

10478

Original

Diag. Cht. No. 1210-2.Insert

Form 504

U. S. DEPARTMENT OF COMMERCE

COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey PlanimetricField No. Ph-163 Office No. T-10478

LOCALITY

State MassachusettsGeneral locality Narragansett BayLocality Somerset1956

CHIEF OF PARTY

Ira R. Rubottom, Chief of Party

W. E. Randall, Baltimore District Officer

LIBRARY & ARCHIVES

DATE February 26, 1968

USCOMM-DC 5087

10478

DESCRIPTIVE REPORT - DATA RECORD

- 2 -

T - 10478

Ph-163

Project No. (II): ~~25120~~

Quadrangle Name (IV):

Field Office (II): East Providence, R. I.

Chief of Party: Ira R. Rubottom

Photogrammetric Office (III): Baltimore, Maryland

Officer-in-Charge: William E. Randall

Instructions dated (II) (III):

(II) 9 April 1956

13 March 1957

Copy filed in Division of
Photogrammetry (IV)

Method of Compilation (III): Kelsh Plotter

Manuscript Scale (III): 1:10,000

Stereoscopic Plotting Instrument Scale (III): 1:6,000
(Pantograph ratio 3/5)

Scale Factor (III): 1.000

Date received in Washington Office (IV):

Date reported to Nautical Chart Branch (IV):

Applied to Chart No.

Date:

Date registered (IV):

Publication Scale (IV):

Publication date (IV):

Geographic Datum (III): N.A. 1927

Vertical Datum (III): MHW

Mean sea level 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): DIGHTON CORNER 1, 1890

Lat.: 41° 47' 21.36" (659.0 m) Long.: 71° 10' 17.62" (406.9 m)

Adjusted
Unadjusted

Plane Coordinates (IV):

State:

Zone:

Y=

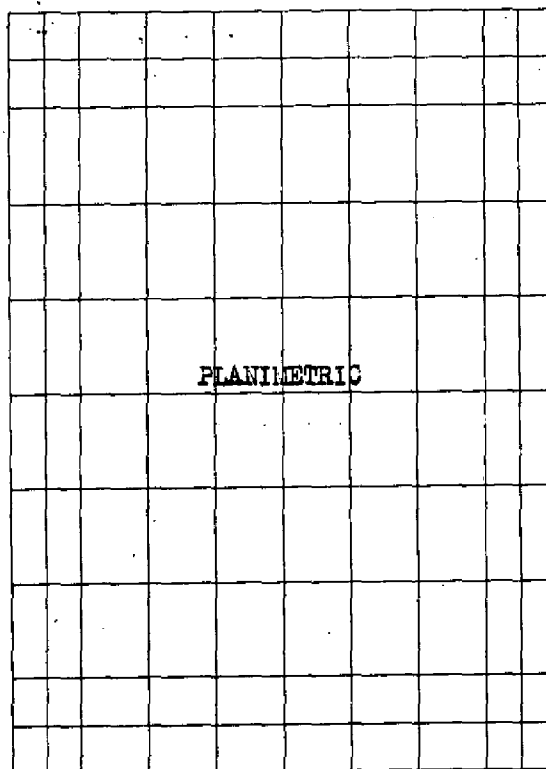
X=

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

71° 11.25'



41° 48.75'

41° 45.0'

71° 07.5'

Areas contoured by various personnel
(Show name within area)
(II) (III)

DESCRIPTIVE REPORT - DATA RECORD

- 4 -

Field Inspection by (II): Mathew A. Stewart
Leo F. Beugnet

Date: May - October 1956

Planetable contouring by (II):

Date:

Completion Surveys by (II):

Date:

Mean High Water Location (III) (State date and method of location):

1956 (Photogrammetric - Kelsh Plotter)

