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. Office No. T-13243

LOCALITY

State Massachusetts

General Locality Boston to Plum Island

Locality Lovell Island


1968-70

CHIEF OF PARTY

Alfred C. Holmes, Director, AMC

LIBRARY & ARCHIVES

DATE
**DESCRIPTIVE REPORT - DATA RECORD**

**PROJECT NO. (III):**
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) (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 & Graphic

**MANUSCRIPT SCALE (III):**
1:10,000

**STEREOSCOPIC PLOTTING INSTRUMENT SCALE (III):**
1:15,000 Pantographed to 1:10,000

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

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

**APPLIED TO CHART NO.:**

**DATE:**

**DATE REGISTERED (IV):**

**GEOGRAPHIC DATUM (III):**
N.A. 1927

**REFERENCE STATION (III):**
Boston Lighthouse, 1934

**LAT.:**

**LONG.:**

**X ADJUSTED**

**[ ] UNADJUSTED**

**PLANE COORDINATES (IV):**

**STATE**
Massachusetts

**ZONE**
Mainland

---

** VERTICAL DATUM (III):**

MEAN

**MEAN SEA LEVEL EXCEPT AS FOLLOWS:**

Elevations shown as (8) refer to mean high water
Elevations shown as (7) refer to sounding datum
i.e., mean low water or mean lower low-water

---

**MAN NUMERALS INDICATE WHETHER THE ITEM IS TO BE ENTERED BY (I) 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.**
# DESCRIPTIVE REPORT - DATA RECORD

**T-13243**

## OLD INSPECTION BY (III):

None

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

Air Photo Compilation  
Date of Photography: April 26, 1966

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<tr>
<th>Projection and Grids Ruled by (IV):</th>
<th>Date</th>
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<tr>
<td>L.F. Van Scocy</td>
<td>9/13/67</td>
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<th>Projection and Grids Checked by (IV):</th>
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<td>R. Glaser</td>
<td>9/14/67</td>
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<tr>
<td>L.O. Neterer, Jr.</td>
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<td>L.L. Graves</td>
<td>10/11/67</td>
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<th>Radial Plot or Stereoscopic Control Extension by (III):</th>
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<td>H. F. Eichert</td>
<td>11/1/66</td>
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<th>Stereoscopic Instrument Compilation (III):</th>
<th>Planimetry</th>
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<td>Wild B-8</td>
<td>L.O. Neterer, Jr.</td>
<td>10/15/67</td>
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<td>L.O. Neterer, Jr.</td>
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<td>W. Gilbert</td>
<td>10/2/72</td>
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<th>Photogrammetric Office Review by (III):</th>
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<tbody>
<tr>
<td>R.E. Smith</td>
<td>11/1/67</td>
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**Remarks:**

---
Wild RC-8 "L"

<table>
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<tr>
<th>NUMBER</th>
<th>DATE</th>
<th>TIME</th>
<th>SCALE</th>
<th>STAGE OF TIDE</th>
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<tr>
<td>66-L-(c)-2927 thru 2930</td>
<td>Apr. 26, 1966</td>
<td>11:20</td>
<td>1:30,000</td>
<td>2.1 ft. above MLW</td>
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TIDE

<table>
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<tr>
<th>REFERENCE STATION:</th>
<th>Boston</th>
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<tr>
<td>RATIO OF RANGES</td>
<td>9.5</td>
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<tr>
<td>MEAN RANGE</td>
<td>11.0</td>
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<tr>
<td>SPRING RANGE</td>
<td></td>
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<table>
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<tr>
<th>SUBORDINATE STATION:</th>
<th>Deer Island (South end)</th>
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<tr>
<td>RATIO OF RANGES</td>
<td>9.3</td>
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<tr>
<td>MEAN RANGE</td>
<td>10.8</td>
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<td>SPRING RANGE</td>
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WASHINGTON OFFICE REVIEW BY (IV): Bernard Kurs, AMC

