

T-13241

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
Field Edited

LOCALITY

State Massachusetts

General locality Boston to Plum Island

Locality Manchester Harbor

19⁶⁵⁻⁶⁹

CHIEF OF PARTY

Alfred C. Holmes, Director, AMC

LIBRARY & ARCHIVES

DATE

DESCRIPTIVE REPORT - DATA RECORD

T-13241

SUBJECT NO. (i): PH-6601		
FIELD OFFICE (ii): None		CHIEF OF PARTY
PHOTOGRAMMETRIC OFFICE (iii): Atlantic Marine Center		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): 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		VERTICAL DATUM (iii): MEAN SEA LEVEL MEAN HIGH WATER? 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 or mean lower low water
REFERENCE STATION (iii): MANCHESTER CHURCH DARK SPIRE 1848		
LAT.: 42°34'29.701" (916.5m)	LONG.: 70°46'20.850" (475.5m)	☒ ADJUSTED ☐ UNADJUSTED
PLANE COORDINATES (iv): y = 574.738.78 Ft. x = 795, 970.28 Ft.		STATE Massachusetts
		ZONE Mainland
MAN NUMERALS INDICATE WHETHER THE ITEM IS TO BE ENTERED BY (ii) FIELD PARTY, (iii) PHOTOGRAMMETRIC OFFICE, OR (iv) WASHINGTON OFFICE. WHEN ENTERING NAMES OF PERSONNEL ON THIS RECORD GIVE THE SURNAME AND INITIALS, NOT INITIALS ONLY.		

DESCRIPTIVE REPORT - DATA RECORD

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FIELD INSPECTION BY (II):		DATE:
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):		DATE
A. Bethea		3/25/69
PROJECTION AND GRIDS CHECKED BY (IV):		DATE
L.F. Van Scoy		3/26/69
CONTROL PLOTTED BY (III):		DATE
A.L. Shands		8/13/69
CONTROL CHECKED BY (III):		DATE
L.O. Neterer, Jr.		8/13/69
RADIAL PLOT OR STEREOSCOPIC CONTROL EXTENSION BY (III):		DATE
H.P. Eichert		11/1/66
STEREOSCOPIC INSTRUMENT COMPILATION (III):	PLANIMETRY: A.L. Shands Reviewed: C. Bishop	DATE 8/19/69 8/19/69
	CONTOURS	DATE
MANUSCRIPT DELINEATED BY (III):		DATE
A.L. Shands		8/22/69
SCRIBING BY (III):		DATE
L.B. Foltz		1/10/73
PHOTOGRAMMETRIC OFFICE REVIEW BY (III):		DATE
C.H. Bishop		8/26/69
REMARKS:		

DESCRIPTIVE REPORT - DATA RECORD
T-13241

ERA (KIND OR SOURCE) (iii):

Wild RC-8 "S"

PHOTOGRAPHS (iii)

NUMBER	DATE	TIME	SCALE	STAGE OF TIDE
65-S-7358 thru 7360	31 Aug. 1965	0905	1:15,000	*0.1 ft. below MLW

TIDE (iii) Predicted

	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:
Sept. 1973

PROOF EDIT BY (iv):

DATE:

NUMBER OF TRIANGULATION STATIONS SEARCHED FOR (ii):

2

RECOVERED:

2

IDENTIFIED:

2

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

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 (Tenpound Island). See Instructions-Office dated April 28, 1966.

