**NOAA FORM 76-35**

**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>MA-6601</td>
</tr>
<tr>
<td>Map No.</td>
<td>T-12975</td>
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<tr>
<td>Classification No.</td>
<td></td>
</tr>
<tr>
<td>Edition No.</td>
<td></td>
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<tr>
<td>Field Edited</td>
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**LOCALITY**

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

1965 TO 1968

**Alfred C. Holmes, Director, AMC**

**REGISTRY IN ARCHIVES**

DATE

*U.S. GOVERNMENT PRINTING OFFICE: 1972-750-595*
DESCRIPTIVE REPORT - DATA RECORD
T -12975

PROJECT NO. (III):
Job PH-6601

FIELD OFFICE (III):
None

CHIEF OF PARTY

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

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

INSTRUCTIONS DATED (III) (IV):
Field - August 4, 1965
Field - August 19, 1965 Provisional Instructions, Aerial Photography
Office - October 8, 1965 Instructions, Aerotriangulation
Office - January 27, 1966
Office - February 2, 1966 Instructions, Aerotriangulation
Office - April 28, 1966
Field - May 20, 1966 Supplement I
Office - July 11, 1966 Supplement I

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

MANUSCRIPT SCALE (III):
1:5,000

STEREOSCOPIC PLOTTING INSTRUMENT SCALE (III):
1:7,500 Pantographed to 1:5,000

DATE RECEIVED IN WASHINGTON OFFICE (IV):

DATE REPORTED TO NAUTICAL CHART BRANCH (IV):
SEPT. 1975

DATE REGISTERED (IV):

APPLIED TO CHART NO.:

STATE:
Massachusetts

GEOREPHIC DATUM (III):
NA 1927

X ADJUSTED

REFERENCE STATION (II):
Salem, Naumkeag Chimney 1916

LAT.:
42° 31' 00.507" (15.6)m

LONG.:
70° 53' 11.116" (253.8)m

ELEVATIONS SHOWN AS (35) REFER TO MEAN HIGH WATER
ELEVATIONS SHOWN AS (5) REFER TO SOUNDING DATUM
I.E., MEAN LOW WATER OR MEAN LOWER LOW WATER

PLANE COORDINATES (IV):

y = 553,320.79 Ft.
x = 765,426.24 Ft.

ZONE:
Mainland

X UNADJUSTED

MAN NUMERALS INDICATE WHETHER THE ITEM IS TO BE ENTERED BY (II) FIELD PARTY, (III) PHOTOGRAMMETRIC OFFICE,
OR (IV) WASHINGTON OFFICE.
WHEN ENTERING NAMES OF PERSONNEL ON THIS RECORD GIVE THE SURNAME AND INITIALS, NOT INITIALS ONLY.

US COMM-DC 36393A-P68
**DESCRIPTIVE REPORT - DATA RECORD**

**T-12975**

**FIELD INSPECTION BY (III):**

None

**DATE:**

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

Air Photo Compilation
Date of photography: August, 1965

**DATE:**

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

A.E. Roundtree

**DATE:** 6/1/66

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

R. Glaser

**DATE:** 6/3/66

**CONTROL PLOTTED BY (III):**

L. Neterer

**DATE:** 9/26/66

**CONTROL CHECKED BY (III):**

A. Santillan

**DATE:** 9/26/66

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

H.P. Bichert

**DATE:** 11/1/66

**STEREOSCOPIC INSTRUMENT COMPILATION (III):**

**PLANIMETRY**

A.L. Shands
Reviewed by: L.O. Neterer

**DATE:** 2/23/67

**CONTOURS**

Inapplicable

**DATE:**

**MANUSCRIPT DELINEATED BY (III):**

A.L. Shands
Roads and interior details corrected graphically by LLG

**DATE:** 3/1/67 11/1/68

**SCRIBING BY (III):**

**DATE:**

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

C.H. Bishop

**DATE:** 3/9/67

**REMARKS:**
### PHOTOGRAPHS (III)

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<th>STAGE OF TIDE</th>
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<td>25 Aug. 65</td>
<td>10:12 EST</td>
<td>1:15,000</td>
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<tr>
<td>65-S-7195-7196</td>
<td>25 Aug. 65</td>
<td>10:17 &quot;</td>
<td>&quot;</td>
<td>8.4 ft. above MLW*</td>
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<td>31 Aug. 65</td>
<td>08:58 &quot;</td>
<td>&quot;</td>
<td>0.1 ft. below MLW*</td>
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<tr>
<td>65-S7349R-7351R</td>
<td>31 Aug. 65</td>
<td>09:04 &quot;</td>
<td>&quot;</td>
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### TIDE (III)

| REFERENCE STATION: | Boston | | | |
| SUBORDINATE STATION: | Salem | | | |

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<td>9.5</td>
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<tr>
<td>9.0</td>
<td>10.4</td>
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### WASHINGTON OFFICE REVIEW BY (IV): Bernard Kurs, AMC

