T-12977

NOAA FORM 78-35
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

DESCRIPTIVE REPORT

<table>
<thead>
<tr>
<th>Type of Survey</th>
<th>Shoreline (Photogrammetric)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job No.</td>
<td>PH-6601</td>
</tr>
<tr>
<td>Map No.</td>
<td>T-12977</td>
</tr>
<tr>
<td>Classification No.</td>
<td></td>
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<tr>
<td>Edition No.</td>
<td></td>
</tr>
<tr>
<td>Field Edited</td>
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LOCALITY

<table>
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<tr>
<th>State</th>
<th>Massachusetts</th>
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<tbody>
<tr>
<td>General Locality</td>
<td>Boston to Plum Island</td>
</tr>
<tr>
<td>Locality</td>
<td>Cat Island</td>
</tr>
</tbody>
</table>

1965 TO 1968
Alfred C. Holmes, Director, AMC

REGISTRY IN ARCHIVES

DATE

☆ U.S. GOVERNMENT PRINTING OFFICE: 1972-761-152
**PROJECT NO. (III):**
Job - Ph-6601

**FIELD OFFICE (III):**
None

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

**CHIEF OF PARTY**
Alfred C. Holmes, Director, AMC

**INSTRUCTIONS DATED (III):**
- 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 COMPILE (III):**
Wild B-8 and graphic

**MANUSCRIPT SCALE (III):**
1:5,000

**STEREOSCOPIC PLOTTING INSTRUMENT SCALE (III):**
1:7500 Pantographed to 1:5000

**DATE RECEIVED IN WASHINGTON OFFICE (IV):**

**DATE REPORTED TO NAUTICAL CHART BRANCH (IV):**

**APPLIED TO CHART NO.:**

**DATE:**

**DATE REGISTERED (IV):**
SEPT. 1975

**GEOGRAPHIC DATUM (III):**
NA 1927

**VERTICAL DATUM (III):**
MEAN SEA LEVEL EXCEPT AS FOLLOWS:
Elevations shown as (25) refer to mean high water
Elevations shown as (3) refer to sounding datum
i.e., mean low water or mean lower low water

**REFERENCE STATION (III):**
None

**LAT.:**

**LONG.:**

**ADJUSTED**

**UNADJUSTED**

**PLANE COORDINATES (IV):**

<table>
<thead>
<tr>
<th>Y =</th>
<th>X =</th>
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**STATE:**
MASS

**ZONE:**
Mainland

---

**MAN NUMERALS INDICATE WHETHER THE ITEM IS TO BE ENTERED BY (III) FIELD PARTY, (III) PHOTOGRAMMETRIC OFFICE, (IV) WASHINGTON OFFICE.**

**WHEN ENTERING NAMES OF PERSONNEL ON THIS RECORD GIVE THE SURNAME AND INITIALS, NOT INITIALS ONLY.**
**FIELD INSPECTION BY (III):**

