DESCRIPTIVE REPORT - DATA RECORD
T-12966

PROJECT NO. (III):

Job PH-6601

FIELD OFFICE (III):

None

CHIEF OF PARTY

PHOTOGRAMMETRIC OFFICE (III):

Atlantic Marine Center

OFFICER-IN-CHARGE

Alfred C. Holmes - Director

INSTRUCTIONS DATED (III) (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 COMPIIATION (III):

Wild B-8 Plotter

MANUSCRIPT SCALE (III) (III):

1:10,000

STEREOGRAPHIC PLOTTING INSTRUMENT SCALE (III) (III):

1:15,000 Pantographed to 1:10,000

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):

N.A. 1927

REFERENCE STATION (III) (III):

LEE (GLOUCESTER LEPAGE GLUE COMPANY CHIMNEY) 1928

LAT.: 42°36' 56.755"

LONG.: 70°41' 28.109"

X) ADJUSTED
□ UNADJUSTED

PLANE COORDINATES (IV):

Y = 589,822.23 Ft.  x = 817,731.98 Ft.

STATE

Massachusetts

ZONE

Mainland

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

WHEN ENTERING NAMES OF PERSONNEL ON THIS RECORD GIVE THE SURNAME AND INITIALS, NOT INITIALS ONLY.
# DESCRIPTIVE REPORT - DATA RECORD

**T-12966**

**FIELD INSPECTION BY (III):**

None

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

Air Photo Compilation, Date of Photography: August 31, 1965

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

A. Roundtree

DATE: 4/25/66

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

R. Glaser

DATE: 4/27/66

**CONTROL PLOTTED BY (III):**

L.O. Neterer, Jr.

DATE: 9/15/66

**CONTROL CHECKED BY (III):**

C. Blood

DATE: 9/15/66

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

H.P. Eichert

DATE: 11/1/67

**STEREOSCOPIC INSTRUMENT COMPILATION (III):**

PLANIMETRY

Compiled: L.O. Neterer, Jr.

DATE: 7/29/67

CONTOURS

**MANUSCRIPT Delineated BY (III):**

1:10,000 model: R.R. White

Reduction of T-12970 traced: L.L. Graves

DATE: 8/22/67

**SCRIBING BY (III):**

W. Gilbert

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

Compilation: L.L. Graves

DATE: 8/30/67

**REMARKS:**

Field Edit by: E.W. Hartford, July-September, 1968
**Wild RC-8 "S"**

<table>
<thead>
<tr>
<th>NUMBER</th>
<th>DATE</th>
<th>TIME</th>
<th>SCALE</th>
<th>STAGE OF TIDE</th>
</tr>
</thead>
<tbody>
<tr>
<td>65S 7256 thru 7258</td>
<td>8/31/65</td>
<td>08:00</td>
<td>1:30,000</td>
<td>≈0.6 ft. below MLW</td>
</tr>
<tr>
<td>65S 7246 &amp; 7247</td>
<td>8/31/65</td>
<td>07:45</td>
<td>1:30,000</td>
<td>≈0.3 ft. below MLW</td>
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<tr>
<td>65S 7214 &amp; 7215</td>
<td>8/31/65</td>
<td>07:30</td>
<td>1:30,000</td>
<td>≈0.0 ft. MLW</td>
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<tr>
<td>65S 6944R &amp; 65S 6945R</td>
<td>8/24/65</td>
<td>08:40</td>
<td>1:30,000</td>
<td>≈8.3 ft. above MLW</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(Gloucester)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>≈7.7 ft. above MLW</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(Annisquam)</td>
</tr>
</tbody>
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**Predicted TIDE (III)**

| REFERENCE STATION: Portland Boston Harbor |
|------------------------------------------|----------------------------------------|
| RN | 9.0  | 10.4 |
| RN | 9.5  | 11.0 |

