<td></td>
<td>Obs. Tower Concrete, green Ht. = 55(95) ft.</td>
</tr>
<tr>
<td></td>
<td>Flagpole wood white, gold ball atop Ht. = 35(45) ft.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Marblehead Weather Service Display Tower 1911) Skeleton Steel h=75(105) ft.</td>
</tr>
<tr>
<td></td>
<td>(Marblehead Yellow Standpipe, 1934) Steel h=100(175) ft.</td>
</tr>
<tr>
<td></td>
<td>(Marblehead Abbot Tower, 1919) Brick h=155(215) ft.</td>
</tr>
<tr>
<td></td>
<td>(Marblehead First Congregational Church, 1919) Wood h=95(135) ft.</td>
</tr>
</tbody>
</table>

This form shall be prepared in accordance with Hydrographic Manual, Publication 20-2, Sec. 1-15, 2-19, 6-10, 7-19. Incl. and 11-10. The graphic symbols representing landmarks and nonexisting aids to navigation, if not determined, shall be reported on this form. Revisions shall show both the old and new positions. The data should be considered for the charts of the area and not by individual field survey sheets. Information under each column heading should be given.
I recommend that the following objects which have been inspected from seaward to determine their value as landmarks be the charts indicated.
The positions given have been checked after listing by

Lowell O. Neterer, Jr.  
Allen L. Powell  
Director, ANC  
Chief of Party

<table>
<thead>
<tr>
<th>STATE</th>
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<th>CHARTING NAME</th>
<th>DESCRIPTION</th>
<th>POSITION</th>
<th>METHOD OF LOCATION AND SURVEY NO.</th>
<th>DATE OF OCCURRENCE</th>
<th>CHARTS AFFECTED</th>
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<tbody>
<tr>
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<td>MARBLEHEAD HARBOR</td>
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<td></td>
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<tr>
<td></td>
<td></td>
<td>STANDPIPE (Marblehead Black Standpipe, 1919)</td>
<td></td>
<td>42 29 58.660</td>
<td>70 51 146.702</td>
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<td>T-12976 5/21/68</td>
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<td>STANDPIPE Destroyed</td>
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<td>42 30.2</td>
<td>70 51.5</td>
<td></td>
<td></td>
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</table>

*Report destroyed by Field Party.*

This form shall be prepared in accordance with Hydrographic Manual, Publication 30-2, Sec. 1-55, 2-19, 6-16, 7-18 to 27 inclusive, and Fig. 79. Positions of charted landmarks and noncharting aids to navigation, if reetermined, shall be reported on this form. Revisions shall show both the old and new positions. The data should be considered for the charts of the area and not by individual field survey sheets. Information under each column heading should be given in columns 1 and 4.
LANDMARKS FOR CHARTS

Atlantic Marine Center, Norfolk, Va., Dec. 20, 1972

I recommend that the following objects which have been inspected from seaward to determine their value as landmarks be charted on the charts indicated.

The positions given have been checked after listing by Richard R. White

Richard R. White
Director, A.M.C.

<table>
<thead>
<tr>
<th>STATE</th>
<th>CHARTING NAME</th>
<th>DESCRIPTION</th>
<th>SIGNAL NAME</th>
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<th>LONGITUDE D.P.METERS</th>
<th>DATUM</th>
<th>METHOD OF LOCATION AND SURVEY NO.</th>
<th>DATE OF LOCATION</th>
<th>CHARTS AFFECTED</th>
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<td>42.30</td>
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<td>06/07/66</td>
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<td>T-12979</td>
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<td>TANK</td>
<td>Marblehead YMCA Water Tank Elevated</td>
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This form shall be prepared in accordance with Hydrographic Manual, Publication 20.2, Sec. 1-55, 2-39, 6-36, 7-18 to 22 inclusive, and Fig. 79. Positions of charted landmarks and nontangible aids to navigation, if redetermined, shall be reported on this form. Revisions shall show both the old and new positions. The data should be considered for the charts of the area and not by individual field survey sheets. Information under each column heading should be given.

* ITALIC SECONDS AND METERS
REVIEW REPORT T-12979
SHORELINE
JANUARY, 1974

61. GENERAL STATEMENT:

See Summary page six (6) of the Descriptive Report.

This survey consists of four 1:5,000 scale manuscripts as
follows: T-12973, T-12974, T-12976 and T-12977. Reductions were
made of the manuscripts and planimetry was transferred by tracing.
Reports for the four individual 1:5,000 scale sheets are included
in this report.

62. thru 65. See above.

66. ADEQUACY OF RESULTS AND FUTURE SURVEYS:

Questions regarding the position of three daybeacons (page 22
of this report) were not resolved during compilation or final
review. It is recommended that the problem be referred to field
parties convenient to the area as opportunity offers.

This survey complies with project instructions and meets the
National Standards of Map Accuracy.

Review by:

Bernard Kurs
Cartographer

Approved for Forwarding:

Victor E. Serena
Chief, Photogrammetric Branch, AMC

Approved:

Randolph Youngblood
Chief, Photogrammetric Branch
Chief, Coastal Mapping Division
REVIEWS REPORT T-12973

SHORELINE

December, 1973

61. GENERAL STATEMENT:

See summary which is page 6 of the Descriptive Report.