None

**DATE:**

**MEAN HIGH WATER LOCATION (III) (STATE DATE AND METHOD OF LOCATION):**

Air Photo Compilation  
Date of Photography: August 25, 1966  
Graphic

**PROJECTION AND GRIDS RULED BY (IV):**

A.E. Roundtree  
DATE: 6/2/66

**PROJECTION AND GRIDS CHECKED BY (IV):**

R. Glaser  
DATE: 6/3/66

**CONTROL PLOTTED BY (III):**

L. Neterer, Jr.  
DATE: 9/26/66

**CONTROL CHECKED BY (III):**

A. Santillan  
DATE: 9/26/66

**RADIAL PLOT OR STEREOSCOPIC CONTROL EXTENSION BY (III):**

H.P. Eichert (W.O.)  
DATE: 11/1/66

**STEREOSCOPIC INSTRUMENT COMPILATION (III):**

**PLANIOMETRY**  
Wild B-8  
DATE: 8/1/67

**CONTOURS**  
None  
**DATE:**

**MANUSCRIPT DELINEATED BY (III):**

R.R. White  
DATE: 8/11/67

**SCRIBING BY (III):**

DATE

**PHOTOGRAMMETRIC OFFICE REVIEW BY (III):**

C.H. Bihsop  
DATE: 9/14/67

**REMARKS:**


**DESCRIPTIVE REPORT - DATA RECORD**

**T-12977**

**Wild RC-8 "S" Camera**

<table>
<thead>
<tr>
<th>NUMBER</th>
<th>DATE</th>
<th>TIME</th>
<th>SCALE</th>
<th>STAGE OF TIDE</th>
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<tr>
<td>65 S 7169R-7171R</td>
<td>25 Aug. 1965</td>
<td>10:04</td>
<td>1:15,000</td>
<td>9.0 Ft. Above MLW*</td>
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<tr>
<td>65 S 7325-7328</td>
<td>31 Aug. 1965</td>
<td>08:47</td>
<td>1:15,000</td>
<td>0.2 Ft. Above MLW*</td>
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**TIDE (III)**

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<th>REFERENCE STATION</th>
<th>RATIO OF RANGES</th>
<th>MEAN RANGE</th>
<th>SPRING RANGE</th>
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<tr>
<td>Boston</td>
<td>9.5</td>
<td>11.0</td>
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<table>
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<th>SUBORDINATE STATION</th>
<th>RATIO OF RANGES</th>
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<tr>
<td>Marblehead</td>
<td>9.1</td>
<td>10.6</td>
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**WASHINGTON OFFICE REVIEW BY (IV):**

Bernard Kurs, AMC  

**DATE:** 12/73

**REMARKS:**

*The stage of tide at the time of photography was determined by readings on a staff at Gloucester Harbor (Tien Pound Island. See Instructions Office-Dated 28 April 1966.*
<table>
<thead>
<tr>
<th>Compilation Record</th>
<th>Completion Date</th>
<th>Remarks</th>
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<tr>
<td>Alongshore area for hydro</td>
<td>August 1967</td>
<td>Superseded</td>
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<tr>
<td>Field Edit Applied</td>
<td>November 1968</td>
<td>Superseded</td>
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<tr>
<td>Final Review</td>
<td>December 1968</td>
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</table>
JOB PH-6601
BOSTON TO PLUM ISLAND
SHORELINE MAPPING AT 1:5,000 & 1:10,000 SCALE
CHART 613-SC
CHART TOPOGRAPHY AT 1:40,000 SCALE
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 positives 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-12977

Project PH-6601

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

November 1, 1966

21. **Area Covered**

This report covers aerotriangulation 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-12966 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 photography 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 aerotriangulation 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 adjustments 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
AEROTRIANGULATION SKETCH
BOSTON TO PLUM ISLAND
PH-6601
May, 1966

Δ control used in adjustment
Δ control used as check
STRIP #1

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

2. CHOATE, 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)

- 1. MEAD 2 (MGS), 1934
   target: (0.0, +3.3)
   sub. pt.: (+0.7, +3.6)
7. MANCHESTER CHURCH, DARK SPIRE, 1840
   target (-5.0, +0.8)
   sub. pt. A (-7.1, +3.1)

8. SALEM, NEW ENGLAND POWER CO., SOUTH STACK, 1954
   office identified (+4.8, +1.9)

9. FORT PICKERING LIGHTHOUSE, 1877
   office identified (+6.0, +1.0)

14. HIGH ROCK 2 (MGS)
    sub. pl. A (+3.2, -4.4)
    sub. pl. B (+2.0, -2.8)

15. HIGH ROCK 3, 1943
    office identified (+1.8, -3.7)

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

19. BOOTH (MGS), 1934
    sub. pl. A (+3.4, -1.4)

24. CHELSEA-QUIGLEY MEM. HOSPITAL W.T., 1955
    office identified (-1.5, +2.2)

20. MEDFORD RADIO STATION WELT-EM. TOWER, 1955
    office identified (+2.1, -1.0)

21. MEDFORD TV STATION WNAC TOWER, 1958
    office identified (+5.3, -1.0)
22. MEDFORD RADIO STATION WEEI, NE TOWER, 1953
   Office identified (+1.4, +3.0)