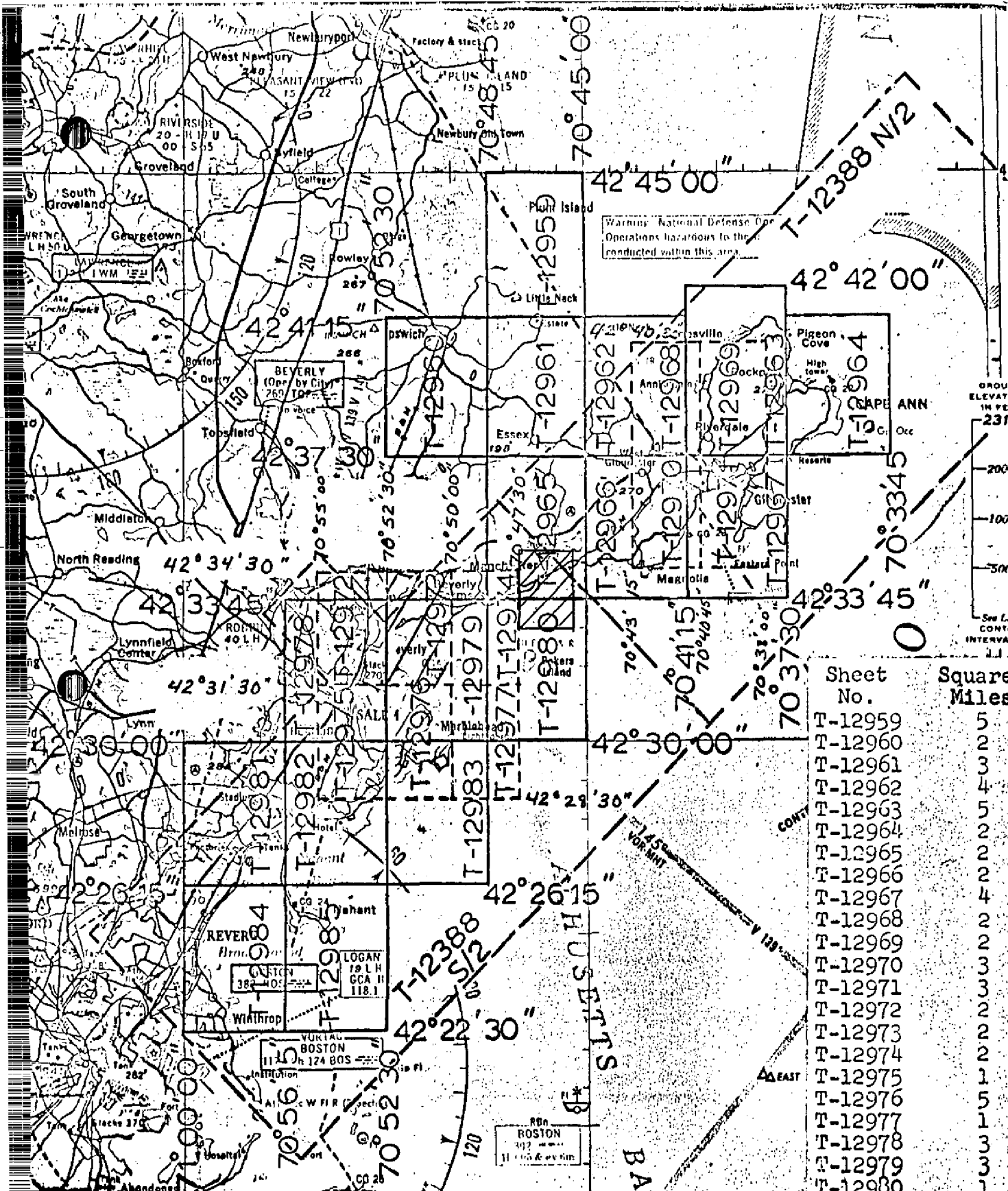
T-13241

COMPILATION RECORD

COMPLETION DATE

REMARKS

Along Shore Area For Hydro	Aug. 1969	Superseded
Field Edit, which was accomplished for 1:10,000 sheets T-12965 and T-12980, was applied to this sheet during compilation.	Aug. 1969	Superseded
Aug. - Sept. - 1969 Field Edit Applied	Oct. 1969	Superseded
Final Review	Sept. 1973	



Sheet No.	Square Miles
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	25
Total	66

JOB PH-6601
BOSTON TO PLUM ISLAND
 FORELINE 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-13241

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.

