

T-12965

T-12965

NOAA FORM 76-35

U.S. DEPARTMENT OF COMMERCE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL OCEAN SURVEY

## DESCRIPTIVE REPORT

Type of Survey Shoreline  
Job No. PH-6601 Map No. T-12965  
Classification No. Edition No. ....  
Field Edited

## LOCALITY

State Massachusetts  
General Locality Boston to Plum Island  
Locality Manchester Harbor

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1965 TO 1969

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Alfred C. Holmes, Director, AMC

## REGISTRY IN ARCHIVES

DATE .....

## DESCRIPTIVE REPORT - DATA RECORD

T-12965

PROJECT NO. (II):

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 (II) (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 COMPILATION (III):

B-8 Plotter

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):

APPLIED TO CHART NO.

DATE:

DATE REGISTERED (IV):

SEPT. 1975

GEOGRAPHIC DATUM (III):

NA 1927

VERTICAL DATUM (III):

MHW

~~EXCEPT AS FOLLOWS:~~

~~Elevations shown as (25) refer to mean high water~~  
~~Elevations shown as (5) refer to sounding datum~~  
~~i.e., mean low water~~

REFERENCE STATION (III):

Manchester Church Dark Spire 1848

LAT.:

42° 34' 29.701"

LONG.:

70° 46' 20.850"

☒ ADJUSTED☐ UNADJUSTED

PLANE COORDINATES (IV):

y = 574, 738 Ft.

x = 795, 970. 28 Ft.

STATE

Massachusetts

ZONE

Mainland

ROMAN 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.

## DESCRIPTIVE REPORT - DATA RECORD

T-12965

FIELD INSPECTION BY (III):		DATE:
None		
MEAN HIGH WATER LOCATION (III) (STATE DATE AND METHOD OF LOCATION):		
Air Photo Compilation Date of Photography: August 24 and August 31, 1965		
PROJECTION AND GRIDS RULED BY (IV):		DATE
A.E. Roundtree		4/25/66
PROJECTION AND GRIDS CHECKED BY (IV):		DATE
R. Glaser		4/25/66
CONTROL PLOTTED BY (III):		DATE
C. Blood		9/15/66
CONTROL CHECKED BY (III):		DATE
L.O. Neterer, Jr.		9/15/66
RADIAL PLOT OR STEREOSCOPIC CONTROL EXTENSION BY (III):		DATE
Henry P. Eichert		Nov. 1, 1966
STEREOSCOPIC INSTRUMENT COMPILATION (III):	PLANIMETRY	DATE
	Wild B-8	July 28, 1967
	L.O. Neterer, Jr.	DATE
	CONTOURS	DATE
MANUSCRIPT DELINEATED BY (III):		DATE
L.L. Graves		Aug. 11, 1967
SCRIBING BY (III):		DATE
PHOTOGRAMMETRIC OFFICE REVIEW BY (III):		DATE
C.H. Bishop		9/22/69
REMARKS:		

DESCRIPTIVE REPORT - DATA RECORD

T-12965

CAMERA (KIND OR SOURCE) (III):

Wild RC-8 "S"

PHOTOGRAPHS (III)

NUMBER	DATE	TIME	SCALE	STAGE OF TIDE
65-S-6913R	Aug. 24, 1965	08:36	1:30,000	8.4 ft. above MLW*
65-S-6914R	" " "	"	"	" "
65-S-7216 (c)	" " "	"	"	" "
65-S-7217 (c)				
65-S-7218 (c)	Aug. 31, 1965	07:30	1:30,000	0.0 ft. above MLW*

(Predicted) TIDE (III)

	RATIO OF RANGES	MEAN RANGE	SPRING RANGE
REFERENCE STATION: Boston		9.5	11.0
SUBORDINATE STATION: Manchester		8.8	10.2
SUBORDINATE STATION:			

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

DATE:  
Jan. 1974

PROOF EDIT BY (IV):

DATE:

NUMBER OF TRIANGULATION STATIONS SEARCHED FOR (III): 2

RECOVERED:  
2

IDENTIFIED:  
2

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

RECOVERED:

IDENTIFIED

NUMBER OF RECOVERABLE PHOTO STATIONS ESTABLISHED (III):