**DATE:** 12/1973

### NUMBER OF TRIANGULATION STATIONS SEARCHED FOR (III):

**RECOVERED:** 4

**IDENTIFIED:** 4

### NUMBER OF BMHS SEARCHED FOR (III):

**RECOVERED:** 3

**IDENTIFIED:** 0

### NUMBER OF RECOVERABLE PHOTO STATIONS ESTABLISHED (III):

### NUMBER OF TEMPORARY PHOTO HYDRO STATIONS ESTABLISHED (III):

**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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<tr>
<td>Field Edit Applied Compilation</td>
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<tr>
<td>Complete</td>
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<tr>
<td>Final Review</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 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

T-12975

Job PH-6601

There was no field inspection prior to compilation.
PHOTOGRAHMETRIC 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-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 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 E. Eichert
AEROTRIANGULATION SKETCH
BOSTON TO PLUM ISLAND
PH-6601
May, 1966

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

1. MEAD 2 (M.G.S.), 1934
   Target (+0.1, +0.1)
   Sub. pl. (-0.9, +1.7)

2. CHOATE, 1849
   Target (-0.4, -0.2)

3. PLUM ISLAND COAST GUARD CABLE, 1923
   Target (+0.5, +0.8)
   Sub. pl. (-2.8, +4.5)

4. OLD TOWN, 1850
   Target (-0.2, -0.2)
   R.M. #1 (-0.2, +0.3)

---

STRIP #2

5. STONEHAVEN (ROCKPORT TOWN) (M.G.S.), 1939
   Target (+1.2, -2.6)
   Sub. pl. A (-0.7, -1.6)
   Sub. pl. B (+1.3, -3.0)

---

1. MEAD 2 (M.G.S.), 1934
   Target (0.0, +2.3)
   Sub. pl. (+0.7, +3.8)
7. Manchester Church, Dark Spire, 1849
   target (-6.0, +0.8)
   sub pt. A (-7.1, +3.1)

   office identified (+4.8, +1.9)

9. Fort Pickering, Lightouse, 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 (+1.8, -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)

24. Chelsea, Quigley Mem. Hospital W.T., 1938
   office identified (-1.5, +2.2)

   office identified (+2.1, -1.0)

21. Medford, TV Station, WNAC, Tower, 1958
   office identified (+5.3, -1.0)
22. Medford Radio Station, WEEZ, NE Tower, 1953
   office identified (+1.4, +3.0)

23. Medford Radio Station, WEEZ, SW Tower, 1953
   office identified (+1.7, +3.1)

24. Strip #3

25. Boston State House, 1934
   office identified (+2.6, +5.5)

27. Boston Custom House Tower, 1916
   office identified (+3.2, +4.7)

28. Charlestown Bunker Hill Monument, 1846
   office identified (+2.2, +0.1)

   office identified (+1.6, +5.5)

29. Chelsea Quinsley Mem. Hospital W.T., 1953
   office identified (+7.3, -2.0)

17. Revere Catholic Church Tower, 1934
   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, +3.9)

16. Nahant Coast Guard Cupola, 1919
   office identified (+3.6, +6.4)
11. MARBLEHEAD, ABBOTT TOWER, 1719
   office identified: (+0.7, +0.2)