**SUBORDINATE STATION: Gloucester Harbor on Boston**

| RN | 8.7  | 10.1 |

**SUBORDINATE STATION: Annisquam on Portland**

| RN | 8.5  | 9.9  |

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

**DATE:** March, 1974

**NUMBER OF TRIANGULATION STATIONS SEARCHED FOR (III):** 2

**RECOVERED:** 1

**IDENTIFIED:** 1

**NUMBER OF BM(S) SEARCHED FOR (III):**

**RECOVERED:**

**IDENTIFIED:**

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

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

**REMARKS:**

*Determined by readings from tide staffs at Merrimack River Entrance and Gloucester Harbor (Ten Pound Island). See Instructions - OFFICE-dated April 28, 1965.*
<table>
<thead>
<tr>
<th>Compilation Record</th>
<th>Completion Date</th>
<th>Remarks</th>
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<tbody>
<tr>
<td>Alongshore for Hydro</td>
<td>Feb., 1968</td>
<td>Superseded</td>
</tr>
<tr>
<td>Field Edit applied and roads corrected from reduction of T-12970 (E. of 70°43'15&quot; only)</td>
<td>Sept., 1969</td>
<td>Superseded</td>
</tr>
<tr>
<td>Final Review</td>
<td>March, 1974</td>
<td></td>
</tr>
</tbody>
</table>
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-12966
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 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 1:15,000 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), 1939
   target (+0.1, +0.1)
   sub. pt. (-0.9, +1.2)

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

3. PLUM ISLAND COAST GUARD CUPOLA, 1949
   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)), 1939
   target (+1.2, -2.6)
   sub. pt. A (-0.7, -1.6)
   sub. pt. B (+1.3, -3.0)

- 1. MEAD 2 (MGS), 1939
   target (0.0, +3.3)
   sub. pt. (+0.7, +3.6)
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 Lighthouse, 1877**
   - office identified: (+6.0, +1.0)

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

11. **High Rock 3, 1943**
    - office identified: (+1.8, -3.7)

12. **Revere Catholic Church Tower, 1934**
    - office identified: (-4.0, -4.0)

13. **Booth (MGS), 1934**
    - sub. pt. A: (+3.4, -1.4)

14. **Chelsea Quigley Mem. Hospital, W.T., 1955**
    - office identified: (-1.5, +2.2)

15. **Medford Radio Station, WEEI-FM Tower, 1955**
    - office identified: (+2.1, -1.0)

16. **Medford TV Station, WNAC Tower, 1953**
    - office identified: (+5.3, -1.0)
22. Medford Radio Station, West NE Tower, 1935
    Office identified (+1.4, +3.0)

23. Medford Radio Station, West SW Tower, 1952
    Office identified (+1.7, +3.1)

Strip #3

24. Boston State House, 1924
    Office identified (+2.6, +5.5)

25. Boston Custom House Tower, 1916
    Office identified (+3.7, +4.7)

26. Charlestown Bunker Hill Monument, 1846
    Office identified (+2.2, +0.1)

27. East Boston, Boston and Albany R.R. Tank, 1916
    Office identified (+1.6, +5.5)

28. Chelsea Quigley Memorial Hospital, W.T., 1953
    Office identified (+3.3, -2.0)

29. Revere Catholic Church Tower, 1934
    Office identified (-4.0, -5.0)

30. Revere Beach Stack, 1919
    Office identified (-41, -22)

31. High Rock #2
    Sub pt. B (+2.9, +3.9)

32. Nahant Coast Guard Cupola, 1919
    Office identified (+3.6, +6.4)
12. SWAMPS COTT HIGH SCHOOL FINIAL, 1940
   office identified (+0.7, +3.4)