62. COMPARISON WITH REGISTERED TOPOGRAPHIC SURVEYS:

A visual comparison was made with Registered Survey Number 3765, 1919 at 1:10,000 scale. There is only a general agreement because of time and datum difference between the two surveys.

This survey supersede the prior listed survey for nautical chart construction purposes.

63. COMPARISON WITH MAPS OF OTHER AGENCIES:

A comparison was made with USGS Quadrangle Marblehead North, MASS., 1956 at 1:24,000 scale. There is good general agreement between the two surveys.

64. COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS:

Comparison was made with Boat Sheets H-9009, 9010 and 9046, all dated 1968 at 1:5,000 scale. There is good general agreement.

65. COMPARISON WITH NAUTICAL CHARTS:

Comparison was made with Chart 240 dated July 29, 1972, at 1:10,000 scale. There are some differences in shoreline and rocks not shown on this survey. These are noted on the discrepancy overlay.

66. ADEQUACY OF RESULTS AND FUTURE SURVEYS:

This survey meets with project instructions and the National Standards of Map Accuracy.

Reviewed by:

Bernard Kurs
Cartographer
REVIEW REPORT T-12974
SHORELINE
January, 1974

61. GENERAL STATEMENT:

See summary which is page 6 of the Descriptive Report.

62. COMPARISON WITH REGISTERED TOPOGRAPHIC SURVEYS:

A visual comparison was made with Registered Survey number 3765, dated 1919, at 1:10,000 scale. There was only fair general agreement. The date difference preclude any other type of comparison or agreement.

This survey supersedes the prior listed survey for nautical chart construction purposes.

63. COMPARISON WITH MAPS OF OTHER AGENCIES:

A visual comparison was made with USGS Quadrangle Marblehead North, MASS., 1956 at 1:24,000 scale. There is good general agreement between the two surveys.

64. COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS:

Direct comparison was made with Boat Sheets H-9046 and H-9095, both dated 1968 and at 1:5,000 scale. There is very good agreement between both surveys.

65. COMPARISON WITH NAUTICAL CHARTS:

A visual comparison was made with chart 240, May 19, 1973 at 1:25,000 scale. There is good general agreement.

66. ADEQUACY OF RESULTS AND FUTURE SURVEYS:

This survey complies with project instructions and meets the National Standards of Map Accuracy.

Reviewed by:

[Signature]

Bernard Kurs
Cartographer
REVIEW REPORT T-12976
SHORELINE
December, 1973

61. GENERAL STATEMENT:
See summary which is page 6 of the Descriptive Report.

62. COMPARISON WITH REGISTERED TOPOGRAPHIC SURVEYS:
Comparison was made with Registered Survey 3766 at 1:10,000 scale, dated 1919. There is only general agreement of the two surveys because of the date difference and the difference of datum.

This survey supersedes the prior listed survey for nautical chart construction purposes.

63. COMPARISON WITH MAPS OF OTHER AGENCIES:
Comparison was made with USGS Quads Marblehead North and Marblehead South, Mass. dated 1956 at 1:24,000, scale. There is good general agreement. Because of the difference in scale only a visual comparison could be made.

64. COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS:
Comparison was made with Boat Sheets H-9010 and H-9012 at 1:5,000 scale dated 1968. Also, with Boat Sheet H-9094 at 1:10,000 scale dated 1969. There was very good agreement.

65. COMPARISON WITH NAUTICAL CHARTS:
Comparison was made with Chart 241 at 1:10,000, scale dated July 29, 1972. There was very good agreement between the two. The only significant difference is the location of a long pier at Cloutman Pt. This is shown on the discrepancy print in red.

66. ADEQUACY OF RESULTS AND FUTURE SURVEYS:
This survey complies with project instruction and meets the National Standards of Map Accuracy.
61. **GENERAL STATEMENT:**

There is no field edit ozalid or field edit report for this survey. The compiler refers to a hydro edit sheet as a source of field edit corrections. This sheet was not forwarded with the survey and cannot be located in the compilation section.

See summary which is page 6 of the descriptive report.

62. **COMPARISON WITH REGISTERED TOPOGRAPHIC SURVEYS:**

Comparison was made with Registered Survey 3766, 1919 at 1:10,000 scale. Because of a datum difference only a visual comparison was made. The only apparent changes are natural ones and the time interval between the surveys account for them.

This survey supersedes the prior listed survey for nautical chart construction purposes.

63. **COMPARISON WITH MAPS OF OTHER AGENCIES:**

Comparison was made with USGS Quadrangles Marblehead North and Marblehead South, Mass., 1956 at 1:24,000. The visual comparison between the surveys was very good.

64. **COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS:**

Comparison was made with Boat Sheet H-9012, 1968 at 1:5,000 scale. Both surveys are in good agreement.

65. **COMPARISON WITH NAUTICAL CHARTS:**

Comparison was made with Chart 241, July 29, 1972 at 1:10,000 scale. The only significant differences were Cat Island and the adjacent islets. The shorelines show considerable change. A visual check with Chart 240, May 19, 1973 at 1:25,000 scale shows a different shape to South Gooseberry Island. The changes dealing with Cat Island and vicinity are shown in red on the discrepancy print.

66. **ADEQUACY OF RESULTS AND FUTURE SURVEYS:**

This survey meets with project instructions and the National Standards of Map Accuracy.