DATE: 10/73

NUMBER OF TRIANGULATION STATIONS SEARCHED FOR (I): 18
RECOVERED: 12
IDENTIFIED: 1

NUMBER OF BM(S) SEARCHED FOR (I): none
RECOVERED: none
IDENTIFIED: none

NUMBER OF RECOVERABLE PHOTO STATIONS ESTABLISHED (III): none

NUMBER OF TEMPORARY PHOTO HYDRO STATIONS ESTABLISHED (III): none

REMARKS:
<table>
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<th>COMPILATION RECORD</th>
<th>COMPLETION DATE</th>
<th>REMARKS</th>
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<tr>
<td>Alongshore Area for Hydro</td>
<td>Oct. 1967</td>
<td>Superseded</td>
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<tr>
<td>Field Edit Applied;</td>
<td>July 1972</td>
<td>Superseded</td>
</tr>
<tr>
<td>Compilation Complete</td>
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<tr>
<td>Final Review</td>
<td>Oct. 1973</td>
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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

T-13243

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 photog-raphy were selected. Plane coordinate positions from our bridges were determined so that 1:15,000 scale models could be controlled to compile the 1:5,000 scale surveys. Plane coordinates are on the Massachusetts State Grid (Mainland). The attached 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
Fit To control (feet)

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 CYPOLA, 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, +0.8)
   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. 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., 1958
    Office identified (-1.5, +2.2)

20. MEDFORD RADIO STATION WEEI-EM 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 WEFT, NE TOWER, 1958
   Office identified (+14.7, +3.1)

23. MEDFORD RADIO STATION WEFT, SW TOWER, 1958
   Office identified (+12.2, +3.1)

STRIp #3

24. CHARLESTOWN BUNKER HILL MON., 1846
   Office identified (+2.2, +0.1)

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

26. CHELSEA QUIGLEY MEM. HOSPITAL W.T., 1958
   Office identified (+8.3, -2.0)

27. REVERE CATHOLIC CHURCH TOWER, 1924
   Office identified (-14.0, -5.0)

28. REVERE BEACH STACK, 1919
   Office identified (-41.2, -2.2)

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

14. HIGH ROCK #2
   Sub at pt. B (+2.9, +3.9)

16. NANT NAT. 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)
  9. 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)
Strip #4

29 Danvers, Cooke & Cooke Co. Chimney, 1919

Hole 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 +1.55)

32 Beverly, St. Mary's Church Spire, 1934

(-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)

13601 (-2.56 -3.47)

14601 (-3.15 -1.53)
**DESCRIPTIVE REPORT CONTROL RECORD**

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<tr>
<th>STATION</th>
<th>SOURCE OF INFORMATION</th>
<th>DATUM</th>
<th>LATITUDE OR Y COORDINATE</th>
<th>DISTANCE FROM GRID OR PROJECTION LINE</th>
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<tbody>
<tr>
<td>BOSTON LIGHTHOUSE, 1934</td>
<td>Vol. 1</td>
<td>42° 19' 40.180&quot;</td>
<td>1239.8</td>
<td>(611.5)</td>
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<tr>
<td></td>
<td>Pg. 68</td>
<td>70° 53' 26.214&quot;</td>
<td>600.2</td>
<td>(773.6)</td>
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**SCALE OF MAP**: 1:10,000