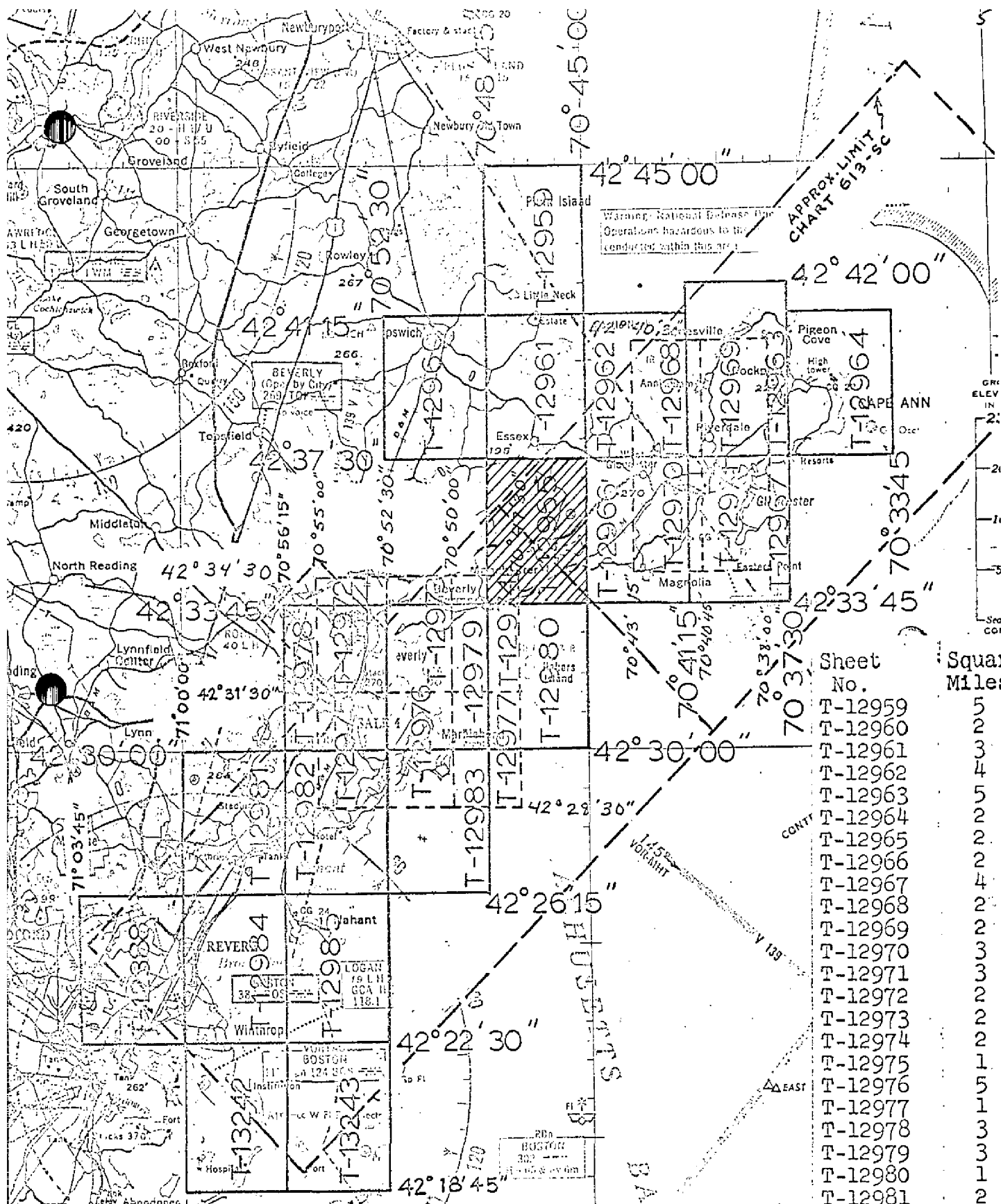
NUMBER OF TEMPORARY PHOTO HYDRO STATIONS ESTABLISHED (III):

REMARKS:

\*The stage of tide at time of photography was determined by readings on a staff at Gloucester Harbor (Ten Pound Island). See INSTRUCTIONS - OFFICE dated April 28, 1966.