Projection and Grids ruled by (IV): J. B. Phillips

Date: 8/6/57

Projection and Grids checked by (IV): J. B. Phillips

Date: 8/6/57

Control plotted by (III): B. Kurs

Date: 8/30/57

Control checked by (III): D. M. Brant

Date: 9/5/57

~~Radial Plot~~ or Stereoscopic Control extension by (III): E. L. Rolle

Date: 3/15/58

(E. L. Rolle
Planimetry (B. Kurs

Date: 8/8/58

Stereoscopic Instrument compilation (III):

~~Contours~~

Date:

Manuscript ~~delineated~~ by (III): C. A. Lipscomb
(scribed)

Date: 8/5/60

Photogrammetric Office Review by (III): J. C. Richter

Date: 4/29/60

Elevations on Manuscript
checked by (II) (III):

Date:

DESCRIPTIVE REPORT - DATA RECORD

Camera (kind or source) (III): C&GS Type "W" 6" focal length.

- 5 -

Number	Date	PHOTOGRAPHS (III) Time (EST)	Scale	Stage of Tide
56-W-255	5/1/56	0944	1:30,000	No tidal waters
56-W-256	"	0945	"	" " "
56-W-257	"	0946	"	2.6' above MLW
56-W-278 thru 280	"	1001	"	2.7' " "

Tide (III)
(From predicted tables)

Reference Station: Newport, R. I.
Subordinate Station: Taunton, Massachusetts
Subordinate Station:

Ratio of Ranges	Mean Range	Spring Range
-	3.5'	4.4'
	2.8'	3.5'

Washington Office Review by (IV): S.G. BLANKENBAKER

Date: OCT. 1967

Final Drafting by (IV):

Date:

Drafting verified for reproduction by (IV):

Date:

Proof Edit by (IV):

Date:

Land Area (Sq. Statute Miles) (III): 13
Shoreline (More than 200 meters to opposite shore) (III): 2 mi
Shoreline (Less than 200 meters to opposite shore) (III): None
Control Leveling - Miles (II):
Number of Triangulation Stations searched for (II): 27 Recovered: 19 Identified: 4
Number of BMs searched for (II): Recovered:
Number of Recoverable Photo Stations established (III): 0
Number of Temporary Photo Hydro Stations established (III): 0

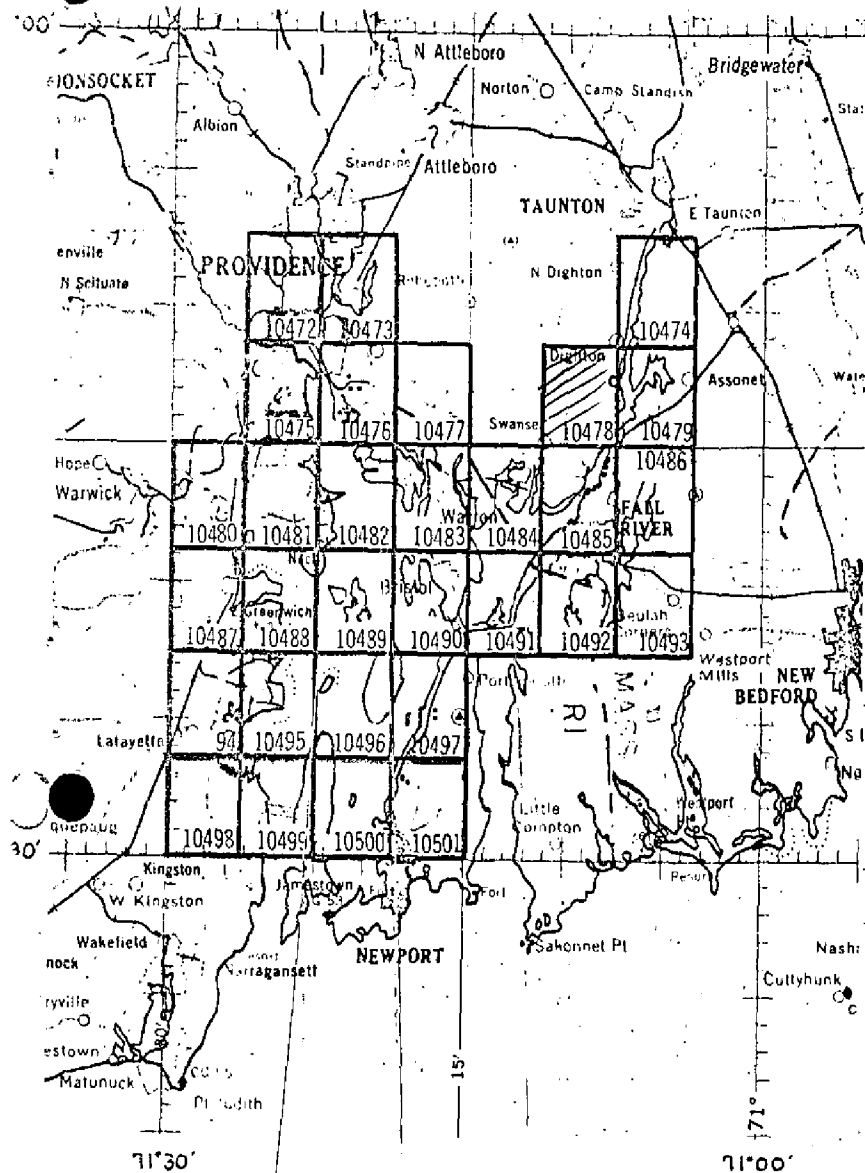
Remarks:

THIS MAP WAS NOT FIELD EDITED

PLANIMETRIC MAPPING PROJECT PH - 163

Narragansett Bay, Mass. - Rhode Island

6



OFFICIAL MILEAGE FOR COST ACCOUNT

SHEET NO.	lin. Mi. SHORELINE	AREA SQ. MI.
10472	10	12
10473	7	13
10474	0	14
10475	8	10
10476	6	11
10477	2	13
10478	1	13
10479	7	12
10480	2	13
10481	4	13
10482	8	4
10483	6	11
10484	8	8
10485	8	10
10486	7	10
10487	3	13
10488	6	6
10489	7	3
10490	8	7
10491	8	6
10492	4	11
10493	2	13
10494	2	13
10495	5	6
10496	5	4
10497	5	7
10498	0	14
10499	10	7
10500	6	4
10501	2	13

TOTALS 158 294

SUMMARY TO ACCOMPANY DESCRIPTIVE REPORT
T-10478

T-10478 is one of thirty planimetric maps comprising Job PH-163. Project maps cover the Narragansett Bay, Rhode Island-Massachusetts area.

Field inspection preceded compilation. This map was not field edited. The project area was bridged by multiplex and compiled by Kelsh plotter.

The addendum to this Summary includes a discussion of project map accuracy and adequacy.

A cronaflex copy of this map will be registered.

ADDENDUM TO SUMMARIES TO ACCOMPANY
JOB PH-163 MAPS T-10472 through T-10501
(ACCURACY AND FUTURE SURVEYS)

Most of the project maps were used in contemporary hydrographic survey operations. Four hydrographic surveys accomplished in the period of time between 1943 and 1955 cover the project area outside the areas of contemporary surveys.

The contemporary hydrographic surveys have been registered. With one exception they are classified "basic". Survey H-8367 is classified as "basic for charting only".

Considerable difficulty was experienced during smooth plotting and verification of some hydrographic surveys in using signals located by plane table methods. Many of the objects were identified on field photographs by the plane table party. Field identification of these objects was re-examined in the Baltimore Office, Compilation Unit. Some of the objects were relocated photogrammetrically and this revised information was furnished for use in smooth plotting.

The Norfolk Processing Office Addendum to Accompany Survey H-8316 mentions difficulties experienced when plotting sextant angles locating piles, piers, shoreline changes, etc. -- they were seldom in agreement with photogrammetric manuscript positions. The Washington office verifier was unable to adjust the subject information using the available hydrographic data. To assist in resolving the discrepancies, the Photogrammetry Division (Washington Office Review Group) rechecked signal locations on Maps T-10472, T-10473, T-10475 and T-10476. Fifty-seven signal locations and random portions of shoreline were revised by graphic methods using available field photographs that included field identified primary control and signals. This additional work is subject to error due to the condition of the photographs and the more limited use of project control; many discrepancies between the surveys, however, were resolved by using the revised information. No requests for similar rechecks were made by verifiers of other hydrographic surveys.