**SCALE FACTOR**: None

**COMPUTED BY**: L.O. Neterer, Jr.

**DATE**: 10/10/67

**CHECKED BY**: L.L. Graves

**DATE**: 10/10/67
<table>
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<th>LONGITUDE OR X COORDINATE</th>
<th>DISTANCE FROM GRID OR PROJECTION LINE Forward</th>
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<td>M 2/2 R. 1940</td>
<td>Vol. 1 Pg. 292</td>
<td>NA</td>
<td>42° 19' 57.875&quot;</td>
<td>70° 55' 54.130&quot;</td>
<td>1785.7</td>
<td>(65.6)</td>
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<td>STANDISH, 1934</td>
<td>Vol. 1 Pg. 36</td>
<td>NA</td>
<td>42° 19' 43.658&quot;</td>
<td>70° 55' 38.873&quot;</td>
<td>1347.1</td>
<td>(134.4)</td>
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<td>CRF 10 WHIPPLE, 1940</td>
<td>Vol. 1 Pg. 291</td>
<td>NA</td>
<td>42° 19' 37.077&quot;</td>
<td>70° 55' 31.453&quot;</td>
<td>890.0</td>
<td>(483.9)</td>
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<td>H. STATION, 1940</td>
<td>Vol. 1 Pg. 291</td>
<td>NA</td>
<td>42° 19' 16.6110&quot;</td>
<td>70° 55' 43.1164&quot;</td>
<td>1144.0</td>
<td>(707.3)</td>
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<td>CALIF. ISLAND, 1940</td>
<td>Vol. 1 Pg. 288</td>
<td>NA</td>
<td>42° 20' 33.129&quot;</td>
<td>70° 53' 47.613&quot;</td>
<td>720.2</td>
<td>(653.6)</td>
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<td>GREEN ISLAND BOLT, (USE), 1940</td>
<td>Vol. 1 Pg. 288</td>
<td>NA</td>
<td>42° 21' 10.548&quot;</td>
<td>70° 53' 33.113&quot;</td>
<td>512.5</td>
<td>(1338.8)</td>
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<td>BC 5, 1943</td>
<td>Vol. 1 Pg. 384</td>
<td>NA</td>
<td>42° 20' 29.621&quot;</td>
<td>70° 52' 44.770&quot;</td>
<td>987.2</td>
<td>(386.6)</td>
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<td>Comp. LLG M 2/2 L, 1940</td>
<td>Vol. 1 Pg. 292</td>
<td>NA</td>
<td>42° 19' 57.851&quot;</td>
<td>70° 55' 54.292&quot;</td>
<td>914.0</td>
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<td>&quot;</td>
<td>Vol. 1 Pg. 290</td>
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<td>42° 19' 16.611&quot;</td>
<td>70° 55' 43.115&quot;</td>
<td>1024.8</td>
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<td>&quot;</td>
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<td>42° 19' 16.664&quot;</td>
<td>70° 55' 43.134&quot;</td>
<td>1243.0</td>
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COMPUTED BY            W. Gilbert
DATE                  6/30/72

CHECKED BY            Charles Parker
DATE                  6/30/72
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<th>DATUM</th>
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<th>DISTANCE FROM GRID OR PROJECTION LINE IN METERS (1 FL. = 3048006 meter)</th>
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<tr>
<td>NARROW LIGHTHOUSE, 1934</td>
<td>GP Pg. 66</td>
<td>N.A.</td>
<td>42° 19' 22.506''</td>
<td>694.4 (1156.9)</td>
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<td>70° 55' 10.793''</td>
<td>247.1 (1126.7)</td>
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<td>FALSE SPIT BEACON, 1934</td>
<td>GP Pg. 67</td>
<td>N.A.</td>
<td>42° 19' 23.194''</td>
<td>715.7 (1135.6)</td>
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<td></td>
<td>70° 54' 48.832''</td>
<td>1118.2 (255.7)</td>
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<td>GALAPGS ISLAND EAST LIGHT, 1934</td>
<td>GP Pg. 90</td>
<td>N.A.</td>
<td>42° 19' 31.427''</td>
<td>969.7 (881.6)</td>
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<td>70° 55' 59.511''</td>
<td>1362.6 (11.2)</td>
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COMPUTED BY J. Minton          DATE 9/11/67
CHECKED BY L.L. Graves        DATE 9/11/67
31. **DELINEATION**
   
The B-8 was used to compile the detail from the color diapositives.

32. **CONTROL**
   
Identifiable control was used. The color diapositives overlapped sufficiently into the bridged area to the north to allow an adequate bridging to tie.

33. **SUPPLEMENTAL DATA**

None

34. **CONTOURS AND DRAINAGE**

Inapplicable

35. **SHORELINE AND ALONGSHORE DETAIL**

Low water and ledge lines were determined by office interpretation.

36. **OFFSHORE DETAIL**

To be determined by the Hydrographer.

37. **LANDMARKS AND AIDS**

Two landmarks and four fixed aids to navigation on forms 567 have been submitted to Rockville, MD Office dated March 13, 1973.

38. **CONTROL FOR FUTURE SURVEYS**

None
39. **JUNCTIONS**

Junctions with T-12985 to the north and with T-13242 to the west are in agreement. There are no contemporary surveys to the east and the south.

40. **HORIZONTAL AND VERTICAL ACCURACY**

No Statement.

46. **COMPARISON WITH EXISTING MAPS**

A comparison has been made with USGS Quadrangle Hull, MA, 1:24,000 scale Revised 1958.

47. **COMPARISON WITH NAUTICAL CHARTS**

A comparison has been made with USCGS Chart 246 scale 1:25,000 Revised 1965.

