**T-13241**

**FORM C&GS-504**

**U.S. DEPARTMENT OF COMMERCE**

**ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION**

**COAST AND GEODETIC SURVEY**

---

**DESCRIPTIVE REPORT**

**Type of Survey**: Shoreline (Photogrammetric)

**Field No.**: PH-6601

**Office No.**: T-13241

**LOCALITY**

**State**: Massachusetts

**General locality**: Boston to Plum Island

**Locality**: Manchester Harbor

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**1965-69**

**CHIEF OF PARTY**

Alfred C. Holmes, Director, AMC

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**LIBRARY & ARCHIVES**

**DATE**: 

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DESCRIPTIVE REPORT - DATA RECORD
T-13241

DETECT NO. (III):
PH-6601

FIELD OFFICE (III):
None

PHOTOGRAMMETRIC OFFICE (III):
Atlantic Marine Center

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

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):

APPLIED TO CHART NO.

DATE:

DATE REGISTERED (IV):
SEPT. 1975

GEOGRAPHIC DATUM (III):
NA 1927

REFERENCE STATION (III):
MANCHESTER CHURCH DARK SPIRE 1848

LAT.:
42°34'12.97" (916.5m)

LONG.:
70°04'52.085" (475.5m)

PLANE COORDINATES (IV):

y=574, 738.78 Pt.

x=795, 970.28 Pt.

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

STATE:
Massachusetts

ZONE:
Mainland

JEAN H. MOYER:
# DESCRIPTIVE REPORT - DATA RECORD

## T-13241

### 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. Bethea**
- **Date:** 3/25/69

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

- **L.P. Van Scoy**
- **Date:** 3/26/69

### CONTROL PLOTTED BY (III):

- **A.L. Shands**
- **Date:** 8/13/69

### CONTROL CHECKED BY (III):

- **L.O. Neterer, Jr.**
- **Date:** 8/13/69

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

- **H.P. Eichert**
- **Date:** 11/1/66

### STEREOSCOPIC INSTRUMENT COMPILATION (III):

- **Planimetry:** A.L. Shands
- **Reviewed:** C. Bishop
  - **Date:** 8/19/69

### MANUSCRIPT DELINEATED BY (III):

- **A.L. Shands**
- **Date:** 8/22/69

### SCRIBING BY (III):

- **L.B. Poltz**
- **Date:** 1/10/73

### PHOTOGRAMMETRIC OFFICE REVIEW BY (III):

- **C.H. Bishop**
- **Date:** 8/26/69

## Remarks:
**DESCRIPTIVE REPORT - DATA RECORD T-13241**

**WRAP (KIND OR SOURCE) (III):**

Wild RC-8 "S"

**PHOTOGRAPHS (III):**

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<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-7358 thru 7360</td>
<td>31 Aug. 1965</td>
<td>0905</td>
<td>1:15,000</td>
<td>*0.1 ft. below MLW</td>
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**TIDE (III) Predicted**

**REFERENCE STATION:**

Boston

**SUBORDINATE STATION:**

Manchester

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<th>SPRING RANGE</th>
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<td>11.0</td>
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<th>Bernard Kurs, AMC</th>
<th>DATE:</th>
<th>Sept. 1973</th>
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<tr>
<td>PROOF EDIT BY (IV):</td>
<td></td>
<td>DATE:</td>
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| NUMBER OF TRIANGULATION STATIONS SEARCHED FOR (III): | 2 | RECOVERED: | 2 | IDENTIFIED: | 2 |
| NUMBER OF BM(S) SEARCHED FOR (III): | 0 | RECOVERED: | 0 | 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 (Ten pound Island). See Instructions-Office dated April 28, 1966.*
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<tr>
<td>Along Shore Area For Hydro</td>
<td>Aug. 1969</td>
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<tr>
<td>Field Edit, which was accomplished for 1:10,000 sheets T-12965 and T-12980, was applied to this sheet during compilation.</td>
<td>Aug. 1969</td>
<td>Superseded</td>
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<tr>
<td>Final Review</td>
<td>Sept. 1973</td>
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</table>
JOB PH-6601
BOSTON TO PLUM ISLAND
HORELINE MAPPING AT 1:5,000 & 1:10,000 SCALE
CHART 613-SC
CHART TOPOGRAPHY AT 1:400,000 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 aeroetriangulation.

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 ozalisids 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-13241

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

November 1, 1966

21. Area Covered.

This report covers aeronavigation 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 aeronavigation 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,

[Signature]

Henry P. Eichert
AEROTRIANGULATION SKETCH
BOSTON TO PLUM ISLAND
PH-6601
May, 1966

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

1. MEAD 2 (MGS), 1934
   Target: (+0.1, +0.1)
   Sub. pt: (-0.9, +1.2)

2. CHANE, 1849
   Target: (-0.4, -0.2)

3. PLUM ISLAND COAST GUARD CROPS, 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)), 1939
   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, 1848
   target: (-6.0, +0.3)
   sub. pt. A: (-7.1, +3.1)
   sub. pt. B: (-6.5, +3.4)

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. pt. A: (+3.2, -4.4)
    sub. pt. B: (+2.0, -2.8)

15. HIGH ROCK 3, 1948
    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., 1958
    office identified: (-1.5, +2.2)

20. MEDFORD RADIO STATION WEEI-FM TOWER, 1958
    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, 1958
   Office identified (+14, +3.0)
23. Medford Radio Station, WEEI, SW Tower, 1958
   Office identified (+12, +3.1)