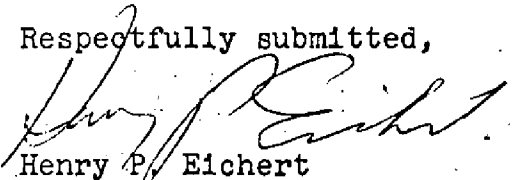
24. Supplemental Data

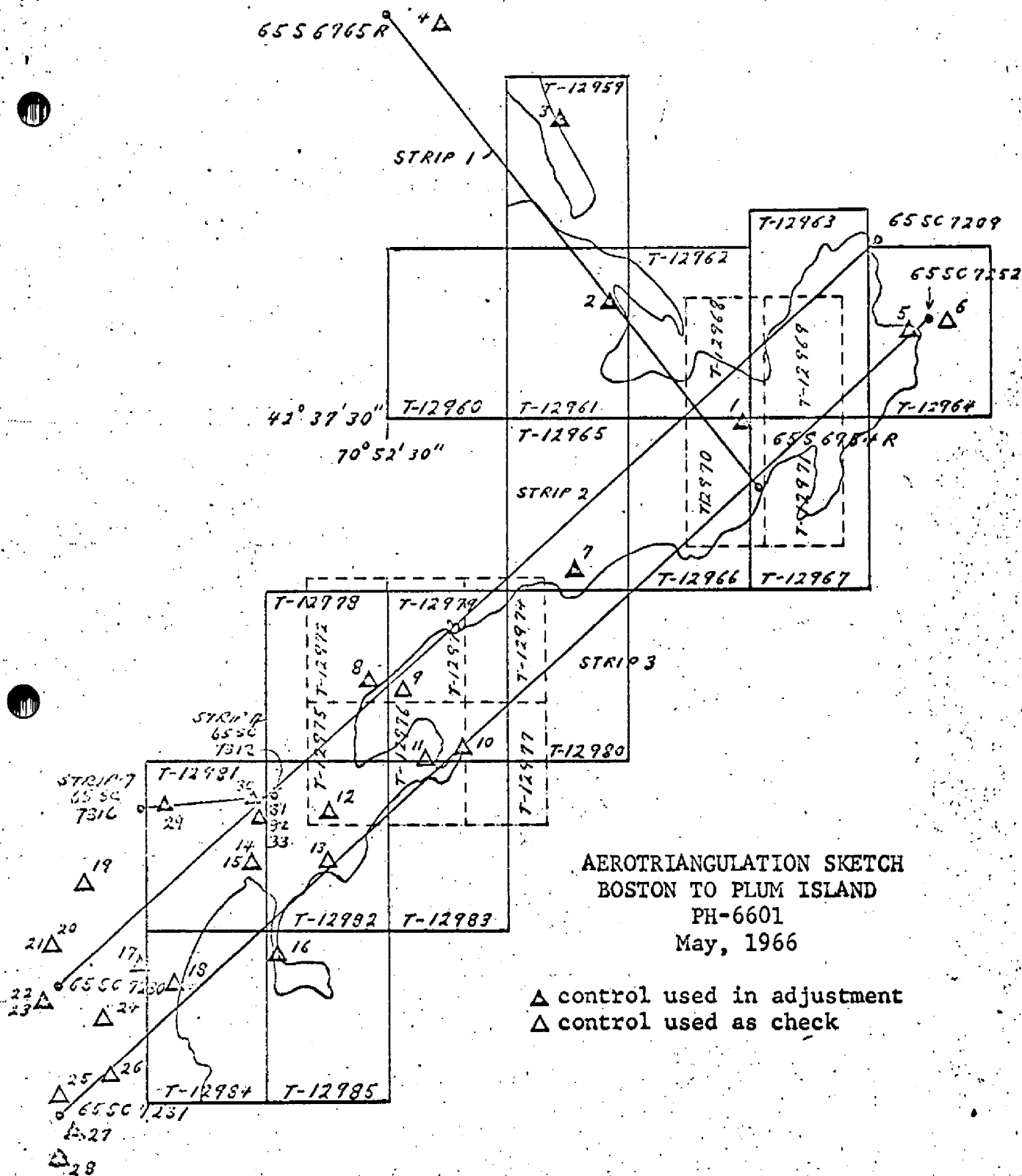
Vertical control points needed ^{as} ~~and~~ control for strip adjustments were taken from USGS quads.

25. Photography

The color photography was excellent. The infrared photography, which is not particularly suited for bridging, was adequate.

Respectfully submitted,


Henry P. Eichert



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 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 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 $(-7.1, +3.1)$

~~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

~~WEEI~~ 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 (+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 ~~to~~ 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 # 9

29 DANVERS, COOKE & ^{KRAUSE}~~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 +1.55)

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)

DESCRIPTIVE REPORT CONTROL RECORD

MAP T. 13241

PROJECT NO.

PH-6601

SCALE OF MAP 1:5,000

SCALE FACTOR

[illegible]

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.