10. MARBLEHEAD LIGHTHOUSE, 1914
   office identified: (+2.0, +5.1)

9. MANCHESTER CHURCH PEARL SPIRE, 1848
   target: (-3.5, -5.8)
   sub pt A: (-4.1, -5.2)

8. HEND 2 (1765), 1934
   target: (+3.8, -0.7)
   sub pt: (+6.2, -1.2)

7. STONEHAVEN (ROCKPORT TOWN M65), 1939
   target: (-2.1, +0.3)
   sub pt A: (-1.3, +1.6)
   sub pt B: (-2.0, +1.2)

6. STRAITSMOUTH LIGHTHOUSE, 1902
   office identified: (-3.1, -5.2)

5. SWAMPSCOTT LIGHTHOUSE, 1940
   office identified: (+0.7, +3.4)

4. SWAMPSCOTT CROSS TOWERS, 1877
   office identified: (+0.7, +1.2)

3. MAISIE'S POINT LIGHTHOUSE, 1902
   office identified: (+0.7, +1.2)

2. HOWLAND FERRY LIGHTHOUSE, 1891
   office identified: (+0.7, +1.2)

1. HOWLAND LTN, 1877
   target: (+3.8, -0.7)
   sub pt: (+6.2, -1.2)
29 DANVERS COOKE & COOKE CO. CHIMNEY, 1919
HOME STA (-0.18 +0.79)
SS "A" (-0.01 -0.01)
SS "B" (-1.83 +1.74)
30 BEVERLY UNITED SHOE MFG. CO. STA, 1934
(-0.01 -0.01)
31 BEVERLY Odd Fellows Cupola, 1934
(-1.29 +1.55)
32 BEVERLY St. Mary's Church Spire, 1934
(-1.32 -1.09)
33 BEVERLY 1st Baptist Church, 1916
(+1.35 +1.10)

TIE POINTS
12601 (-0.28 -6.78)
12602 (-3.79 -3.20)
13601 (-2.56 -3.87)
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 IN METERS (1 FT = 3048006 meter)</th>
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<tbody>
<tr>
<td>DERBY WHARF LIGHTHOUSE 1877</td>
<td>Vol. I Pg. 828</td>
<td>NA 1927</td>
<td>42° 30' 59.33&quot;</td>
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<td>SALEM, ST. JAMES CATHOLIC CHURCH SPIRE 1916</td>
<td>Vol. I Pg. 52</td>
<td>&quot;</td>
<td>42° 31' 12.677&quot;</td>
<td>70° 54' 20.158&quot;</td>
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<td>SALEM, IMMACHULATE CONCEPTION CATHOLIC CHURCH SPIRE 1934</td>
<td>Vol. I Pg. 93</td>
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<td>Vol. I Pg. 854</td>
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<td>42° 31' 00.507</td>
<td>70° 53' 11.123&quot;</td>
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<td>Vol. I Pg. 870</td>
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<td>42° 30' 42.585&quot;</td>
<td>70° 54' 27.963&quot;</td>
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<td>SWAMPSCOTT LARGER STANDPIPE 1934</td>
<td>Vol. I Pg. 54</td>
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<td>42° 28' 39.252&quot;</td>
<td>70° 54' 37.805&quot;</td>
<td>1211.2 (640.2)</td>
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<td>SOUTH SALEM NORMAL SCHOOL CHIMNEY, 1919</td>
<td>Vol. I Pg. 870</td>
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<td>42° 30' 14.685&quot;</td>
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<td>453.1 (1398.3)</td>
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<td>SALEM COURTHOUSE CUPOLA 1934</td>
<td>Vol. I Pg. 52</td>
<td>&quot;</td>
<td>42° 53' 23.774&quot;</td>
<td>70° 53' 49.163&quot;</td>
<td>733.6 (1117.2)</td>
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COMPUTED BY LLG DATE 10/13/66 CHECKED BY JSP DATE 10/17/66
COMPILATION REPORT
T-12975
Project Ph-6601

31. **DELINEATION:**

The mean high water line was compiled graphically from infrared ratio photographs taken at MLW. Features south of Latitude 42° 29' 00" were compiled graphically from color ratio photographs taken at MLW. All other features were compiled with the Wild B-8 using color photographs taken at MLW.

32. **CONTROL:**

See Photogrammetric Plot Report. Bridge point number 51603 would not hold and was not used.

33. **SUPPLEMENTAL DATA:**

None.

34. **CONTOURS AND DRAINAGE:**

Contours are inapplicable. Drainage was delineated from office interpretation of the photographs.

35. **SHORELINE AND ALONGSHORE DETAILS:**

See paragraph 31. The mean low water line, reef and ledge limits were delineated from office interpretation of photographs. Rock elevations were determined with Wild B-8 and are to be verified by the hydrographer.

36. **OFFSHORE DETAILS:**

No statement.

37. **LANDMARKS AND AIDS:**

Appropriate copies of Form 567 for Landmarks and Aids have been submitted to the Washington Office under date November 19, 1968.
38. **CONTROL FOR FUTURE SURVEYS:**

None.

39. **JUNCTIONS:**

Junctions are in agreement with T-12972 (1:5,000) and T-12978 to the north, T-12976 (1:5,000), T-12979 (1:10,000), and T-12983 (1:10,000) to the east; T-12978 (1:10,000) and T-12982 (1:10,000) to the west and T-12982 (1:10,000) to the south.

40. **HORIZONTAL AND VERTICAL ACCURACY:**

No statement.

46. **COMPARISON WITH EXISTING MAPS:**

Comparison has been made with U.S.G.S. Quadrangles Salem, Mass., and Lynn, Mass., scales 1:24,000, both dated 1956.