In part, the problems encountered in survey H-8316 (and H-8394) during hydrography and by verifiers can be attributed to the enlargement of these photogrammetric maps from 1:10,000 to 1:5,000 scale for use in hydro support. Similar problems on

other hydrographic surveys were attributed, in part, to incorrect transfer of signals, substandard plotting and use of weak sextant fixes.

Control for project bridging (multiplex) was classified "over abundant" (150 stations). While 25% of the stations were "difficult to see", only two stations were not held. Pass points between strips were averaged-adjustment less than 0.5 mm.

In addition to the previously mentioned supplemental work (relocation of signals and shoreline), two stereoplanigraph models were set to test horizontal map accuracy. The models covered parts of maps T-10472 and T-10473. A datum difference was found to exist between Bureau control and MGS and USGS control. Adjustment of these difference produced no appreciable shift in map details.

Rock information mapped on some of the photogrammetric surveys was incomplete as the result of poor photography inadequately supplemented by field inspection. The hydrographer located many rocks missed on the photogrammetric survey; and, in addition, the hydrographic survey reviewers found it necessary to bring forward considerable rock information without the benefit of verification by either the photogrammetric surveys or the contemporary hydrographic surveys.

These surveys have been used, in part, for nautical charting through both direct application of details and indirectly through contemporary hydrographic surveys. As previously mentioned, all but one of the contemporary hydrographic surveys have been registered as "basic surveys". Registration of these maps is recommended. Future use of the maps for hydro support purposes is not recommended due to the previously discussed problems that were encountered. Re-bridging by analytic aerotriangulation and new mapping with new color and infrared photography is recommended.

S. G. Blankenbaker
S. G. Blankenbaker

NOTE: POLITICAL BOUNDARIES - With the exception of the Mass. - Rhode Island State Line, none of the numerous mapped political boundaries are shown on modern charts. In consideration of the loss of some field photographs, and requests by photogrammetric office reviewers for field verification of boundaries, it is recommended that the project maps not be considered sources for political boundaries (with the exception of the state line). See

FIELD INSPECTION REPORT
Project 25120
Map T-10478

Please refer to the Field Inspection Report for Map T- 10474
for all data pertaining to this map.

Mart C. Moody
Martin C. Moody
Cartographic Survey Aid

Approved:

Ira R. Rubottom
for Ira R. Rubottom
Chief of Party

FIELD PHOTOGRAPHS -

56W 255, 257, 277, 278,
280

Nos. 257, 277, 278 WERE
MISSING AT THE TIME OF
FINAL REVIEW - APPARENTLY
LOST.