12. SWAMPS COTT LARGER STAND PIPE, 1934
   office identified (+0.7, +1.8)

11. MARBLE HEAD, ABBOT TOWER, 1719
   office identified (-0.6, +4.4)

10. MARBLE HEAD LIGHTHOUSE, 1914
   office identified (+2.0, +5.1)

 7. MANCHESTER CHURCH PARK SPIRE, 1848
    target (-3.5, -5.8)
    sub pt A (-4.1, -5.2)

 1. MEAD 2 (MG5), 1934
    target (+3.8, -0.9)
    sub pt (16.2, -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)

 6. STRAITSMOUTH LIGHTHOUSE, 1902
    office identified (-3.1, -5.2)
<table>
<thead>
<tr>
<th>Strip</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>50 BEVERLY, UNITED SHOE MFG. CO. STH, 1924</td>
</tr>
<tr>
<td></td>
<td>(-0.01, -0.01)</td>
</tr>
<tr>
<td>51</td>
<td>BEVERLY, ODD FELLOWS CUPOLA, 1934</td>
</tr>
<tr>
<td></td>
<td>(-1.29, +1.55)</td>
</tr>
<tr>
<td>52</td>
<td>BEVERLY, ST. MARY'S CHURCH SPIRE, 1934</td>
</tr>
<tr>
<td></td>
<td>(-1.32, -1.09)</td>
</tr>
<tr>
<td>53</td>
<td>BEVERLY, 1ST BAPTIST CHURCH, 1914</td>
</tr>
<tr>
<td></td>
<td>(+1.35, +1.10)</td>
</tr>
</tbody>
</table>

**TIE POINTS**

<p>| 12601 | (-0.78, -6.78) |
| 12602 | (-3.79, -3.20) |
| 12603 | (-2.96, -3.47) |
| 14601 | (-3.15, -1.53) |</p>
<table>
<thead>
<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 Ph. = 3048006 meter)</th>
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<tbody>
<tr>
<td>LEE (GLOUCESTER LEPAGE GLUE COMPANY CHIMNEY), 1928</td>
<td>Vol. 1</td>
<td>NA</td>
<td>42 36 56.755</td>
<td>70 41 28.109</td>
<td>1751.3 (10011)</td>
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<tr>
<td>8 7 S 7 1943</td>
<td>P. 880</td>
<td>1927</td>
<td>70 41 28.109</td>
<td>640.6 (726.9)</td>
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<tr>
<td>3 3</td>
<td>Vol. 1</td>
<td>NA</td>
<td>42 34 24.846</td>
<td>766.6 (1084.8)</td>
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<tr>
<td>B 7 S 7 1943</td>
<td>P. 393</td>
<td>1927</td>
<td>70 43 32.896</td>
<td>750.3 (618.1)</td>
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<tr>
<td>KETTLE ISLAND 2, 1916</td>
<td>Vol. 1</td>
<td>NA</td>
<td>42 34 00.480</td>
<td>14.8 (1836.6)</td>
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<tr>
<td>WOE, 1943</td>
<td>P. 854</td>
<td>1927</td>
<td>70 43 23.543</td>
<td>537.0 (831.6)</td>
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<tr>
<td></td>
<td>Vol. 1</td>
<td>NA</td>
<td>42 34 46.153</td>
<td>1424.1 (427.3)</td>
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<tr>
<td></td>
<td>P. 374</td>
<td>1927</td>
<td>70 41 39.492</td>
<td>900.6 (467.7)</td>
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</table>

COMPUTED BY: CHB  DATE: 8/28/67  CHECKED BY: CHB  DATE: 9/19/69
COMPILATION REPORT

T-12966

31. **DELINEATION**

   The Wild B-8 Plotter was used to delineate the planimetry and the low water features. The shoreline was delineated from photography taken at high tide. Control for transfer of detail to the manuscript was based on control used for delineation by the B-8 plotter.

   Photography was adequate.

32. **CONTROL**

   See Photogrammetric Plot, dated November 1, 1966.

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**

   Delineation of shoreline and alongshore details was by office interpretation of photographs.

36. **OFFSHORE DETAILS**

   No statement.
37. **LANDMARKS AND AIDS**

Appropriate Form 567s were submitted under date Sept. 26, 1969.

38. **CONTROL FOR FUTURE SURVEYS**

None

39. **JUNCTIONS**

Junctions are in agreement with 1:10,000 sheets T-12965 to the west, T-12967 to the east and T-12962 to the north. Junction with 1:5,000 scale, T-12968 is to the northeast. The area duplicates T-12970, scale 1:5,000 from Longitude 70°41' 15" to 70°43' 15".