T-12965

COMPILATION RECORD	COMPLETION DATE	REMARKS
Incomplete Manuscript Along-shore for Hydro	Aug., 1967	Superseded
Field Edit Applied East of Long. 70° 47' 30"	Dec., 1967	Superseded
Field Edit West of Long. 70° 47' 30" Applied From Reductions of T-12794.	Sept., 1969	Superseded
Final Review	Jan. 1974.	



Sheet No.	Square Mile:
T-12959	5
T-12960	2
T-12961	3
T-12962	4
T-12963	5
T-12964	2
T-12965	2
T-12966	2
T-12967	4
T-12968	2
T-12969	2
T-12970	3
T-12971	3
T-12972	2
T-12973	2
T-12974	2
T-12975	1
T-12976	5
T-12977	1
T-12978	3
T-12979	3
T-12980	1
T-12981	2
T-12982	3
T-12983	2
T-12984	3
T-12985	2
T-12388	3
T-13242	3
T-13243	2
TOTAL	79

**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-12965

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 1:5,000 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.

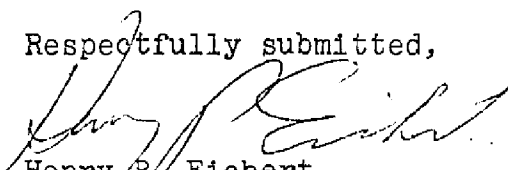
24. Supplemental Data

Vertical control points needed <sup>as</sup> ~~and~~ 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



Flt To control  
(feet)

STRIP #1

1 MEAD 2 (MGS), 1934

target (+0.1, +0.1)

sub. pt. (-0.9, +1.7)

2 CHDATE, 1849

target (-0.4, -0.2)

3 PLUM ISLAND COAST GUARD CUPOLA, 1943

target (+0.5, +0.3)

sub. pt. (-2.8, +4.5)

4 OLD TOWN, 1850

target (-0.2, -0.2)

RM #1 (-0.2, +0.3)

STRIP #2

5 STONEHAKEN (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  $(-7.1, +3.1)$

~~sub pt. B~~

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-FM TOWER, 1958

~~and~~ office identified  $(+2.1, -1.0)$

21 MEDFORD TV STATION WNAC TOWER, 1958

office identified  $(+5.3, -1.0)$

12  
22 MEDFORD RADIO STATION WEEI NE TOWER, 1958

office identified (+1.4, +3.0)

23 MEDFORD RADIO STATION WEEI SW TOWER, 1958

office identified (+1.7, +3.1)

STRIP #3

28 BOSTON STATE HOUSE, 1934

office identified (+2.6, +5.5)

27 BOSTON CUSTOM HOUSE TOWER, 1916

office identified (+3.7, +4.7)

25 CHARLESTOWN BUNKER HILL MON., 1846

office identified (+2.2, +0.1)

26 EAST BOSTON, BOSTON AND ALBANY R.R. TANK, 1916

office identified (+1.6, +5.5)

24 CHESLEA QUIGLEY MEM. HOSPITAL W.T., 1958

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.~~ pt. B (+2.9, +3.9)

16 NAHANT COAST GUARD GUPOLA, 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 (MGS), 1934

target  $(+3.8, -0.7)$

sub pt  $(+6.2, -1.2)$

5 STONEHAVEN (ROCKPORT TOWN (MGS)), 1939

target  $(-2.1, +0.3)$

sub pt A  $(-1.3, +1.6)$

sub pt B  $(-2.0, +1.2)$

6 STRAITS MOUTH LIGHTHOUSE, 1902

office identified  $(-3.1, -5.2)$

STRIP #4

29 DANVERS, COOKE & KRAUSE  
~~COKE~~ 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. STK, 1934

(-0.01 -0.01)

31 BEVERLY, ODD FELLOWS CUPOLA, 1934

(-1.29 +1.55)

32 BEVERLY, ST. MARYS 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)





## COMPILATION REPORT

Map Manuscript T-12965

Project PH-6601

31. DELINEATION

The B-8 was used to delineate the planimetry and low water areas. The shoreline was delineated by graphic methods.

Photography was adequate.

32. CONTROL

See Photogrammetric Plot Report dated November 1, 1966.

33. SUPPLEMENTAL DATA

None.

34. CONTOURS AND DRAINAGE

Contours are inapplicable.

Drainage was compiled from office interpretation of photographs.