MAP T-10478

PROJECT NO. Ph-163

SCALE OF MAP 1:10,000

SCALE FACTOR 1.000

STATION	SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE OR μ -COORDINATE LONGITUDE OR λ -COORDINATE		DISTANCE FROM GRID IN FEET. OR PROJECTION LINE IN METERS		DATUM CORRECTION	N.A. 1927 - DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS		FACTOR DISTANCE FROM GRID OR PROJECTION LINE IN METERS
					FORWARD	(BACK)		FORWARD	(BACK)	
MARK ECCENTRIC, 1934	G.P. List p. 110	N.A. 1927	41 48	26.908	830.2	1020.9				
			71 07	42.633	984.2	400.9				
- 98A MGS	Maunton (488) A. 34	"	41 48	11.407	351.9	1199.2				
			71 07	39.123	903.2	182.0				
- 98B MGS	A 35	"	41 47	51.811	1598.5	252.6				
			71 08	02.515	58.1	1327.2				
- 98C MGS	A 35	"	41 46	11.794	363.9	1487.2				
			71 08	16.887	390.1	995.8				
- 98D MGS	A 35	"	41 45	57.689	1779.8	71.3				
			71 08	24.854	574.1	811.8				
- 98E MGS	A 36	"	41 45	45.526	1404.6	446.5				
			71 08	22.323	515.7	870.3				
LITTLE ROCK SOUTH BASE, 1890	G.P. List p. 617	"	41 48	54.726	1688.4	162.7		<i>outside limits</i>		
			71 11	37.756	871.5	513.4				
LITTLE ROCK NORTH BASE, 1890	"	"	41 48	59.298	1829.5	21.6		<i>outside limits</i>		
			71 11	38.688	893.0	491.9				
BOUNDARY STONE SOMERSET, 3, 1887	p. 608	"	41 47	22.04	680.0	1171.1				1
			71 09	13.20	304.8	1080.7				2
DIGHTON-SWANSEA CORNER 1 (DIGHTON CORNER 2), 1890	p. 618	"	41 48	56.893	1755.3	95.8		<i>outside limits</i>		1
			71 10	36.244	836.5	548.3				2
DIGHTON COR. 1, 1890	p. 617	"	41 47	21.36	659.0	1192.1				
			71 10	17.62	406.9	978.6				
DIGHTON CORNER 3, 1890	"	"	41 48	59.151	1824.9	26.2		<i>outside limits</i>		
			71 11	38.390	886.1	498.7				

1 FT. = 3048006 METER
COMPUTED BY: J. C. Richter
A. K. Heywood

DATE 29 July 1957
28 March 1957

CHECKED BY: J. C. Cregan

DATE 13 August 1957

COMM-DC-57843

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
DESCRIPTIVE REPORT
CONTROL RECORD

MAP T. 10478

PROJECT NO. Ph-163

SCALE OF MAP 1:10,000

SCALE FACTOR 1.000

STATION	SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE OR ψ -COORDINATE LONGITUDE OR α -COORDINATE		DISTANCE FROM GRID IN FEET. OR PROJECTION LINE IN METERS		DATUM CORRECTION	N.A. 1927 - DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS		FACTOR DISTANCE FROM GRID OR PROJECTION LINE IN METERS	
					FORWARD	(BACK)		FORWARD	(BACK)	FORWARD	(BACK)
LITTLE ROCK 1890	G.P. List p. 617	N.A. 1927	41	48	54.675	1686.8	164.3	<i>outside limits</i>			
			71	11	22.508	519.5	865.3				
REHOBOTH CORNER 10, 1890	p. 618	"	41	46	58.975	1819.5	31.6	<i>outside limits</i>			
			71	11	17.835	411.9	973.7				
DIGHTON-SOMERSET BOUNDARY STONE SOMERSET 4, 1887	p. 608	"	41	47	24.330	750.6	1100.5				
			71	07	53.832	1243.0	142.4				
HOGBACK, 1890	p. 617	"	41	47	46.884	1446.5	404.6				
			71	11	06.260	144.5	1240.7				
WOOD, 1874	p. 598	"	41	45	02.554	78.8	1772.3				
			71	08	27.438	634.0	752.3				
BLUFF, 1874	p. 597	"	41	45	53.976	1665.3	185.8				
			71	07	49.789	1150.1	235.8				
SOMERSET SPIRE 1874	p. 607	"	41	46	17.336	534.2	1316.2				
			71	07	38.962	899.9	485.9				
WHITE CHURCH SPIRE, 1874	"	"	41	45	08.387	248.8	1592.3				
			71	08	32.156	742.9	643.3				
Sub. Pt. DIGHTON CORNER 1, 1890	Comp.	"	41	47		624.2	1226.9				
			71	10		422.5	963.0				
DILLON, 1890	G.P. List p. 617	"	41	46	58.627	1808.8	42.3				
			71	11	14.643	338.2	1047.4				

1 FT. = 3048006 METER

COMPUTED BY: J. C. Richter

DATE 29 July 1957

CHECKED BY: J. C. Cregan

DATE 13 August 1957

COMM-DC-57843

COMPILATION REPORT
Project Ph-163
T-10478

The Photogrammetric Plot Report for this survey is part of the Descriptive Report for Survey No. T-10472.