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

None

**ITEMS TO BE CARRIED FORWARD**

None

Submitted:

Lowell O. Neterer, Jr.
Cartographic Technician
10/7/67

Approved:

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

FINAL NAME SHEETS

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

T-13243

Black Rock
Black Rock Channel
Broad Sound
Calf Island
Flying Place
Gallops Island
Georges Island
Great Brewster Island
Great Brewster Spit
Green Island
Half tide Rocks
Hypocrite Channel
Little Brewster Island
Little Calf Island
Lovell Island
Middle Brewster Island
Outer Brewster Island
Ram Head
Roaring Bulls
Shag Rocks
South Channel
The Narrows

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".
# Photochromatic Office Review

## Title: T-13243

<table>
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### Control Stations

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<th>5. Horizontal Control Stations of Third-Order or Higher Accuracy</th>
<th>6. Recoverable Horizontal Stations of Less than Third-Order Accuracy (Topographic stations)</th>
<th>7. Photo Hydro Stations</th>
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### Alongsore Areas (Nautical Chart Data)

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### Physical Features

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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. Juncions</th>
<th>35. Legibility of the Manuscript</th>
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</table>

#### Reviewer:
Albert C. Rauck, Jr.
R.E. Smith
11/1/67

### Remarks (See attached sheet)

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

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:
L.L. Graves
July 20/72

#### Reviewer:
A.L. Shands
July 26/72

#### Supervisor:
Albert C. Rauck, Jr.

### Remarks

- Field Edit Applied From: 1 Field Edit Ozalid
- 3 Sets Sextant Fixes 1 Field Edit Cronaflex
- 18 Form 526 1 Each Matte Photo 56-L-(c)-2928 & 2929
- 2 Form 152 1 Each Cronar Photo 56-L-(c)-2928 & 2929
- Each 567 for Landmarks For Charts and 567 For None-Floating Aids.
FIELD EDIT REPORT
Job PH-6601
Map T-13243
Massachusetts

This map was field-edited during October 1970. The map was compiled without field inspection prior to compilation, therefore, a complete field-edit was done. All field notes are in violet ink on the ratio prints and referenced from the field edit sheet. The map area consists of all islands which are located at the entrance to Boston harbor, only one, Georges Island is occupied at present, except Little Brewster which is used by the Coast Guard.

52. ADEQUACY OF COMPILATION

The adequacy of compilation was generally good, especially the compilation of ledge areas.

54. RECOMMENDATIONS

None

56. LANDMARKS AND AIDS

Form 567 submitted for all nautical landmarks and fixed aids within the limits of this map. Only a few landmark buildings are recommended for charting, these being the Coast Guard buildings on Little Brewster Island and two buildings on Georges Island. Ledge bluffs are noted on the field edit ozalid and referenced to a photograph.

57. ROCKS AND ROCK LEDGES

All rocks and ledge areas were investigated at low water. There are only a few rocks around the outer island in this map, most of the shoreline around these islands consists of ledge. Greatest number of rocks and rock areas were found around Great Brewster, Lovell, and Georges Islands, these were located on photographs and by sextant fixes.

58. MISCELLANEOUS

Form 526 copies are submitted for all nautical landmarks and aids which have triangulation positions and ground stations recovered and used in locating rocks and buoys. Special attention is brought to the area just west of Green, Calif, and Greater Brewster Islands, this area is used as anchorage for barges which are used for burning trash.

The buoys for this anchorage area are large metal drums about 6 feet in diameter and 10 to 12 feet long, these were located by sextant fixes and plotted on the cronaflex sheet, the angles are recorded on a separate sheet.
Field-edit additions and corrections have been shown on the following matte and cronapaque ratio prints:
66-L-2928 and 2929, also on the field-edit ozalid.