35. SHORELINE AND ALONGSHORE DETAILS

The low water line, ledges and rocks were delineated from office interpretation of the tide controlled photographs taken at MLW.

The mean high water line was delineated from infrared photographs taken near mean high water.

36. OFFSHORE DETAILS

No Statement.

37. LANDMARKS AND AIDS

Appropriate copies of Form 567 for two landmarks have been submitted, dated Sept. 26, 1969.

38. CONTROL FOR FUTURE SURVEYS

None.

39. JUNCTIONS

Junctions are in agreement with T-12966 on the east, T-12980 to the south, T-12961 to the north and T-12974, (a 1:5,000 scale manuscript) at the southwest corner. There is no other junction to the west and no other contemporary survey to the west.

40. HORIZONTAL AND VERTICAL ACCURACY

No Statement.

46. COMPARISON WITH EXISTING MAPS

A comparison has been made with USGS Quadrangle MARBLEHEAD NORTH, MASS., scale 1:24,000, dated 1956.

47. COMPARISON WITH NAUTICAL CHARTS

A comparison was made with Chart 243 Ipswich Bay to Gloucester Harbor, scale 1:20,000; dated Sept. 14, 1964, 8th edition, and Chart 240, SALEM AND LYNN HARBORS, scale 1:25,000, dated August 15, 1960; 8th edition.

ITEMS TO BE APPLIED TO NAUTICAL CHARTS IMMEDIATELY

None.

ITEMS TO BE CARRIED FORWARD

None.

Submitted by:

*L.L. Graves*

L.L. Graves  
Cartographic Technician  
August 11, 1967

Approved:

*Albert C. Rauck Jr.*  
Albert C. Rauck Jr.  
Chief, Coastal Mapping Section, AMC

Sept. 24, 1973

GEOGRAPHIC NAMES

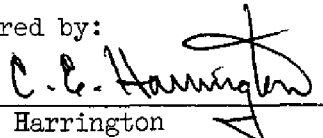
FINAL NAME SHEETS

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

T-12965

Ballarach Cove  
Beverly Farms  
Black Cove  
Boston and Maine (RR)  
Chubb Creek  
Eagle Head  
Glass Head  
Little Salt Rocks  
Lobster Cove  
Manchester  
Manchester Harbor  
Massachusetts Bay  
Nortons Point  
Pickworth Point  
Proctor Point  
Rock Dundy  
Salt Rock  
Singing Beach  
Smith Point  
West Manchester

Prepared by:

  
C. E. Harrington  
Staff Geographer

T - 12965

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- 12965

1. PROJECTION AND GRIDS CHB	2. TITLE CHB	3. MANUSCRIPT NUMBERS CHB	4. MANUSCRIPT SIZE
CONTROL STATIONS			
5. HORIZONTAL CONTROL STATIONS OF THIRD-ORDER OR HIGHER ACCURACY CHB	6. RECOVERABLE HORIZONTAL STATIONS OF LESS THAN THIRD-ORDER ACCURACY (Topographic stations) X		7. PHOTO HYDRO STATIONS X
8. BENCH MARKS X	9. PLOTTING OF SEXTANT FIXES X	10. PHOTOGRAMMETRIC PLOT REPORT CHB	11. DETAIL POINTS CHB
ALONGSHORE AREAS (Nautical Chart Data)			
12. SHORELINE CHB	13. LOW-WATER LINE CHB	14. ROCKS, SHOALS, ETC. CHB	15. BRIDGES CHB
16. AIDS TO NAVIGATION X	17. LANDMARKS CHB	18. OTHER ALONGSHORE PHYSICAL FEATURES CHB	19. OTHER ALONGSHORE CULTURAL FEATURES CHB
PHYSICAL FEATURES			
20. WATER FEATURES CHB	21. NATURAL GROUND COVER X		22. PLANETABLE CONTOURS X
23. STEREOSCOPIC INSTRUMENT CONTOURS X	24. CONTOURS IN GENERAL X	25. SPOT ELEVATIONS X	26. OTHER PHYSICAL FEATURES X
CULTURAL FEATURES			
27. ROADS CHB	28. BUILDINGS CHB	29. RAILROADS CHB	30. OTHER CULTURAL FEATURES CHB
BOUNDARIES			
31. BOUNDARY LINES X		32. PUBLIC LAND LINES X	
MISCELLANEOUS			
33. GEOGRAPHIC NAMES CHB	34. JUNCTIONS CHB		35. LEGIBILITY OF THE MANUSCRIPT CHB
36. DISCREPANCY OVERLAY LLG	37. DESCRIPTIVE REPORT CHB	38. FIELD INSPECTION PHOTOGRAPHS X	39. FORMS CHB
40. REVIEWER Charles H. Bishop 9/26/69		SUPERVISOR REVIEW SECTION OR UNIT Albert C. Rauck, Jr.	
41. 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: F. P. Margiotta & L.L. Graves, SUPERVISOR CHB 12/12/67 Albert C. Rauck, Jr.			
Reviewer: C.H. Bishop 9/22/69			
43. REMARKS Field Edit Applied From: Field Edit Ozalid (T-12965), Matte Ratio Photographs 65-S-7217 and 65-S-7244, and Reduction of T-12974.			