31. DELINEATION

The Kelsh plotter was used for delineation.

32. CONTROL

Horizontal control was adequate.

Vertical control inapplicable.

33. SUPPLEMENTAL DATA

Final Name Standard, dated 5 March 1957.

34. CONTOURS AND DRAINAGE

Contours are inapplicable.

Drainage is complete.

35. SHORELINE AND ALONGSHORE DETAILS

All shoreline and alongshore details are from adequate field inspection.

No low-water or shoal lines are shown.

36. OFFSHORE DETAILS

Refer to paragraph 8 of the Field Report.

37. LANDMARKS AND AIDS

Form 567 has been submitted for two landmarks to be charted. See ~~Descriptive Report for T-10485~~ Page 20 of this report.

38. CONTROL FOR FUTURE SURVEYS

STACK, 1956 (landmark) was located photogrammetrically.

39. JUNCTIONS

Junctions have been made as follows:

To the north - no contemporary survey.

To the east with T-10479.

To the south with T-10485.

To the west - no contemporary survey.

40. HORIZONTAL AND VERTICAL ACCURACY

No comment.

41. BOUNDARIES

A small portion of the town line between Somerset and Fall River in the Taunton River was taken from the USGS Somerset Quadrangle.

42. thru 45 - Inapplicable.

46. COMPARISON WITH EXISTING MAPS

U.S. Geological Survey 7½ minute Quadrangle Somerset, Massachusetts, scale 1:31,680, edition of 1943 and reprinted 1949.

47. COMPARISON WITH NAUTICAL CHARTS

Chart No. 353, scale 1:40,000, published March 10, 1958 (19th edition) (January 25, 1960).

Items to be applied to nautical charts immediately: None.

Items to be carried forward: None.

Respectfully submitted

Edward L. Rolle
Edward L. Rolle
Carto. (Photo.)

Approved and forwarded

William E. Randall

William E. Randall
LCDR, C&GS
Baltimore District Officer

PHOTOGRAMMETRIC OFFICE REVIEW

T- 10478 - Ph 163

1. Projection and grids JCH 2. Title JCH 3. Manuscript numbers JCH 4. Manuscript size JCH

4a. Classification label JCH

CONTROL STATIONS

5. Horizontal control stations of third-order or higher accuracy JCH 6. Recoverable horizontal stations of less than third-order accuracy (topographic stations) 7. Photo hydro stations 8. Bench marks
9. Plotting of sextant fixes 10. Photogrammetric plot report JCH 11. Detail points JCH

ALONGSHORE AREAS

(Nautical Chart Data)

12. Shoreline JCH 13. Low-water line JCH 14. Rocks, shoals, etc. JCH 15. Bridges 16. Aids

NOTE TO REVIEWER

There are discrepancies in position of detail in the vicinity of the following MGS traverse stations along the east edge of the survey. Map detail was checked at stations SOMERSET SPIRE, 1874 and WHITE CHURCH SPIRE, 1874; and is satisfactory.

STA	Dimension from Description		Map Dimension
98A MGS	892	ft. south of centerline of Hart Street	720 ft.
	19.3	ft. east of centerline of Route 138	5 "
98B MGS	3552	ft. south of Hart Street	3480 "
	25.7	ft. west of centerline of Route 138	40 "
98C MGS	244.3	ft. east of centerline of Route 138	230 "
98D MGS	23.5	ft. west of centerline of County Street	15 "
98E MGS	172	ft. northeast of centerline of Route 138	180 "
	450	ft. northeast of centerline of Gibbs Street	440 "

17

REVIEW REPORT
T-10478
October 1967

61. General Statement

This survey has not been used for hydrographic support purposes. In the compiler's "Note to Reviewer" page 16 included in the back of this Descriptive Report -- discrepancies are noted between map dimensions and dimensions given in Massachusetts Geodetic Survey traverse station descriptions in distances between the stations and roads. Several stereoplanigraph test models were set for project maps T-10472 and T-10473. A datum shift was found between C&GS control on T-10472 and a combination of MSG and USGS control on T-10472 and T-10473. A report on the test is included in the Descriptive Report for T-10472; and, the test is discussed in the addendum to the Summary for this map. The subject MGS stations on this map were not used as control for bridging or for compilation.