47. **COMPARISON WITH NAUTICAL CHARTS:**


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

None.

**ITEMS TO BE CARRIED FORWARD:**

None.

Submitted by:

A.L. Shands

A.L. Shands
Cartographer - 3/1/67

Approved:

Albert C. Rauck, Jr.

Chief, Coastal Mapping Section, AMC
GEOGRAPHIC NAMES

FINAL NAME SHEETS

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

T-12975

- Beach Bluff
- Clifton
- Forest River
- Forest River Park
- Long Point
- Marblehead
- Massachusetts Bay
- North River
- Palmer Cove
- Palmer Point
- Phillips Beach
- Pickering Point
- Salem
- Salem Common
- Salem Harbor
- South River
- South Salem

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".
### Photogrammetric Office Review

**T. 12975**

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#### Control Stations

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#### Cultural Features

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#### Boundaries

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#### Miscellaneous

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<td>X</td>
<td>CHB</td>
<td>X</td>
<td>CHB</td>
</tr>
</tbody>
</table>

#### Reviewer

<table>
<thead>
<tr>
<th>CHB</th>
<th>3/9/67</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charles H. Biogeau</td>
<td>Albert C. Rauck, Jr.</td>
</tr>
</tbody>
</table>

#### Remarks

41. Remarks (See attached sheet)

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.

#### Compiler

<table>
<thead>
<tr>
<th>CHB</th>
<th>8/30/68</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albert C. Rauck, Jr.</td>
<td>Albert C. Rauck, Jr.</td>
</tr>
</tbody>
</table>

#### Supervisor

<table>
<thead>
<tr>
<th>RES</th>
<th>9/3/66</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albert C. Rauck, Jr.</td>
<td>Albert C. Rauck, Jr.</td>
</tr>
</tbody>
</table>

### Field Completion Additions and Corrections to the Manuscript

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 1968; one sheet T-12980 was field edited June 1967 and is being returned.

Most discrepancies on sheet T-12978 are referenced to sheet T-12975 because of duplication. A few in the northwest corner of sheet T-12978 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 lowwater. 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:

T-12975 T-12976 T-12978 T-12959
65-S-7340 65-S-7324 65-S-7315 65-S-7263
7349 7325
7351 7350
7351 7351
7352 7353

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 ROCKS

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
**Non-floating aids or landmarks for charts**

Atlantic Marine Center Oct. 16 1969

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 Charles H. Bishop

Allen L. Powell, Director, AMC Chief of Party

<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 VERIFICATION</th>
<th>CHARTS AFFECTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>MASSACHUSETTS</td>
<td>SALEM HARBOR</td>
<td>(Salem, Courthouse, Cupola, 1934)</td>
<td></td>
<td>42 31</td>
<td>23.774</td>
<td>70 53</td>
<td>1122.2背着1927 T12975 5/24/68 x</td>
<td>241</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CUPOLA</td>
<td>Brick, red, square ht=105(125)*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></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, 7-13 to 22 inclusive, and Fig. 79. Positions of charted landmarks and non-floating 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 Lawrence L. Graves and Howard S. Cole.