Strip #3
29. Boston State House, 1934
   Office identified (+26, +5.5)
27. Boston Custom House Tower, 1916
   Office identified (+3.2, +4.7)
25. Charlestown Bunker Hill, Mon., 1846
   Office identified (+2.2, +0.1)
   Office identified (+1.6, +5.8)
24. Chelsea, Quigley Mem. Hospital, W.T., 1958
   Office identified (+2.3, -2.0)
17. Revere Catholic Church Tower, 1934
   Office identified (-4.0, -5.0)
13. Revere Beach Stack, 1919
   Office identified (-41, -22)
14. High Rock #2
   Sub pt. B (+2.9, +3.8)
16. Nahant Coast Guard, Cupola, 1919
   Office identified (+3.6, +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, Abbot Tower, 1919
   office identified (-0.6, +4.4)

10. Marblehead 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 (M.G.S.), 1934
     target (+3.8, -0.7)
     sub. pt. (+6.2, -1.2)

  5. Stonehaven (Rockport Town (M.G.S)), 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)
29 DANVERS, COOKE & COOKE CO. CHIMNEY, 1919
HOME STA (-0.78 +0.79)
SS "A" (-0.01 -0.01)
SS "B" (-1.83 +1.74)

30 BEVERLY, UNITED SHOE MFG. CO. STK, 1934
(-0.01 -0.01)

31 BEVERLY, ODD FELLOWS CUPOLA, 1934
(-1.29 +1.50)

32 BEVERLY, ST. MARY'S CHURCH SPIRE, 1934
(-1.32 -1.09)

33 BEVERLY, 1ST BAPTIST CHURCH, 1919
(+1.35 +1.10)

TIE POINTS
12601 (-0.78 -6.78)
12602 (-3.79 -2.20)
13601 (-2.56 -2.47)
14601 (-3.15 -1.53)
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<th>STATION</th>
<th>SOURCE OF INFORMATION (INDEX)</th>
<th>LATITUDE OR Y COORDINATE</th>
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<td>MANCHESTER CHURCH DARK SPIRE</td>
<td>Vol. 825 Page 1</td>
<td>42° 34' 29.701&quot;</td>
<td>70° 46' 20.850&quot;</td>
<td>916.5 (934.9)</td>
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<td>42° 33' 39.683&quot;</td>
<td>70° 46' 26.596&quot;</td>
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COMPUTED BY: Charles H. Bishop  DATE: 11/20/69  
COMPILATION REPORT

Map Manuscript T-13241
Project PH-6601

This 1:5,000 scale map lies within the area of 1:10,000 scale maps T-12965 and T-12980 and is not included in compilation instructions for Project PH-6601. It was compiled using 1:15,000 scale Models 65 S 7358-7359 and 65 S 7359-7360, duplicating the compilation of parts of T-12965 and T-12980.

No detailed compilation report is furnished for this map. Refer to Items 31 thru 47 in the Compilation Reports for T-12965 and T-12980.

Form 567 is submitted with T-12965 and T-12980 and is not repeated in this report.

Submitted:

Charles H. Bishop
Charles H. Bishop
Cartographer
11/20/69

Approved:

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

FINAL NAME SHEETS

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

T-13241

Ballarach Cove
Black Cove
Boston and Maine (RR)
Gales Point
Glass Head
Halftide Rocks
House Island
Lobster Cove
Manchester
Manchester Bay
Manchester Harbor
Massachusetts Bay
Pickett Ledge
Pickworth Point
Proctor Point
Ram Islands
Rock Dundy
Singing Beach
Smith Point
West Manchester

Prepared by:

C. E. Harrington
Staff Geographer
19. 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**

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**Control Stations**

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**Bench Marks**

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**Alongshore Areas (Nautical Chart Data)**

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**Miscellaneous**

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**Reviewer**

C.H. Bishop 11/20/69

**Supervisor Review Section or Unit**

Albert C. Rauck, Jr.

**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**

A.C. Rauck, Jr. 10/9/69
C.H. Bishop CHB 11/19/69

**Supervisor**

Albert C. Rauck, Jr.

**Remarks**

Field Edit Applied From Field Edit Ozalid and Cronapque Ratio Print 65-S-7359.
REVIEW REPORT T-13241
SHORELINE
SEPTEMBER, 1973

61. GENERAL STATEMENT

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

62. COMPARISON WITH REGISTERED TOPOGRAPHIC SURVEYS

Comparison was made with Registered Survey No. 3764 dated May, 1919 at 1:10,000 scale. There are many changes because of datum difference, natural and man-made changes. These changes were not shown on the discrepancy print because the survey is out of date.

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. Quadrangle Marblehead North, MA, 1956 at 1:24,000 scale. There is general agreement however, many ledge areas on the manuscript were shown by a sand symbol on the quadrangle. Because of the scale difference no direct comparison could be made in this office.

64. COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS

Comparison was made with Boat Sheets H-9095, 1:5,000 scale, 1969. They are in good general agreement. Significant differences are noted on the discrepancy print in purple.

65. COMPARISON WITH NAUTICAL CHARTS

Comparison was made with Chart 240 and the inset at 1:10,000 scale showing Manchester Harbor dated 5/19/73. There is very good general agreement. Differences are noted in red on the discrepancy print.

66. ADEQUACY OF RESULTS AND FUTURE SURVEYS

This survey complies with 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:

Randell L. Young
Chief, Photogrammetric Branch

Chief, Coastal Mapping Division