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-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

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-13241

1. PROJECTION AND GRIDS CHB	2. TITLE CHBQ	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 CHB	10. PHOTOGRAMMETRIC PLOT REPORT Bridge-W.O.	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 None	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 CHB	37. DESCRIPTIVE REPORT CHB	38. FIELD INSPECTION PHOTOGRAPHS X	39. FORMS CHB
40. REVIEWER Charles H. Bishop C.H. Bishop 11/20/69		SUPERVISOR REVIEW SECTION OR UNIT Albert C. Rauck, Jr. 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 A.C. Rauck, Jr. 10/9/69 C.H. Bishop CHB 11/19/69		SUPERVISOR Albert C. Rauck, Jr.	
43. REMARKS Field Edit Applied From Field Edit Ozalid and Cronapaque 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. COMAPRISON 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 pring 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
Bernard Kurs
Cartographer

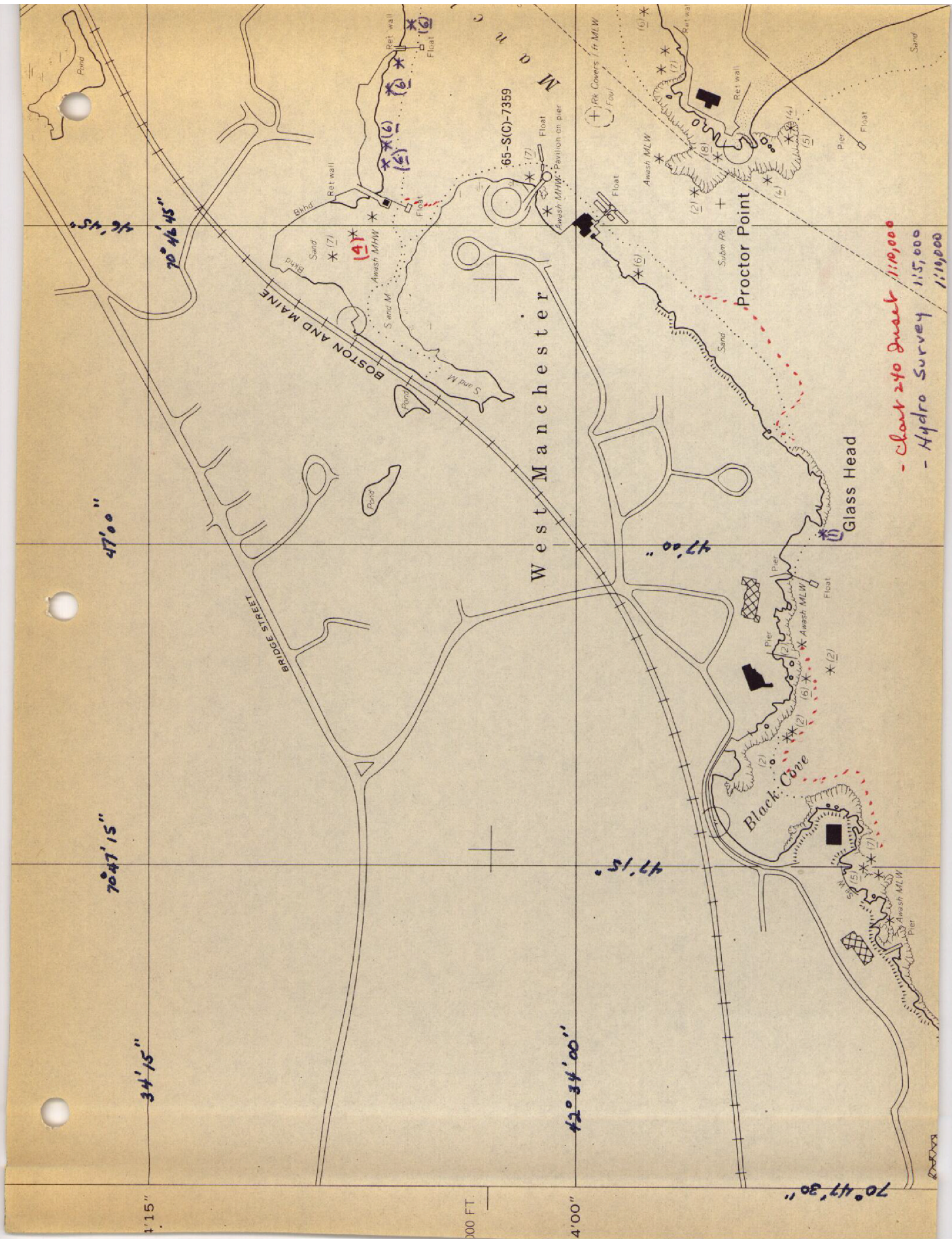
Approved for forwarding:

Victor E. Serena

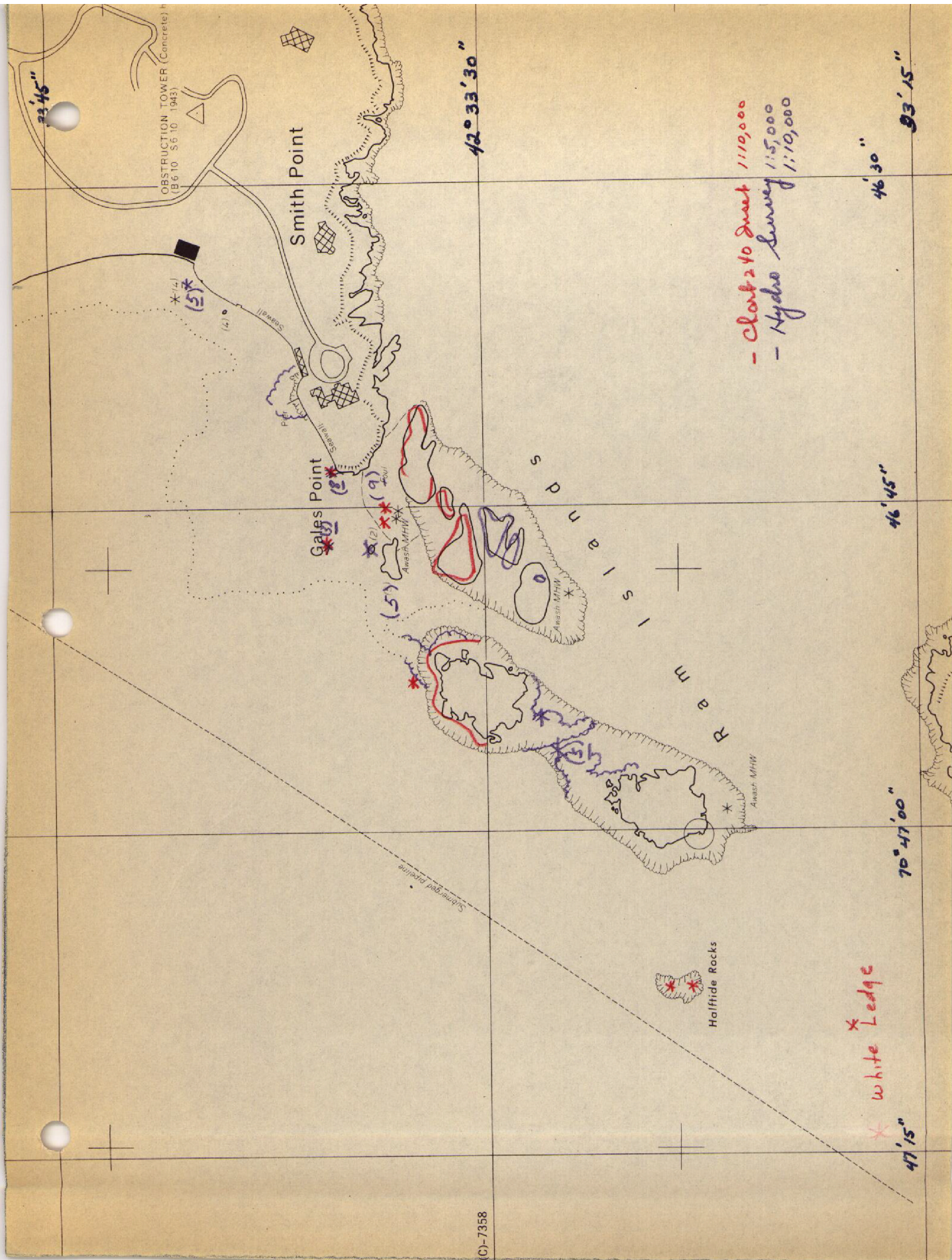
Victor E. Serena
Chief, Photogrammetric Branch, AMC

Approved:

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



- Chart 240 Inset 1:10,000
- Hydro Survey 1:5,000 1:10,000



(C)-7358