Differences exist between T-10478 and prior Bureau topographic and hydrographic surveys, and the USGS quad covering the area in horizontal position of shoreline and topographic features in the shoreline area. The only shoreline area on T-10478 is located in the southeast corner of the map (also the area of the MGS control stations mentioned in the preceding paragraph). This area was compiled from Kelsh plotter models set on pass points established by the multiplex bridge and field and office identified Bureau control stations. Compilation photography was not included in the bridge.

62. Comparison with Registered Topographic Surveys

T-5754	1:20,000	1944
--------	----------	------

T-5754 was the source of shoreline and topography for H-7939, dated 1951 -- except for corrections and additions applied by the hydro party. Comparison of shoreline and alongshore topography is discussed under side heading 64.

63. Comparison with Maps of Other Agencies

USGS quad, Somerset	1:24,000	1948
---------------------	----------	------

In view of the differences between T-10478 and prior Bureau surveys noted under side headings 61 and 64 in the location

T-10478, cont.

of features, a number of clearly defined shoreline points were scaled from the quad and plotted on the subject map. A shift toward their location on H-7939 was indicated for some points.

64. Comparison with Hydrographic Surveys

H-7939	1:10,000	1951
--------	----------	------

Differences between the surveys in shoreline location amounts to as much as 25 meters, ground distance. This is accounted for, in part, by the enlargement (from 1:20,000 to 1:10,000 scale) of the source of hydrographic survey shoreline (T-7939); and in some cases faulty transfer of details; local datum errors, however, amounting to approximately 15 meters exist.

65. Comparison with Nautical Charts

The landmark stack located near the south end of the town of Somerset is shown on the chart in the position determined through survey H-7939 (1951). This position differs by approximately 30 meters with the position determined through survey T-10478. No other significant differences were noted.

66. Adequacy of Results and Future Surveys

Differences between the survey and other sources are discussed in preceding sections of this report. In view of the amount and distribution of control, and compilation method used, this survey should meet the required accuracy standards. The addendum to the Summary for this survey includes a discussion of project map accuracy and adequacy. The maps will be registered; remapping, however, is recommended for future hydrographic survey support purposes.

Reviewed by:

S. G. Blankenbaker
S. G. Blankenbaker

Approved by:

Charles L. Lerner
Chief, Photogrammetric Branch

Ralph Sobieralski MAR 25 1962
Chief, Photogrammetry Division

John P. Boyer
Chief, Marine Chart Division

GEOGRAPHIC NAMES

FINAL NAME SHEET

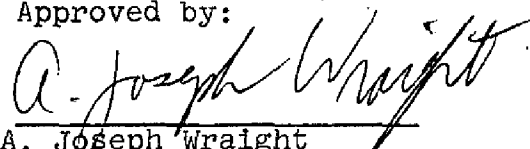
PH-163 (Mass. & R. I.)