23. MEDFORD RADIO STATION WEEI, SW TOWER, 1953
   Office identified (+1.7, +3.1)

Strip #3

29. BOSTON STATE HOUSE, 1934
   Office identified (+2.6, +5.5)

27. BOSTON CUSTOM HOUSE TOWER, 1916
   Office identified (+3.2, +4.7)

25. CHARLESTOWN BUNKER HILL MHN, 1846
   Office identified (+2.2, +0.1)

26. EAST BOSTON, BOSTON AND ALBANY R.R. TANK, 1916
   Office identified (+1.6, +5.5)

24. CHELSEA QUIGLEY MEM. HOSPITAL, W.T., 1953
   Office identified (+7.3, -2.0)

17. REVERE CATHOLIC CHURCH TOWER, 1924
   Office identified (-4.0, -5.0)

18. REVERE BEACH STACK, 1919
   Office identified (-4.1, -2.2)

14. HIGH ROCK #2
   Sub pt. B (+2.9, +3.2)

16. NANTUCKET COAST GUARD GUARD, 1917
   Office identified (+3.6, +6.4)
13. Swampscott High School, 1940
   Office identified: (0.7, 3.4)

12. Swampscott Larger Standpipe, 1934
   Office identified: (0.7, 1.8)

11. Marblehead, Alert Tower, 1717
   Office identified: (-0.6, 4.4)

10. Marblehead Lighthouse, 1714
    Office identified: (2.0, 5.1)

  7. Manchester Church Park Spire, 1878
     Target: (-3.5, -5.8)
     Sub. Pt. A: (-4.1, -5.2)

  6. Mead 2 (MG5), 1934
     Target: (+3.8, -0.2)
     Sub. Pt.: (+6.2, -1.2)

  5. Stonehaven (Rockport Town MG5), 1939
     Target: (-2.1, 0.3)
     Sub. Pt. A: (-1.3, 1.6)
     Sub. Pt. B: (-2.0, 1.2)

  4. Straitsmouth Lighthouse, 1902
     Office identified: (-3.1, -5.2)
24 DANVERS, COOKE & CRANE CO. CHURCH, 1719
HOME 374 (-0.78 +0.79)
55 "A" (-0.01 -0.01)
55 "B" (-1.83 +1.74)
30 BEVERLY, UNITED SHOE MFG CO. STK, 1931
          (-0.01 -0.01)
31 BEVERLY, CIVIC FELLOWS CUPOLA, 1931
          (-1.29 +1.55)
32 BEVERLY, ST. MARY'S CHURCH SPIRE, 1931
          (-1.32 -1.09)
33 BEVERLY, 1ST BAPTIST CHURCH, 1914
          (+1.35 +1.10)

TIE POINTS
12601 (-0.28 -6.78)
12602 (-3.79 -3.20)
12601 (-2.57 -3.47)
14601 (-3.15 -1.53)
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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 LINE IN METERS (1 FT. = 304.800 M)</th>
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</thead>
<tbody>
<tr>
<td>TOM MOORES 1914 ROCK BEACON</td>
<td>Vol. 1 Pg. 507</td>
<td>NA 1927</td>
<td>42° 29' 41.270&quot;</td>
<td>70° 49' 48.699&quot;</td>
<td>1273.4 (578.0)</td>
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<tr>
<td>SATAN ROCKS BEACON 1914</td>
<td>Vol. 1 Pg. 508</td>
<td>&quot;</td>
<td>42° 30' 36.535&quot;</td>
<td>70° 48' 03.330&quot;</td>
<td>1127.3 (724.1)</td>
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<td>BRIMBLES BEACON 1914</td>
<td>Vol. 1 Pg. 508</td>
<td>&quot;</td>
<td>42° 48' 30.263&quot;</td>
<td>76° 03.330&quot;</td>
<td>690.8 (678.8)</td>
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</table>
COMPILATION REPORT
T-12977

31. **DELINEATION**

The mean high water line was compiled by the graphic methods from infrared ratio photographs taken at mean high water. All other features were compiled with the Wild B-8 from color photography taken at mean low water. There was no field inspection.