Submitted By
Ernest W. Hartford
Surveying Technician
October 26, 1970
# Nonfloating Aids or Landmarks for Charts

**Atlantic Marine Center**

July 19, 1972

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

The positions given have been checked after listing by L. L. Graves

Alfred C. Holmes, RADM, NOAA
Director, AMC

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<table>
<thead>
<tr>
<th>State</th>
<th>Massachusetts</th>
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<tbody>
<tr>
<td>Charting Name</td>
<td>Description</td>
</tr>
<tr>
<td>Twin Chimney</td>
<td>Red brick, square ht=30(60)</td>
</tr>
<tr>
<td>OBS Tower</td>
<td>Square, red brick ht = 20(70)</td>
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</table>

<table>
<thead>
<tr>
<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 and Survey No.</th>
<th>Charts Affected</th>
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<tr>
<td>Twin Chimney</td>
<td>42 20</td>
<td>21.78</td>
<td>51.01</td>
<td>NA</td>
<td>T-13243 10-8-70</td>
<td>X 246</td>
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<td>OBS Tower</td>
<td>42 19</td>
<td>514.2</td>
<td>70 55</td>
<td>THI</td>
<td>T-13243 10-20-70</td>
<td>X 246</td>
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This form shall be prepared in accordance with Hydrographic Manual, Publication 20-2, Sec. 1-55, 2-19, 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.
# Nonfloating Aids or Landmarks for Charts

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 L. L. Graves.

**State:** Massachusetts

<table>
<thead>
<tr>
<th>Charting Name</th>
<th>Description</th>
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<th>Longitude</th>
<th>Datum</th>
<th>Method of Location and Survey No.</th>
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<td>Boston Harbor</td>
<td>THE NARROWS</td>
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<td></td>
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<td></td>
<td></td>
<td>X 246 NC</td>
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<tr>
<td>Gallops Island Light</td>
<td>(Gallops Island East Light, 1934)</td>
<td></td>
<td>31° 42' 30&quot;</td>
<td>69° 58' 40&quot;</td>
<td>NA</td>
<td>TRI</td>
<td>X 1207</td>
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<tr>
<td>The Narrows Light</td>
<td>(Narrows Lighthouse, 1934)</td>
<td></td>
<td>22° 50' 40&quot;</td>
<td>70° 55' 10&quot;</td>
<td></td>
<td></td>
<td>X 1207</td>
<td></td>
</tr>
<tr>
<td>Day-False Spit Daybeacon</td>
<td>(False Spit Beacon, 1934)</td>
<td></td>
<td>23° 19' 0&quot;</td>
<td>71° 54' 40&quot;</td>
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<td>X 246 NC</td>
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<tr>
<td>Seacoast</td>
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<tr>
<td>Boston Light</td>
<td>(Boston Lighthouse, 1934)</td>
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<td>40° 18' 0&quot;</td>
<td>123° 48' 60&quot;</td>
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<td>X 246 NC</td>
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</table>

This form shall be prepared in accordance with Hydrographic Manual, Publication 20.2, Sec. 1-55, 2-39, 6-36, 7-19 to 22 inclusive, and Fig. 79. Positions of charted landmarks and nonfloating aids to navigation, if reetermined, shall be reported on this form. Revisions shall show both the old and new positions. The data should be considered for the charts of the area and not by individual field survey sheets. Information under each column heading should be given.

* Tabulate seconds and meters
REVIEW REPORT T-13243
SHORELINE
OCTOBER, 1973

61. GENERAL STATEMENT

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

62. COMPARISON WITH REGISTERED TOPOGRAPHIC SURVEYS

None available her at this time.

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

63. COMPARISON WITH MAPS OF OTHER AGENCIES

Comparison was made with USGS Quadrangle Hull, MA, dated 1958 at 1:24,000. There is general agreement except for some rocks (See 65 below). The significant differences are noted in brown on the discrepancy print.

64. COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS

None available here at this time.

65. COMPARISON WITH NAUTICAL CHARTS

Comparison was made with Chart 246 dated Mar. 25, 1972, at 1:25,000 scale. There were position differences in some rocks. Photogrammetric positions of these rocks were field edited. Some shown on the chart were not visible on the photos. Agreement in general was good. All significant 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:

[Signature]

Chief, Photogrammetric Branch for Chief, Coastal Mapping Division
## INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.

1. Letter all information.
2. In "Remarks" column cross out words that do not apply.
3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Rev.

<table>
<thead>
<tr>
<th>CHART</th>
<th>DATE</th>
<th>CARTOGRAPHER</th>
<th>REMARKS</th>
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<tr>
<td>T-13243</td>
<td>10/1/80</td>
<td>R.J. WINSFORD</td>
<td>Full Part Before After Verification Review Inspection Signed Via Drawing No. 56</td>
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