There is no contemporary survey to the south.

40. **HORIZONTAL AND VERTICAL ACCURACY**

No statement.

46. **COMPARISON WITH EXISTING MAPS**

A comparison has been made with USGS Quadrangle GLOUCESTER, MA, scale 1:24,000, dated 1960.

47. **COMPARISON WITH NAUTICAL CHARTS**

A comparison was made with Chart C&GS 243, (IPWICH BAY TO GLOUCESTER HARBOR), scale 1:20,000.

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

None
ITEMS TO BE CARRIED FORWARDED

None

Submitted by:

Richard R. White
Cartographic Technician
8/22/67

Approved:

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

FINAL NAME SHEETS

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

T-12966

Annisquam River
Biskie Head
Black Beach
Bond Hill
Boston and Maine (RR)
Buswell Pond
Clark Pond
Coolidge Point
Crow Island
David Rock
Fernwood Lake
Goldsmith Point
Graves Beach
Graves Island
Gray Beach
Great Egg Rock
Kettle Cove
Kettle Island
Lily Pond
Little Egg Rock
Little River
Magnolia
Magnolia Harbor
Magnolia Point
Massachusetts Bay
Mussel Point
Normans Woe
Normans Woe Cove
Normans Woe Rock
Popplestone Beach
Presson Point
Rafes Chasm
Saddle Rock
Stanwood Point
Susan Point
Town Head
Wallace Pond
West Gloucester
West Pond
White Beach
Wolf Hill

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-12966**

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<tr>
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<tbody>
<tr>
<td>LL Graves</td>
<td>LL Graves</td>
<td>LL Graves</td>
<td>LL Graves</td>
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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 Elephants)</th>
<th>7. Photo Hydro Stations</th>
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**Not Applicable**

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<tr>
<td>None</td>
<td>LL Graves</td>
<td>Washington, Office</td>
<td>H. P. Elchert</td>
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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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**Other**

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**Cultural Features**

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**Boundaries**

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<th>31. Boundary Lines</th>
<th>32. Public Land Lines</th>
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**Miscellaneous**

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<tr>
<th>33. Geographic Names</th>
<th>34. Junctions</th>
<th>35. Legibility of the Manuscript</th>
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**Discrepancy Overlay**

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**Reviewer**

<table>
<thead>
<tr>
<th>40. Reviewer</th>
<th>41. Remarks (See attached sheet)</th>
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</thead>
<tbody>
<tr>
<td>CHB</td>
<td>Field Completion Additions and Corrections to the Manuscript</td>
</tr>
<tr>
<td>CHB &amp; LLG</td>
<td>Field completion survey have been applied to the manuscript. The manuscript is now complete except as noted under item 43.</td>
</tr>
<tr>
<td>8/30/67</td>
<td>Albert C. Rauck, Jr.</td>
</tr>
</tbody>
</table>

**Compiler**

<table>
<thead>
<tr>
<th>42. Compiler</th>
<th>43. Remarks</th>
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<tbody>
<tr>
<td>9/19/69</td>
<td><em>Transfer of P.E. from reduction of T-12970.</em></td>
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**Reviewer**

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<thead>
<tr>
<th>44. Reviewer</th>
<th>45. Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>R. E. Smith</td>
<td></td>
</tr>
<tr>
<td>9/25/69</td>
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</tr>
</tbody>
</table>
FIELD EDIT REPORT
PH-6601
Boston to Plum Island
T-12966 67-1:10,000 T-12970 71-1:5000

GENERAL NOTES

This report is submitted for four T-sheets, field edited July thru September 13, 1968.
All notations on discrepancy sheets and photographs are made in violet ink. The notations were made either directly on the discrepancy print or referenced to photos.