32. **CONTROL**


33. **SUPPLEMENTAL DATA**

None.

34. **CONTOURS AND DRAINAGE**

Inapplicable.

35. **SHORELINE AND ALONGSHORE DETAILS**

See Item 31. The mean low water line, shallow and foul limits were delineated from office interpretation of the photographs. Rock elevations were determined by the Wild B-8 and vérification by the field editor is requested.

36. **OFFSHORE DETAILS**

No statement.

37. **LANDMARKS AND AIDS**

Appropriate copies of Form 567 for Aids to Navigation were forwarded to the Washington Office under Date 11/26/68.

There are no landmarks.
38. **CONTROL FOR FUTURE SURVEYS**

   None.

39. **JUNCTIONS**

   Junctions are in agreement with T-12979 and 12980 (1:10,000) and T-12974 (1:5,000) to the north, T-12980 (1:10,000) to the east, T-12983 (1:10,000) to the south, T-12983 and T-12979 (1:10,000) and T-12976 (1:5,000) to the west. There is no Contemporary Surveys to the southeast corner of the sheet.

40. **HORIZONTAL AND VERTICAL CONTROL**

   No statement.

46. **COMPARISON WITH EXISTING MAPS**

   Comparison has been made with USGS Quadrangle, Marblehead North, Mass., scale 1:24,000 dated 1956.

47. **COMPARISON WITH NAUTICAL CHARTS**

   Comparison has been made with Chart 241, scale 1:10,000, 3rd edition, September 30, 1963; and Chart 240, scale 1:25,000, 8th edition August 15, 1960, revised February 8th 1965.

**ITEMS TO BE APPLIED TO NAUTICAL CHARTS IMMEDIATELY**

None.

**ITEMS TO CARRIED FORWARD**

None.

Submitted by:

[Signature]

R.R. White
Cartographer
August 11, 1968
Approved:

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

FINAL NAME SHEETS

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

T-12977

Brimbles
Cat Island
Cat Island Channel
Eagle Island
Grays Rock
Marblehead Channel
Marblehead Neck
Marblehead Rock
Massachusetts Bay
Satan Rock
South Gooseberry Island
Tinkers Island
Tom Moore Rock

Prepared by:

C. E. Harrington
Staff Geographer
49. 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".
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<th>Item</th>
<th>CHB</th>
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<tr>
<td>2. Title</td>
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<tr>
<td>3. Manuscript Numbers</td>
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<td>4. Manuscript Size</td>
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<td><strong>Control Stations</strong></td>
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<td>5. Horizontal Control Stations of Third-Order or Higher Accuracy</td>
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<td>6. Recoverable Horizontal Stations of Less Than Third-Order Accuracy (Topographic Stations)</td>
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<td>7. Photo Hydro Stations</td>
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<td>8. Bench Marks</td>
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<td>9. Plotting of Sextant Fixes</td>
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<td>10. Photogrammetric Plot Report</td>
<td>Bridge - W.O.</td>
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<td>11. Detail Points</td>
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<td><strong>Alongshore Areas (Nautical Chart Data)</strong></td>
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<td>12. Shoreline</td>
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<tr>
<td>13. Low-Water Line</td>
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<td>14. Rocks, Shoals, Etc.</td>
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<td>15. Bridges</td>
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<td>16. Aids to Navigation</td>
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<td>18. Other Alongshore Physical Features</td>
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<td>19. Other Alongshore Cultural Features</td>
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<tr>
<td>21. Natural Ground Cover</td>
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<tr>
<td>22. Planetary Contours</td>
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<td>23. Stereoscopic Instrument Contours</td>
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<td>24. Contours in General</td>
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<tr>
<td>25. Spot Elevations</td>
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<td>26. Other Physical Features</td>
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<td><strong>Cultural Features</strong></td>
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<td>27. Roads</td>
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<td>28. Buildings</td>
<td>CHB</td>
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<tr>
<td>29. Railroads</td>
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<tr>
<td>30. Other Cultural Features</td>
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<td><strong>Boundaries</strong></td>
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<td>32. Public Land Lines</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>Miscellaneous</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>33. Geographic Names</td>
<td>CHB</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>34. Junctions</td>
<td>CHB</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35. Legibility of the Manuscript</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>36. Discrepancy Overlay</td>
<td>X</td>
<td></td>
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<td></td>
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<tr>
<td>37. Descriptive Report</td>
<td>CHB</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>38. Field Inspection Photographs</td>
<td>None</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>39. Forms</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40. Reviewer</td>
<td>CHB</td>
<td>CHB</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Albert C. Ranck, Jr.</td>
<td></td>
</tr>
<tr>
<td>41. Remarks (See attached sheet)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Field Completion Additions and Corrections to the Manuscript</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42. 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.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Compiler</strong></td>
<td>B.L. Barge</td>
<td>11/68</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Reviewer</strong></td>
<td>CHB</td>
<td>11/8/68</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Supervisor</strong></td>
<td>Albert C. Ranck, Jr.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Remarks</strong></td>
<td></td>
<td></td>
<td></td>
<td>Field Edit was applied from field photos 65-S-7354, 65-S-7324 and 65-S 7325 and Hydro Edit Ozalid T-12977.</td>
</tr>
</tbody>
</table>
FIELD EDIT REPORT
PH-6601
Boston to Plum Island
T-12959 T-12975 T-12976 T-12978 T-12980