## FIELD EDIT REPORT

PH - 660I

T-I2965 T-I2972 T-I2980

Boston to Plum Island

### GENERAL NOTES

This report is submitted for three T-sheets, field edited  
~~for xxxxxxxx T-sheets, xxxxxxxx~~ September and October 1967.

Discrepancies on sheet T-I2980 except one, and the western  
edge of sheet T-I2965 were field edited and noted on manuscript  
(T-I2974 I:5000 scale completed June this year.

### 5I METHODS

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

All rock and ledge areas were inspected at or near low  
water, rock heights were taken by hand level from mean high water  
line or mean low water.

All discrepancies on the black and white prints have been  
verified or referenced to photographs. Deletions are noted on the  
discrepancy print and on the photos. All notations, corrections, or  
additions other than deletions are noted in violet on the photographs.

Notations on the photographs by sheet numbers are as  
follows: T-I2972 T-I2965 T-I2980

65-s-73I4 65-S-72I7 65-S-~~XXXXX~~ 72I7

7364 72I8 7243

7365 7244

### 52 ADEQUACY OF COMPILATION

The compilation of ledges, rock hts, and locations as a  
whole appeared to be good. A few objects such as sunken barrels and

stumps photographed like rocks. Compilation of Piers, roads, and building was found to be very good.

#### 54 RECOMMENDATIONS

NONE

#### 56 ROCKS

All rocks in question are noted on the discrepancy print and referenced to the photo. All additional rocks recommended for charting are inked on the following photographs:

T-I2972	T-I2965	T-I2980
65-S-73I4	65-S-72I7	65-S-72I7
7364		7243
7365		

#### 57 NAUTICAL LANDMARKS AND FIXED AIDS

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

All bluffs were investigated offshore and bluffs recommended for charting are noted on the following photos: 65-S-7243 and 7244

#### 58 LANDMARK BUILDINGS

All additional landmark buildings recommended for charting are circled on the following photos 65-S-72I7, 7243, 7244 and 7365.

Three buildings were deleted on manuscript T-I2972.

All Public buildings are circled on the following photos: 65-S-7244, 7364 and 7365.

#### 59 ROADS

All roads deletions and classifications for T-I2972 are noted on the manuscript.

Road deletions for T-I2965 are noted on the manuscript . All additional roads are inked on Photo 65\* S- 7244.

Submitted by





## REVIEW REPORT T-12965

## SHORELINE

JANUARY, 1974

61. - 65. GENERAL STATEMENT:

See summary which is page six (6) of the Descriptive Report. Except for a small portion of shoreline around Eagle Head near the east edge of the sheet, this survey is covered by 1:5,000 scale surveys T-12941 and T-12974. Because of the scale differences the T-12965 survey is much more generalized and does not show the amount of detail shown on the 1:5,000 scale surveys. The sheets were compiled independently of each other and no attempt was made to change minor differences. The 1:5,000 scale surveys should be used for chart construction purposes.

This survey complies with project instructions and meets the National Standards of Map Accuracy.

Reviewed by:

*Bernard Kurs*  
Bernard Kurs  
Cartographer

Approved for Forwarding:

*Victor E. Serena*  
Victor E. Serena  
Chief, Photogrammetric Branch, AMC

Approved:

*Randall C. Youngblood*  
Chief, Photogrammetric Branch *for* Chief, Coastal Mapping Division