51 METHODS

Field edit was accomplished by the following methods, by skiff and truck travel and by walking section of the shoreline.
All rock and ledge areas were inspected at or near low-water, and found to be compiled adequate. The rock and ledge heights were obtained by hand leveling from mean high-water line or from mean low-water.
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-12966  T-12967  T-12970  T-12971
65-S-7245  65-S-7049  65-S-7285  65-S-7049
  7246      7051      7285      7050
  7292      7051      7292      7293
  7294      7293      7294

52 ADEQUACY OF COMPI LilATION

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

54 RECOMMENDATIONS

None

56 ROCKS

Several rocks were verified directly on the field edit sheets. All other rocks, rock areas, and additional rocks recommended for charting are noted on the field edit ozalids and referenced to photos.
57 NAUTICAL LANDMARKS AND FIXED AIDS

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

58 SUBMERGED PIPE LINES AND CABLES

All submerged pipe lines and cable areas are noted on the field edit ozalid and referenced to a photograph. These areas being verified either by Gloucester City engineers and by the electric light and power company.

59 LANDMARK BUILDINGS AND BLUFFS

Landmark building recommended for deletion and charting are noted directly on the discrepancy sheet. All addition landmark and water-front buildings recommended for charting are circled or outlined on the following photos. 65-S-7049, 50, 72, 45, 85, 88, 92, 93, and 94.

There are four new water-front buildings in Gloucester Harbor shown directly on the field edit ozalid.

All bluffs were investigated of shore and bluff recommended for charting are inked on the following photos. 65-S-7049, 50, 7245, 88, and 93.

Three public buildings are circled on photos 65-S-7050, and 7293.

60 STREETS

All street additions and classification are not on the field edit sheet and referenced to the photos.

Submitted by

E. W. Hartford

E. W. Hartford

28 oct. 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

**State**

<table>
<thead>
<tr>
<th>MASSACHUSETTS</th>
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</thead>
<tbody>
<tr>
<td>CHARTING NAME</td>
</tr>
<tr>
<td>----------------</td>
</tr>
<tr>
<td>IPSWICH BAY</td>
</tr>
<tr>
<td>ANNISQUAM RIVER</td>
</tr>
<tr>
<td>LIGHT 35</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>LIGHT 39</td>
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<tr>
<td>LIGHT 46</td>
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</tbody>
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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 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.
# Non-Floatable Markers for Charts

## Atlantic Marine Center

### Jan. 8, 1969

I recommend that the following objects which have been inspected from seaward to determine their value as landmarks be placed (deletions initialed) on the charts indicated:

The positions given have been checked after listing by

- **L. L. Graves**
- **Allen L. Powell**

### Massachusetts

<table>
<thead>
<tr>
<th>Charting Name</th>
<th>Description</th>
<th>Signal Name</th>
<th>Latitude</th>
<th>Longitude</th>
<th>Datum</th>
<th>Method</th>
<th>Date of Location</th>
<th>Chief of Party</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GLOUCESTER HARBOR</strong></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MARKER</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HOUSE</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>C H I N G B Y</td>
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<tr>
<td>FLAGPOLE</td>
<td>Han 1926 (Glocester Hammond Tower Flagpole)</td>
<td></td>
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</tbody>
</table>

This form shall be prepared in accordance with Hydrographic Manual, Publication 200.2, Sec. 1-35, 2-8, 8-3, 6-30, 1-18 to 22 inclusive, and Fig. 79. Positions of charted landmarks and noncharting aids to navigation, if reletermined, shall be reported on this form. Revisions shal 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.

- **Note:** Tabulate seconds and meters.
<table>
<thead>
<tr>
<th>STATE</th>
<th>MASSACHUSETTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHARTING NAME</td>
<td>DESCRIPTION</td>
</tr>
<tr>
<td>TWIN TOWER</td>
<td>Stone Ht = 80 (130)</td>
</tr>
<tr>
<td>Round Tower</td>
<td>Stone Ht = 60 (160)</td>
</tr>
<tr>
<td>MARKER</td>
<td>Range Post, Wood Lattice</td>
</tr>
<tr>
<td></td>
<td>White Triangle, 8 ft. above ground</td>
</tr>
<tr>
<td>CHIMNEY</td>
<td>(Lee 1928) Gloucester Lepage</td>
</tr>
</tbody>
</table>

This form shall be prepared in accordance with Hydrographic Manual, Publication 10.2, Secs. 1-55, 2-39, 6-36, 7-18 to 22 inclusive, and Fig. 79. Positions of charted landmarks and nomenclature 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.