GENERAL NOTES

This report is submitted for four T-sheets, field edited May and June 1966 one sheet T-12980 was field edited June 1967 and is being returned.

Most discrepancies on sheet T-12976 are referenced to sheet T-12975 because of duplication. A few in the northwest corner of sheet T-12976 are noted directly on the sheet or referenced to photo 65-S-7315.

All notations on T-sheet and Photographs are made in violet ink. The notations were made either directly on the discrepancy sheet or referenced to photos.

51 METHODS

Field edit was accomplished by the following methods, by skiff and truck travel and by walking sections of the shoreline.

All rock and ledge areas were inspected at or near low-water. The rock and ledge heights were obtained by hand leveling from mean high-water or mean low-water lines, or by using hourly tide heights obtained from the ship Pierce.

All discrepancies on the field edit sheets have been verified directly on the sheets or referenced to a photograph.

Notations on photographs by sheet numbers are as follows.

<table>
<thead>
<tr>
<th>T-12975</th>
<th>T-12976</th>
<th>T-12978</th>
<th>T-12959</th>
</tr>
</thead>
<tbody>
<tr>
<td>65-S-7340</td>
<td>65-S-7324</td>
<td>65-S-7315</td>
<td>65-S-7263</td>
</tr>
<tr>
<td>7349</td>
<td>7325</td>
<td>7350</td>
<td>7352</td>
</tr>
<tr>
<td>7351</td>
<td>7351</td>
<td>7352</td>
<td>7353</td>
</tr>
</tbody>
</table>

52 ADEQUACY OF COMPILATION

The compilation of MHWL and MLWL around ledge areas as a whole appeared to be good, several ledge areas were inspected at low water, these are noted on the discrepancy print and referenced to a photograph. Compilation of piers, streets, and buildings was found to be good.

54 RECOMMENDATIONS:

None

56 NOTES

Very few rocks were verified directly on the field edit sheets. However areas of rocks in question and rocks recommended for charting are noted on the field edit sheet and referenced to
These are inked on the following photos:
T-12976  T-12975
65-S-7324  65-S-7340
7325  7351
7350
7351
7352
7353

NAUTICAL LANDMARKS AND FIXED AIDS

All nautical landmarks and fixed aids were inspected and submitted on form 567.