T-10478

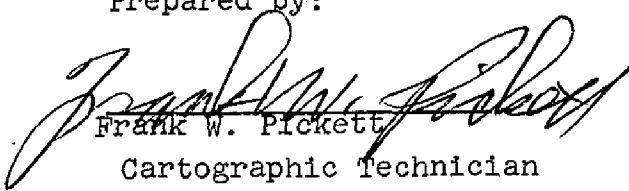
Bark Street
Beals Ledge
Bourn Cemetery
Broad Cove
Bristol County
Buffington Corner
Chace Avenue
Chace Street
Cole River
County Street
Dighton
Elm Street
Fall River
Hailes Mill Road
Hart Street
Hunters Hill
Labor in Vain Creek
Lewin Brook
Marvel Street

New York, New Haven and Hartford
North Street
Palmer Street Cemetery
Pleasant Street
Pottersville
Richmond Hill
Riverside Avenue
St. Patrick Cemetery
Sharps Lot Road
Simmons Cemetery
Somerset
Somerset Avenue
State Highway 138
Swansea
Taunton River
Whetstone Hill Road
Williams Street

Approved by:


A. Joseph Wraight
Chief Geographer

Prepared by:


Frank W. Pickett
Cartographic Technician

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEYTO BE CHARTED
~~TO BE DELETED~~

STRIKE OUT ONE

NONFLUORINATING AIDS/OR LANDMARKS FOR CHARTS

Baltimore, Maryland

21 January, 1960

I recommend that the following objects which have ~~(1443/1444)~~ been inspected from seaward to determine their value as landmarks be charted on ~~(1443/1444)~~ the charts indicated.

The positions given have been checked after listing by Joseph W. Vonasek

William E. Randall, Chief of Party

STATE	CHARTING NAME	DESCRIPTION	SIGNAL NAME	POSITION				METHOD OF LOCATION AND SURVEY NO.	DATE OF LOCATION	MAJOR CHART	INTERMEDIATE CHARTS	CHARTS AFFECTED
				LATITUDE #	LONGITUDE #	D. H. METERS	D. P. METERS					
				° ' "	° ' "	"	"	DATUM				
MASSACHUSETTS												
STACK		yellow brick ht=153(173)		42 43	71 08	57.18	24.56	NA	30 Oct. 1955	X		350, 353
SPIRE		square granite clock tower, ht=106(366) (1887)		42 42	71 09	17.64	53	1927	Photo T-10485	X		
STACK SE OF TOWER		concrete ht=271(288)		42 44	71 06	58.42	194.2	"	Triang. T-10485	X		"
TOWER		steel transmission ht=208(208)		42 44	71 06	14.33	16.04	"	Photo T-10485	X		"
TOWER		steel transmission ht=208(208)		42 43	71 09	17.86	11.10	"	"	X		"
TOWER		steel transmission ht=208(208)		42 43	71 09	55.2	950	"	"	X		"
TOWER		steel transmission ht=208(212)		42 43	71 09	16.17	12.03	"	"	X		"
TOWER		steel transmission ht=208(212)		42 43	71 09	10.50	28.17	"	"	X		"
RADIO TOWER S OF FOUR		steel transmission ht=208(212)		42 43	71 09	32.1	658	"	"	X		"
CUBOLA		(wooden) ht=105(323)		42 42	71 10	8.78	30.20	"	"	X		"
CHURCH N. SPIRE		(stone) ht=117(307)		42 42	71 07	27.1	683	"	"	X		"
STACK TALLER OF T.O.		yellow brick ht=200(203)		42 42	71 09	51.08	26.60	"	"	X		"
CHURCH SPIRE		stone, ht=130(318)		42 42	71 09	1576	615	"	"	X		"
SPIRE		white wooden, ht=59(149) (A)		42 45	71 08	17.1	12.05	"	"	X		"
STACK		white Church spire, 1874)		42 45	71 07	14.27	13.73	"	"	X		"
		concrete, ht=60(66)		42 45	71 07	14.2	13.53	"	"	X		"
				42 42	71 10	7.63	26.03	"	T-10492	X		350, 353, 1210
				42 42	71 10	237	602	"	Triang. T-10478	X		350, 353, 1210
				42 45	71 08	58.367	32.156	"	Photo T-10478	X		353
				42 45	71 07	53.08	42.25	"	Photo T-10478	X		"

This form shall be prepared in accordance with Hydrographic Manual, pages 800 to 804. Positions of charted landmarks and nonflouing aids to navigation, if redetermined, shall be reported on this form. 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