* TADULATE 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 Charles H. Bishop

<table>
<thead>
<tr>
<th>CHARTING NAME</th>
<th>DESCRIPTION</th>
<th>LATITUDE</th>
<th>LONGITUDE</th>
<th>METHOD OF LOCATION AND SURVEY NO.</th>
<th>DATE OF LOCATION VERIF.</th>
</tr>
</thead>
<tbody>
<tr>
<td>OBS TOWER</td>
<td>Concrete ht = 45 (115) ( B 3° 4° 3 1943)</td>
<td>42° 34'</td>
<td>76° 5'</td>
<td>Triang</td>
<td>8/17/67X</td>
</tr>
</tbody>
</table>

This form shall be prepared in accordance with Hydrographic Manual, Publication 20.2, Secs. 1-35, 2-39, 6-36, 7-13 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-12966
SHORELINE
MARCH, 1974

61. GENERAL STATEMENT:

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

62. COMPARISON WITH REGISTERED TOPOGRAPHIC SURVEYS:

Visual comparison was made with Registered Survey No. 3764 dated 1919 at 1:10,000 scale. They agree only generally since there is a difference in datum. Many natural changes have occurred over the period of about 40 years. No direct comparison was made on the discrepancy print. For the area east of Magnolia Point and the northeastern section of this survey see T-12970 at 1:5,000 scale.

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

63. COMPARISON WITH MAPS OF OTHER AGENCIES:

Comparison was made with USGS Quadrangle Gloucester, MA, at 1:24,000 scale dated 1960. There is general agreement only. For the area eastward of Magnolia Point and the northeast portion of the sheet see the report for T-12970.

64. COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS:

Comparison was made with verified Boat Sheet H-9090 at 1:10,000 scale dated 1969. There is very good agreement between the two surveys. East of Magnolia Point see report for T-12970.

65. COMPARISON WITH NAUTICAL CHARTS:

Comparison was made with Chart 243 at 1:20,000 scale, dated Oct. 6, 1973. There is some discrepancy on the shoreline. Some of the difference is because of natural change.
The rest can be attributed to improved methods of mapping since the base for the original shoreline was made. The 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. Serene
Chief, Photogrammetric Branch, AMC

Approved:

Randle C. Youngblood
Chief, Photogrammetric Branch
Chief, Coastal Mapping Division
REVIEW REPORT T-12970
SHORELINE
MARCH, 1974

61. GENERAL STATEMENT:

See Summary which is p. six (6) of the Descriptive Report.

62. COMPARISON WITH REGISTERED TOPOGRAPHIC SURVEYS:

Comparison was made with T-9079 at 1:10,000 scale with 1952 photography and field edited 1953. There was very good agreement except in areas where natural changes are to be expected. These areas are grass in water, marshy shoreline and sandy beaches. There are no significant differences.

This survey supersedes any prior listed surveys for nautical chart construction purposes.

63. COMPARISON WITH MAPS OF OTHER AGENCIES:

A visual comparison was made with USGS Quadrangle Gloucester, MA, dated 1960 at 1:24,000 scale. The visual comparison indicates general agreement with some minor changes of grass in water and marsh mean high water line.

64. COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS:

Comparison was made with final Boat Sheet H-8942 at 1:5,000 1969, with excellent agreement, two (2) boat sheets from the explorer (no H-number) dated 1967 at 1:5,000 scale. Comparison is good except for minor changes made during the 1968 field edits.

65. COMPARISON WITH NAUTICAL CHARTS:

Comparison was made with Chart 233 at 1:10,000 scale dated Jan. 6, 1973. There was good agreement except for items as mentioned under Par. 62. The only significant difference is an extensive marina at the bend in the Blyman Canal at Lat. 42°36' 45" on the eastern edge of the sheet. The area west of "Normans Woe," was visually compared with Chart 243 at 1:20,000 scale dated Oct. 6, 1973 and appears to be in good agreement.