58 LANDMARK BUILDINGS AND BLUFFS

Three landmark buildings are recommended for deletion, one each on the following T-sheets, T-12975, T-12976, and T-12978. All landmark buildings recommended for charting are circled and labeled as such on the following photos:
65-S-7324,  7350,   7352
All bluffs were investigated off shore and bluffs recommended for charting are inked on the following photos:
65-S-7324   7350   7352
All Public Buildings are circled on the following photos,
65-S-7340   7349   7352

59 STREETS

All street additions and classifications for T-sheets T-12975 and T-12976 are noted on the field edit sheet and referenced to the photos.

Submitted by
E. W. Hartford
2 June 1968
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 B. Barge

<table>
<thead>
<tr>
<th>State</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>
</tr>
</thead>
<tbody>
<tr>
<td>MASSACHUSETTS</td>
<td>SALEM HARBOR APPROACHES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CAT ISLAND CHANNEL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>DAYBEACON Satan Rock Daybeacon</td>
<td>Satan Rocks Beacon 1914</td>
<td></td>
<td>42 30</td>
<td>36.535</td>
<td>03 330</td>
<td>N.A. Triang. Verif. x</td>
<td>10/2/67</td>
<td>2h0, 2h1</td>
</tr>
<tr>
<td></td>
<td>DAYBEACON Brimbles Daybeacon</td>
<td>Brimbles Beacon 1914</td>
<td></td>
<td>42 31</td>
<td>16.170</td>
<td>30.263</td>
<td>&quot; Verif. x</td>
<td>10/2/67</td>
<td>2h0, 2h1</td>
</tr>
<tr>
<td></td>
<td>MARBLEHEAD CHANNEL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>DAYBEACON Tom Hoore Rock Daybeacon</td>
<td>Tom Hoore's Rock Beacon 1914</td>
<td></td>
<td>42 29</td>
<td>1.270</td>
<td>48.699</td>
<td>&quot; Verif. x</td>
<td>6/7/68</td>
<td>2h0, 2h1</td>
</tr>
</tbody>
</table>

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 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
NONFLOATING AIDS OR LANDMARKS FOR CHARTS

Atlantic Marine Center

Nov. 12, 68

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
Director, AMC

Howard J. Cole
Chief of Party

<table>
<thead>
<tr>
<th>STATE</th>
<th>MASSACHUSETTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHARTING NAME</td>
<td>DESCRIPTION</td>
</tr>
<tr>
<td>SALEM HARBOR APPROACHES</td>
<td></td>
</tr>
<tr>
<td>MARBLEHEAD CHANNEL</td>
<td></td>
</tr>
<tr>
<td>TOWER (Marblehead Rock Beacon 1914)</td>
<td>Destroyed</td>
</tr>
</tbody>
</table>

| | LATTITUDE | LONGITUDE | DATE | METHOD OF LOCATION AND SURVEY NO. | DATE OF VERIFICATION |
| | S | D.M. METERS | F | D.P. METERS | OF |
| | | | | | |
| | 42 30 | 11.381 | 70 49 | 34.518 | N.A. | T-12977 5/24/68 | x | 210, 241 |
| | | | | | | | |

*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. 1-53, 2-39, 6-36, 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
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

<table>
<thead>
<tr>
<th>CHARTING NAME</th>
<th>DESCRIPTION</th>
<th>SIGNAL NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>SALEM HARBOR APPROACHES</td>
<td>SOUTH CHANNEL</td>
<td>TANK Marblehead YMCA Water Tank Elevated</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>POSITION</th>
<th>METHOD OF LOCATION AND SURVEY NO.</th>
<th>DATE OF LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>LATITUDE</td>
<td>LONGITUDE</td>
<td>DATUM</td>
</tr>
<tr>
<td>D.M. METERS</td>
<td>D.P. METERS</td>
<td></td>
</tr>
</tbody>
</table>

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 nonexisting 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.
REVIEWS REPORT T-12977  
SHORELINE  
DECEMBER, 1973

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 six (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, MA, 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 shoreline differences were at 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.
Reviewed by:

Bernard Kurs
Cartographer

Approved for forwarding:

Victor E. Serena
Chief, Photogrammetric Branch, AMC

Approved:

Hamilton C. Young
Chief, Photogrammetric Branch for Chief, Coastal Mapping Division