<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 COCOCHON Verified</th>
<th>Charts Affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>MA</td>
<td>SALEM HARBOR</td>
<td>Slate, gold ball and cross atop</td>
<td>Ht. = 150 (170) Ft.</td>
<td>42 31'</td>
<td>16.243'</td>
<td>70 53'</td>
<td>25.138'</td>
<td>NA</td>
<td>T-12975</td>
</tr>
<tr>
<td>MA</td>
<td>SPIRE</td>
<td>Slate, gold cross atop</td>
<td>Ht. = 185 (205) Ft.</td>
<td>42 31'</td>
<td>12.677'</td>
<td>70 53'</td>
<td>20.158'</td>
<td>NA</td>
<td>T-12975</td>
</tr>
<tr>
<td>MA</td>
<td>STANDPIPE</td>
<td>Steel Ht. = 96 (206) Ft.</td>
<td></td>
<td>42 30'</td>
<td>55.74'</td>
<td>70 53'</td>
<td>54.01'</td>
<td>Photo</td>
<td>T-12975</td>
</tr>
<tr>
<td>MA</td>
<td>CHURCH TOWER</td>
<td>Wood, dark color Ht. = 120 (150) Ft.</td>
<td></td>
<td>42 31'</td>
<td>01.20'</td>
<td>70 53'</td>
<td>12.31'</td>
<td>Photo</td>
<td>T-12975</td>
</tr>
<tr>
<td>MA</td>
<td>STACK</td>
<td>Brick, red Ht. = 155 (165) Ft.</td>
<td></td>
<td>42 31'</td>
<td>10.57'</td>
<td>70 53'</td>
<td>11.116'</td>
<td>Photo</td>
<td>T-12975</td>
</tr>
<tr>
<td>MA</td>
<td>STACK</td>
<td>Brick, red Ht. = 115 (185) Ft.</td>
<td></td>
<td>42 30'</td>
<td>12.58'</td>
<td>70 53'</td>
<td>22.166'</td>
<td>Photo</td>
<td>T-12975</td>
</tr>
<tr>
<td>MA</td>
<td>STANDPIPE</td>
<td>Steel, silver color Ht. = 100 (220) Ft.</td>
<td></td>
<td>42 28'</td>
<td>30.252'</td>
<td>70 53'</td>
<td>37.805'</td>
<td>Photo</td>
<td>T-12975</td>
</tr>
<tr>
<td>MA</td>
<td>CHURCH TOWER</td>
<td>Wood Ht. = 90 (110) Ft.</td>
<td></td>
<td>42 31'</td>
<td>23.73'</td>
<td>70 53'</td>
<td>35.71</td>
<td>Photo</td>
<td>T-12975</td>
</tr>
</tbody>
</table>
I recommend that the following objects which have not been inspected from seaward to determine their value as landmarks be charted on selected chart the charts indicated.

The positions given have been checked after listing by Lawrence L. Graves
Howard S. Cole
Director, AMC
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></td>
<td>SALEM HARBOR</td>
</tr>
<tr>
<td></td>
<td>Derby Wharf Light</td>
</tr>
<tr>
<td></td>
<td>(DERBY WHARF LIGHTHOUSE 1877)</td>
</tr>
<tr>
<td></td>
<td>DAYBEACON</td>
</tr>
<tr>
<td></td>
<td>Forest River Rock Daybeacon</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
NONTHEADING AID OR LANDMARKS FOR CHARTS

Atlantic Marine Center, Norfolk, Va. Nov. 19, 1968

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

The positions given have been checked after listing by Lawrence L. Graves Howard S. Cole

Director, AMC Chief of Party

<table>
<thead>
<tr>
<th>STATE</th>
<th>MASSACHUSETTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHARTING NAME</td>
<td>S. CHURCH</td>
</tr>
<tr>
<td>DESCRIPTION</td>
<td>Destroyed by fire (SALEM, ST. TOWER)</td>
</tr>
<tr>
<td>JOSEPH CHURCH, SOUTH TOWER 1919</td>
<td></td>
</tr>
<tr>
<td>SIGNAL NAME</td>
<td>h2 31</td>
</tr>
<tr>
<td>LATITUDE</td>
<td>00 806</td>
</tr>
<tr>
<td>LONGITUDE</td>
<td>70 53</td>
</tr>
<tr>
<td>D.P. METERS</td>
<td>35 581</td>
</tr>
<tr>
<td>D.P. METERS</td>
<td>1927</td>
</tr>
<tr>
<td>DATUM</td>
<td>Tri.</td>
</tr>
<tr>
<td>METHOD OF LOCATION AND SURVEY</td>
<td>T-12975</td>
</tr>
<tr>
<td>DATE OF LOCATION</td>
<td>5/24/68</td>
</tr>
<tr>
<td>CHARTS AFFECTED</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
REVIEW REPORT T-12975
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 dated 1919 at 1:10,000 scale. There is a difference in datum therefore only a visual comparison was made. The changes are natural and man made. No markings on the comparison sheet were made.

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 U.S.G.S. Quadrangles Salem, Mass. and Lynn, Mass. Both are at 1:24,000 scale and dated 1956. The two surveys are in very good agreement.

64. COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS:

Comparison was made with a copy of Boat Sheet H-9012, 1968 at 1:5,000 scale. The two surveys are in excellent agreement.

65. COMPARISON WITH NAUTICAL CHARTS:

A visual comparison was made with Chart 240 at 1:25,000, scale dated May 19, 1973. There is good agreement with the exception of natural and man-made changes. Differences are noted on the discrepancy print in red.

66. ADEQUACY OF RESULTS AND FUTURE SURVEYS:

This survey complies with Project Instructions and meets the National Standards of Map Accuracy.
Reviewed by:
Bernard Kurs
Cartographer

Approved for forwarding:
Victor E. Serena
Chief, Photogrammetric Branch, AMC

Approved:
Randel C. Youngblood
Chief, Photogrammetric Branch for Chief, Coastal Mapping Division